Table B: Sources of opioid substitution and needle-syringe data in Canadian province/territories

	Service	Source	Comments	Data modification
AB	OAT	Analytics, Data Integration, Measurement & Reporting, Alberta Health Services	Administrative data linkage (methadone prescription and physician claim / outpatient / inpatient code of substance dependence)	
	Needle-syringe	Alberta Community Council on HIV		
BC	OAT	Canadian Institute of Health Information	National Prescription Drug Utilization Information System	2016 calculated from exponential function of graphed years 2011-2015
	Needle-syringe	British Columbia Centre for Disease Control		
MB	OAT	Canadian Institute of Health Information	National Prescription Drug Utilization Information System excludes First Nation and Inuit peoples.	2011-2016 adjusted according to SK data : 0.37-0.41% were not NIHB recipients.
	Needle-syringe	Office of the Chief Provincial Public Health Officer, Manitoba Health, Seniors and Active Living	"Mostly Winnipeg-specific information … distribution outside Winnipeg prior to 2015 would have been negligible"	
NB	OAT			
	Needle-syringe	AIDS St John; AIDS NB; AIDS Moncton		
NL	OAT	Department of Health and Community Services, Government of Newfoundland and Labrador	NL Prescription Drug Plan recipients, excluding those privately funded	2011-2016 adjusted according to number of drug plan recipients and total number of recipients : 1 463 Drug Plan recipients and 1 954 total recipients in May-December 2017.
	Needle-syringe	SWAP Safe Works Access Program		
NS	OAT	NS Prescription Monitoring Program	Prescriptions dispensed for DINs/PINs most commonly prescribed for Dependence	

	Needle-syringe	NHCS; Mainline Needle Exchange; ALLY Cape Breton		
ON	OAT	Health System Information Management Division, Ministry of Health and Long-Term Care	Narcotics Monitoring System (Includes recipients with an Ontario health card only)	2011-2012 methadone calculated from polynomial function of graphed years 2013-2016. Semi-annual data refers to 2012 Q2-Q3
	Needle-syringe	Health Protection Policy and Programs Branch, Ministry of Health and Long-Term Care		
PEI	OAT	Canadian Institute of Health Information	National Prescription Drug Utilization Information System	
	Needle-syringe	PEI Department of Health and Wellness		
QC	OAT	RAMQ	All pharmaceutical services linked to service code J: "Substitution treatment for opioid dependence for the following common name": 45373: Methadone hydrochloride 47725: Suboxone (Buprenorphine / Naloxone)	2011-2012 calculated from polynomial function of graphed years 2013-2015. 2011-2016 corrected according to NL drug plan recipients compared to total.
	Needle-syringe	Institut national de santé publique du Québec		2016 calculated from polynomial function of graphed years 2011-2015
SK	OAT	College of Physicians and Surgeons of Saskatchewan		
	Needle-syringe	Saskatchewan Health, Population Health Branch		
YK	OAT	Yukon Medical Association	Data provided by Alberta Medical Council ATLAS Narcotic Monitoring program	
	Needle-syringe	Blood Ties Four Directions		2015 calculated from polynomial function of graphed years 2011-2014 and 2016

Table C: Number of needle-syringes distributed in Canadian provinces in 2011–2016.

Year	AB	BC	MB	NB	NL	NS	ON	PEI	Qc	SK	YK	Total
2011	1715183	5940500	499577	288066	209097	866847	8500000	88876	2175316	4759733	23228	25066423
2012	1872325	6953600	502757	263951	376923	1077685	9200000	112325	2251790	4554992	20784	27187132
2013	2135899	8299325	523097	288682	318674	1371693	11400000	153179	2738374	4466414	24880	31720217
2014	2715487	9848575	651553	360641	591717	1542222	13200000	157160	2683532	4705214	28620	36484721
2015	3330294	11832750	888766	439381	540644	1595998	15500000	137150	2633426	5059684	29011	41987104
2016	4122866	14991900	1754597	664047	642181	1660642	18100000	215078	2503574	5276496	27000	49958381

Table D: Number of recipients of methadone and/or buprenorphine/naloxone annually in Canadian provinces in 2011–2016.

Year	AB	BC	MB	NB	NL	NS	ON	PEI	Qc	SK	YK	Grand Total
Methadone												
2010	1558	12697	-	-	-	1859	-		3186	3045	43	
2011	1577	13891	3391	1882	1099	2016	35807	200	3272	3316	51	67593
2012	1759	14830	3036	2023	1163	2135	38184	289	3359	3617	75	71590
2013	3361	15466	2932	2045	1226	2356	40286	401	3467	3903	82	76681
2014	3808	16274	3427	2192	1350	2698	41837	578	3505	4104	90	81031
2015	4076	16900	3553	2334	1597	3084	43524	703	3655	4447	94	85185
2016	4360	19305	3702	2514	1890	3344	44432	761	3929	4816	101	90464
Buprenorphine / naloxone												
2011	548	997	134	8	52	83	5316	0	326	52		7516
2012	871	1482	212	12	48	118	6762	5	413	53		9976
2013	1056	2002	336	11	61	131	8731	17	517	81		12943
2014	1363	2360	667	11	81	183	11245	32	655	120	<5	16720
2015	2158	3445	602	22	91	288	14248	19	874	365	5	22117
2016	4065	6478	598	55	141	369	17815	28	1041	795	<5	31389
Methadone and / or buprenorphine / naloxone												
2011	2094	14805	2393	1888	1187	2064	39328	202	4541	3353	51	71906
2012	2579	16093	2232	2028	1251	2223	43110	293	4820	3658	75	78362
2013	4291	17684	2126	2051	1326	2456	47002	415	5147	3971	82	86551
2014	5001	19215	2397	2200	1478	2846	50660	599	5369	4209	93	94067
2015	5961	20482	2412	2350	1741	3299	54943	721	5799	4760	99	102567
2016	7636	23506	2490	2554	2136	3626	58706	786	6401	5435	105	113381

Table E: Number of recipients of methadone semi-annually in Canadian provinces in 2010–2016.

Q1-Q2		AB	BC	MB	NB	NL	NS	ON	PEI	Qc	SK	YK
2010	Q1-Q2	1222	11296	-	1526	856	1583	-	118	3600	2586	33
	Q3-Q4	1335	11850	-	1551	-	1675	-	160	3645	2616	34
2011	Q1-Q2	1310	12368	2404	1649	967	1735	-	166	3689	2834	35
	Q3-Q4	1350	12889	2513	1641	-	1776	-	177	3735	2827	42
2012	Q1-Q2	1352	13352	2837	1681	1063	1845	32720	191	3780	2997	52
	Q3-Q4	1398	13672	2787	1768	-	1896	-	276	3827	3154	64
2013	Q1-Q2									3868		
	Q3-Q4									3948		
2014	Q1-Q2									3969		
	Q3-Q4									3963		
2015	Q1-Q2									4104		
	Q3-Q4									4117		
2016	Q1-Q2									4379		
	Q3-Q4									4488		

Table F: Coverage of harm reduction measures (needles-syringes and opioid agonist therapy) in Canadian provinces and territories per person aged 15–64 years in the period 2011–2016

	2011	2012	2013	2014	2015	2016
Opioid agonist therapy recipients (per 100 000 persons)						
Canada	71 906 (303)	78 362 (327)	86 551 (359)	94 067 (388)	102 567 (422)	113 381 (464)
Alberta	2 094 (78)	2 579 (94)	4 291 (152)	5 001 (173)	5 961 (204)	7 636 (259)
British Columbia	14 805 (473)	16 093 (511)	17 684 (560)	19 215 (604)	20 482 (642)	23 506 (731)
Manitoba	2 393 (289)	2 232 (266)	2 126 (251)	2 397 (281)	2 412 (280)	2 490 (285)
Newfoundland & Labrador	1 187 (325)	1 251 (344)	1 326 (367)	1 478 (412)	1 741 (489)	2 136 (604)
New Brunswick	1 888 (363)	2 028 (392)	2 051 (401)	2 200 (435)	2 350 (469)	2 554 (512)
Nova Scotia	1 887 (289)	2 064 (319)	2 223 (346)	2 456 (386)	2 846 (451)	3 299 (522)
Ontario	39 328 (429)	43 110 (466)	47 002 (505)	50 660 (542)	54 943 (585)	58 706 (620)
PEI	202 (206)	293 (299)	415 (427)	599 (619)	721 (747)	786 (804)
Quebec	4 541 (82)	4 820 (87)	5 147 (93)	5 369 (97)	5 799 (105)	6 401 (116)
Saskatchewan	3 353 (471)	3 658 (505)	3 971 (539)	4 209 (564)	4 760 (635)	5 435 (716)
Yukon	51 (193)	75 (282)	82 (308)	93 (347)	99 (367)	105 (384)
Needle-syringes distributed (per person)						
Canada	25 066 423 (1.05)	27 187 132 (1.14)	31 720 217 (1.32)	36 484 721 (1.51)	41 958 093 (1.73)	49 958 381 (2.04)
Alberta	1 715 183 (0.64)	1 872 325 (0.68)	2 135 899 (0.76)	2 715 487 (0.94)	3 330 294 (1.14)	4 122 866 (1.40)
British Columbia	5 940 500 (1.90)	6 953 600 (2.21)	8 299 325 (2.63)	9 848 575 (3.10)	11 832 750 (3.71)	14 991 900 (4.66)
Manitoba	499 577 (0.60)	502 757 (0.60)	523 097 (0.62)	651 553 (0.76)	888 766 (1.03)	1 754 597 (2.01)
Newfoundland & Labrador	209 097 (0.57)	376 923 (1.04)	318 674 (0.88)	591 717 (1.65)	540 644 (1.52)	642 181 (1.82)
New Brunswick	288 066 (0.55)	263 951 (0.51)	288 682 (0.56)	360 641 (0.71)	439 381 (0.88)	664 047 (1.33)
Nova Scotia	866 847 (1.33)	1 077 685 (1.66)	1 371 693 (2.14)	1 542 222 (2.42)	1 595 998 (2.53)	1 660 642 (2.63)
Ontario	8 500 000 (0.93)	9 200 000 (1.00)	11 400 000 (1.23)	13 200 000 (1.41)	15 500 000 (1.65)	18 100 000 (1.91)
PEI	88 876 (0.91)	112 325 (1.15)	153 179 (1.58)	157 160 (1.63)	137 150 (1.42)	215 078 (2.20)
Quebec	2 175 316 (0.39)	2 251 790 (0.41)	2 738 374 (0.49)	2 683 532 (0.48)	2 633 426 (0.48)	2 503 574 (0.45)
Saskatchewan	4 759 733 (6.68)	4 554 992 (6.28)	4 466 414 (6.06)	4 705 214 (6.31)	5 059 684 (6.75)	5 276 496 (6.96)
Yukon	23 228 (0.88)	20 784 (0.78)	24 880 (0.93)	28 620 (1.07)	29 011 (1.08)	27 000 (0.99)

* >= 15–64 years, 2016 StatCan Table 051-0001 Estimates of population.

Table G: Fluctuations in the estimated number of people who inject drugs in Quebec and British Columbia, 2011–2016.

Year	Estimated number of PWID		
	Quebec (annual difference)	British Columbia (annual difference)	Midpoint of annual difference
2011	9 737 (-)	32 992 (-)	-
2012	10 870 (11.6)	35 319 (7.1)	9.3
2013	12 930 (19.0)	37 766 (6.9)	12.9
2014	11 793 (-8.8)	40 488 (7.2)	-0.8
2015	12 800 (8.5)	42 777 (5.7)	7.1
2016	12 355 (-3.5)	45 389 (6.1)	1.3

Table H: Estimated number (N) and population prevalence (%) of people who inject drugs in Canadian provinces and territories in 2011–2016.

Jurisdiction		2011		2012		2013		2014		2015		2016	
Canada	N	130000	(115100, 144700)	142100	(125800, 158200)	160700	(142300, 178900)	158500	(140300, 176400)	169700	(150200, 188900)	171900	(152200, 191400)
	%	0.55	(0.49, 0.61)	0.60	(0.53, 0.66)	0.67	(0.59, 0.74)	0.66	(0.58, 0.73)	0.70	(0.62, 0.78)	0.70	(0.62, 0.78)
Alberta	N	3500	(3100, 3900)	3900	(3400, 4300)	4400	(3900, 4900)	4300	(3800, 4800)	4600	(4100, 5100)	4700	(4100, 5200)
	%	0.13	(0.12, 0.15)	0.14	(0.12, 0.16)	0.15	(0.14, 0.17)	0.15	(0.13, 0.17)	0.16	(0.14, 0.18)	0.16	(0.14, 0.18)
British Columbia	N	36000	(31900, 40100)	39400	(34800, 43800)	44500	(39400, 49500)	43900	(38800, 48900)	47000	(41600, 52300)	47600	(42100, 53000)
	%	1.15	(1.02, 1.28)	1.25	(1.11, 1.39)	1.41	(1.25, 1.57)	1.38	(1.22, 1.54)	1.47	(1.30, 1.64)	1.48	(1.31, 1.65)
Manitoba	N	6400	(5700, 7100)	7000	(6200, 7800)	7900	(7000, 8800)	7800	(6900, 8700)	8400	(7400, 9300)	8500	(7500, 9400)
	%	0.77	(0.68, 0.86)	0.84	(0.74, 0.93)	0.94	(0.83, 1.04)	0.92	(0.81, 1.02)	0.97	(0.86, 1.08)	0.97	(0.86, 1.08)
New Brunswick	N	3800	(3300, 4200)	4100	(3600, 4600)	4600	(4100, 5200)	4600	(4000, 5100)	4900	(4300, 5500)	5000	(4400, 5500)
	%	0.72	(0.64, 0.80)	0.79	(0.70, 0.88)	0.91	(0.80, 1.01)	0.90	(0.80, 1.01)	0.98	(0.87, 1.09)	0.99	(0.88, 1.11)
Newfoundland & Labrador	N	2200	(2000, 2500)	2400	(2100, 2700)	2700	(2400, 3000)	2700	(2400, 3000)	2900	(2500, 3200)	2900	(2600, 3200)
	%	0.60	(0.53, 0.67)	0.66	(0.59, 0.74)	0.75	(0.67, 0.84)	0.75	(0.66, 0.83)	0.81	(0.72, 0.90)	0.82	(0.73, 0.92)
Nova Scotia	N	2800	(2400, 3100)	3000	(2700, 3400)	3400	(3000, 3800)	3400	(3000, 3700)	3600	(3200, 4000)	3600	(3200, 4100)
	%	0.42	(0.37, 0.47)	0.47	(0.41, 0.52)	0.53	(0.47, 0.59)	0.53	(0.47, 0.59)	0.57	(0.50, 0.63)	0.58	(0.51, 0.64)
Ontario	N	58000	(51300, 64600)	63400	(56200, 70600)	71700	(63500, 79800)	70700	(62600, 78700)	75700	(67000, 84300)	76700	(67900, 85400)
	%	0.63	(0.56, 0.70)	0.69	(0.61, 0.76)	0.77	(0.68, 0.86)	0.76	(0.67, 0.84)	0.81	(0.71, 0.90)	0.81	(0.72, 0.90)
Prince Edward Island	N	400	(300, 400)	400	(400, 500)	500	(400, 500)	500	(400, 500)	500	(500, 600)	500	(500, 600)
	%	0.40	(0.35, 0.44)	0.44	(0.39, 0.49)	0.50	(0.44, 0.55)	0.49	(0.44, 0.55)	0.53	(0.47, 0.59)	0.53	(0.47, 0.59)
Quebec	N	11300	(10000, 12500)	12300	(10900, 13700)	13900	(12300, 15500)	13700	(12200, 15300)	14700	(13000, 16400)	14900	(13200, 16600)
	%	0.20	(0.18, 0.23)	0.22	(0.20, 0.25)	0.25	(0.22, 0.28)	0.25	(0.22, 0.28)	0.27	(0.24, 0.30)	0.27	(0.24, 0.30)
Saskatchewan	N	5500	(4900, 6200)	6100	(5400, 6800)	6900	(6100, 7600)	6800	(6000, 7500)	7200	(6400, 8100)	7300	(6500, 8200)
	%	0.78	(0.69, 0.87)	0.84	(0.74, 0.93)	0.93	(0.82, 1.04)	0.91	(0.80, 1.01)	0.97	(0.86, 1.08)	0.97	(0.86, 1.08)
Yukon	N	100	(100, 100)	100	(100, 200)	200	(100, 200)	200	(100, 200)	200	(200, 200)	200	(200, 200)
	%	0.50	(0.44, 0.55)	0.54	(0.48, 0.60)	0.61	(0.54, 0.68)	0.60	(0.53, 0.66)	0.63	(0.56, 0.70)	0.63	(0.56, 0.71)

Table I: Annual coverage of opioid agonist therapy (OAT) and needle-syringes among people who inject drugs in Canadian provinces and territories, 2011–2016

	2011	2012	2013	2014	2015	2016
Opioid agonist therapy recipients (per 100 PWID)						
Canada	55 (50, 62)	55 (50, 62)	54 (48, 61)	59 (53, 67)	60 (54, 68)	66 (59, 75)
Alberta	59 (53, 67)	67 (60, 75)	98 (88, 111)	116 (104, 131)	129 (116, 146)	163 (147, 185)
British Columbia	41 (37, 46)	41 (37, 46)	40 (36, 45)	44 (39, 49)	44 (39, 49)	49 (44, 56)
Manitoba	37 (34, 42)	32 (29, 36)	27 (24, 30)	31 (28, 35)	29 (26, 33)	29 (26, 33)
Newfoundland & Labrador	54 (48, 61)	52 (47, 59)	49 (44, 55)	55 (49, 62)	60 (54, 68)	73 (66, 83)
New Brunswick	50 (45, 57)	49 (44, 56)	44 (40, 50)	48 (43, 54)	48 (43, 54)	51 (46, 58)
Nova Scotia	75 (67, 85)	74 (66, 83)	72 (65, 81)	85 (76, 96)	92 (82, 104)	99 (89, 112)
Ontario	68 (61, 77)	68 (61, 77)	66 (59, 74)	72 (64, 81)	73 (65, 82)	77 (69, 86)
PEI	52 (46, 58)	68 (62, 77)	86 (77, 97)	126 (113, 142)	141 (127, 160)	152 (136, 172)
Quebec	40 (36, 46)	39 (35, 44)	37 (33, 42)	39 (35, 44)	39 (35, 45)	43 (39, 49)
Saskatchewan	60 (54, 68)	60 (54, 68)	58 (52, 65)	62 (56, 70)	66 (59, 74)	74 (67, 84)
Yukon	39 (35, 44)	52 (47, 59)	51 (46, 57)	58 (52, 66)	58 (52, 66)	61 (54, 69)
Needle-syringes distributed (per PWID)						
Canada	193 (173, 218)	191 (172, 216)	197 (177, 223)	230 (207, 260)	247 (222, 279)	291 (261, 328)
Alberta	486 (436, 549)	485 (435, 547)	489 (439, 552)	630 (566, 712)	722 (649, 816)	883 (793, 997)
British Columbia	165 (148, 186)	177 (159, 200)	186 (168, 211)	224 (202, 254)	252 (226, 284)	315 (283, 356)
Manitoba	78 (70, 88)	72 (64, 81)	66 (59, 75)	83 (75, 94)	106 (95, 120)	207 (186, 234)
Newfoundland & Labrador	77 (69, 87)	64 (58, 73)	62 (56, 70)	79 (71, 89)	90 (81, 101)	134 (120, 151)
New Brunswick	95 (85, 107)	156 (140, 177)	117 (105, 132)	220 (198, 249)	188 (169, 212)	220 (198, 249)
Nova Scotia	315 (283, 355)	358 (321, 404)	402 (362, 455)	459 (412, 518)	443 (398, 501)	456 (409, 515)
Ontario	147 (132, 166)	145 (130, 164)	159 (143, 180)	187 (168, 211)	205 (184, 231)	236 (212, 267)
PEI	227 (204, 257)	262 (236, 296)	317 (285, 358)	329 (296, 372)	268 (241, 303)	416 (373, 470)
Quebec	193 (174, 218)	183 (164, 207)	197 (177, 222)	195 (176, 221)	179 (161, 202)	168 (151, 190)
Saskatchewan	858 (770, 969)	751 (674, 848)	651 (585, 735)	696 (625, 786)	698 (627, 789)	719 (646, 812)
Yukon	177 (159, 200)	145 (131, 164)	154 (138, 174)	179 (161, 203)	170 (153, 192)	156 (140, 176)

Figure A: Graphical representation of multiplier method for estimating the number of people who inject drugs in a defined population

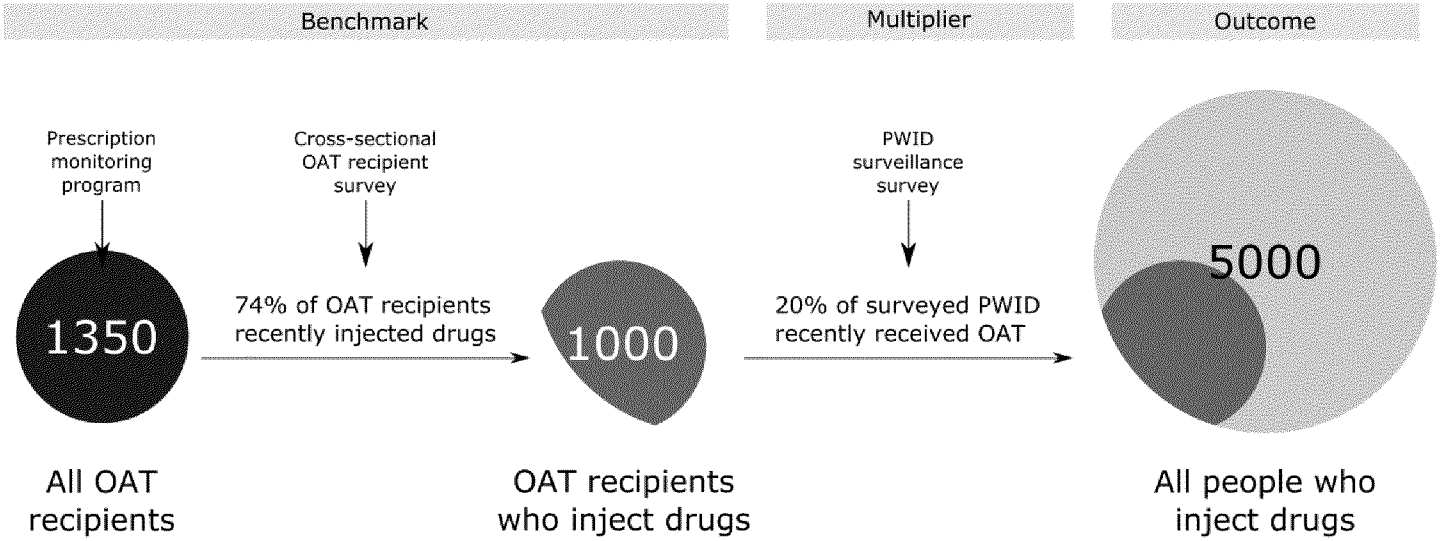
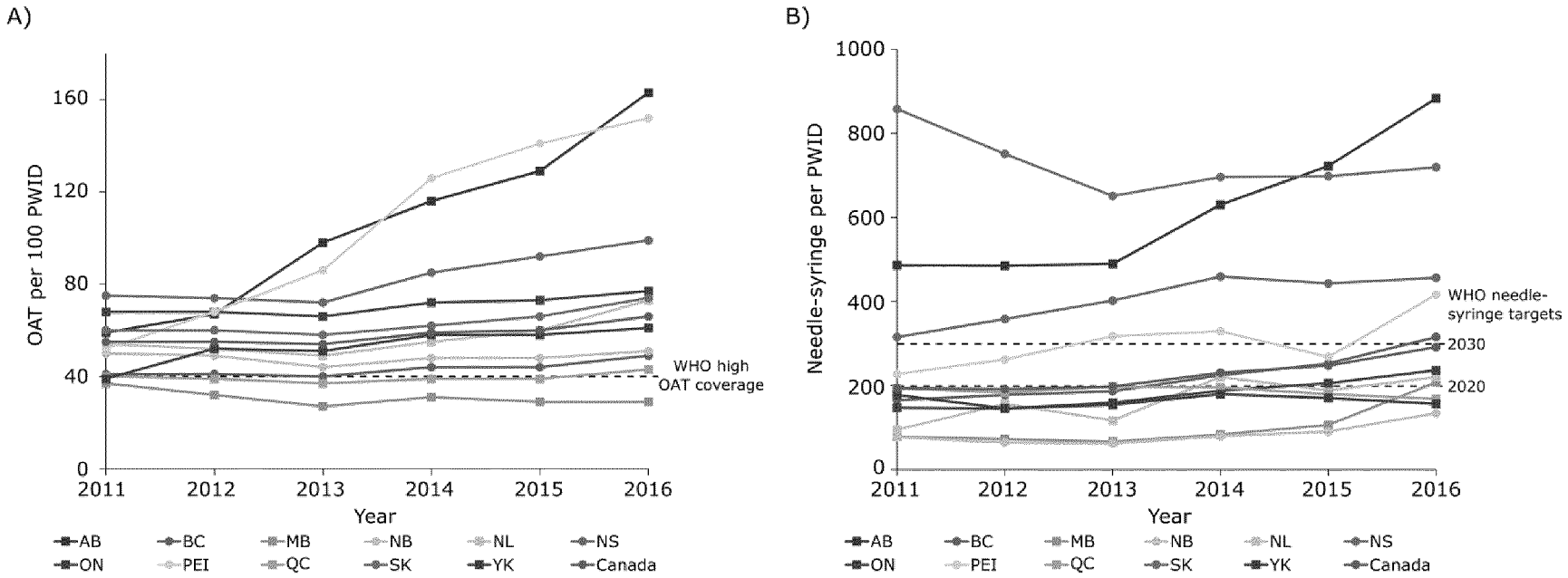


Figure B: Coverage of opioid agonist treatment (OAT) per 100 PWID (A) and needle-syringe per PWID (B) for Canadian provinces and territories in the period 2011–2016



From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-20 12:24 PM

To: 'Picard, Andre'

Subject: RE: Invitation to Speak at the 2020 Public Education Partnership Symposium on Substance Use

---

Thank you Andre

Have a wonderful New Year. See you at this event if not sooner.

Theresa

From: Picard, Andre
Sent: 2019-12-20 11:47 AM
To: Tam, Dr Theresa (PHAC/ASPC)
Subject: RE: Invitation to Speak at the 2020 Public Education Partnership Symposium on Substance Use

Yes, I can do that, thanks.

THE GLOBE AND MAIL

André Picard | Health Columnist |

The Globe and Mail | 999 de Maisonneuve W suite 1620 | Montréal PQ | H3A 3L4
p: 514.982.3063 | e: apicard@globeandmail.ca | twitter: @picardonhealth

From: McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca> **On Behalf Of** Tam, Dr Theresa (PHAC/ASPC)
Sent: Friday, December 20, 2019 11:29 AM
To: Picard, Andre <APicard@globeandmail.com>
Cc: Ponic, Pamela (PHAC/ASPC) <pamela.ponic@canada.ca>
Subject: FW: Invitation to Speak at the 2020 Public Education Partnership Symposium on Substance Use

Hello Mr. Picard,

I'm following up regarding the below invitation.

Kind regards & Happy Holidays,

Robyn McLeod for

Theresa

Dr. Theresa Tam, BMBS (UK), FRCPC
Chief Public Health Officer of Canada
Public Health Agency of Canada
[redacted]
Follow me on Twitter

Administratrice en chef de la santé publique du Canada
Agence de la santé publique du Canada
drtheresa.tam@canada.ca / Tél: 613-954-0594
Suivez-moi sur Twitter

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-16 3:43 PM
To: 'APicard@globeandmail.com' <APicard@globeandmail.com>
Cc: Romano, Anna (PHAC/ASPC) <anna.romano@canada.ca>; Ponic, Pamela (PHAC/ASPC) <pamela.ponic@canada.ca>
Subject: Invitation to Speak at the 2020 Public Education Partnership Symposium on Substance Use

Dear Mr. Picard,

The Government of Canada will be hosting a Public Education Partnership Symposium on Substance Use on March 10-11, 2020 in Ottawa, Ontario.

This event will bring together over 125 professionals from non-profit, medical, academic and government organizations, as well as people with lived experience. The objective of the Symposium is to facilitate discussion on the information needs and gaps in substance use public education and awareness, focusing on the substances that are most often used by Canadians (including cannabis, tobacco, vaping, alcohol and opioids).

As part of the Symposium, the Public Health Agency of Canada is organizing a session on the role of health literacy in substance use public education for Canadians, particularly youth. The purpose of this session is to explore how public educators can support Canadians to build critical health literacy skills, and in particular, discern credible sources of information.

Given your expertise in investigating and talking about the issues, perceptions and misinformation that dominate the conversation around health in Canada, particularly as they relate to substance use, I am writing to invite you to provide a keynote address on the above-noted topic on March 10, 2020.

If this offer is of interest to you, I will ask Dr. Pamela Ponic, Director, Vaping Task Team, Public Health Agency of Canada to follow up with you to discuss details.

Sincerely,

Theresa

Dr. Theresa Tam, BMBS (UK), FRCPC
Chief Public Health Officer of Canada
Public Health Agency of Canada
[redacted]
Follow me on Twitter

Administratrice en chef de la santé publique du Canada
Agence de la santé publique du Canada
[redacted]
Suivez-moi sur Twitter

ATIA - 19(1)

Subject: Job Shadowing - Aalia Noorbhai
Location: Dr. Tam's office, 130 Colonnade Road

Start: Wed 2020-01-22 9:00 AM
End: Wed 2020-01-22 12:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Tam, Dr Theresa (PHAC/ASPC)
Required Attendees: Noorbhai, Aalia (HC/SC)

Aalia Noorbhai
Aalia.noorbhai@canada.ca [redacted]

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

19(1)
Subject to subsection (2), the head of a government institution shall refuse to disclose any record requested under this Act that contains personal information as defined in section 3 of the Privacy Act
Sous réserve du paragraphe (2), le responsable d’une institution fédérale est tenu de refuser la communication de documents contenant les renseignements personnels visés à l’article 3 de la Loi sur la protection des renseignements personnels

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

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From: McLeod, Robyn (PHAC/ASPC) on behalf of Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-03 12:40 PM

To: Bent, Stephen (PHAC/ASPC)

Subject: RE: Kendall/Masse Research Paper

Hi Stephen

Can we get a copy of the research paper today pls?

Thanks,

Robyn

From: Bent, Stephen (PHAC/ASPC)
Sent: 2019-12-01 10:17 PM
To: Beaudoin, Carlo (PHAC/ASPC) ; Beresford-Green, Debbie (HC/SC) ; Borys, Shelley (PHAC/ASPC) ; Elmslie, Kim (PHAC/ASPC) ; Hollington, Jennifer (HC/SC) ; Pearson, Michael (PHAC/ASPC) ; Romano, Anna (PHAC/ASPC) ; Thornton, Sally (PHAC/ASPC)
Cc: Camelon, Lisa (PHAC/ASPC) ; Namiesniowski, Tina (PHAC/ASPC) ; Tam, Dr Theresa (PHAC/ASPC)
Subject: Kendall/Masse Research Paper

Hi folks,

In addition to the background reading for the EC Retreats that Governance sent out on Friday, you will also receive by hand a sealed envelope with the Kendall/Masse research paper that was completed earlier this year.

This document is confidential. Please do not copy or distribute further.

Thanks,

Steve

From: Camelon, Lisa (PHAC/ASPC) <lisa.camelon@canada.ca> **On Behalf Of** governance / gouvernance (PHAC/ASPC)
Sent: 2019-11-29 6:34 PM
To: PHAC.F EC-Members F.ASPC <phac.ec-members.aspc@canada.ca>; Evans, Cindy (PHAC/ASPC) <cindy.evans@canada.ca>; Denis, Joel (PHAC/ASPC) <joel.denis@canada.ca>; Cluney, Craig (PHAC/ASPC) <craig.cluney@canada.ca>
Cc: PHAC.F ec contacts / contacts ce F.ASPC <eccontacts-contactsce.aspc@canada.ca>
Subject: MATERIAL: PHAC-EC Retreat (December 4, 2019, 13:00 - 16:00) // DOCUMENTATION : Retraite du Comité exécutif (le 4 décembre 2019, 13 h à 16 h)

Sent on behalf of DG-OSPP // Envoyé de la part de DG-BPPS

Colleagues,

Building on the foundation of recent medium-term planning and strategic planning exercises, you have been invited to two half-day meetings, on December 4 and 10 to focus on arriving at a strategic management agenda, which will help inform the next Departmental Plan.

The objective of these meetings is to reach a common understanding of the key strategic policy and management priorities and expectations for advancing those priorities at the enterprise level over the next two years. There will be an opportunity for candid discussion

on the conditions for success of the key priorities, including funding pressures, risks, barriers, as well as the trade-offs required. The approach to implementation will also be confirmed.

In preparation for this important discussion, please review the attached December 4 agenda. We have also included a compendium of reading materials for your reference, to help inform the discussion. Additional information will follow.

Thank you,

Stephen Bent

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Collègues,

Vous avez été invité à deux réunions d'une demi-journée, les 4 et 10 décembre, qui mettront l'accent sur l'élaboration d'un programme de gestion stratégique qui aidera à éclairer le prochain plan ministériel, en s'appuyant sur la base des récents exercices de planification à moyen terme et de planification stratégique.

L'objectif de ces réunions est de parvenir à une compréhension commune des principales priorités stratégiques en matière de politique et de gestion, ainsi que des attentes pour faire progresser ces priorités au niveau de l'entreprise au cours des deux prochaines années. Il y aura l'occasion de discuter franchement des conditions de réussite des priorités clés, y compris les pressions financières, les risques, les obstacles et les compromis nécessaires. L'approche de la mise en œuvre sera également confirmée.

En prévision de cette importante discussion, veuillez consulter l'ordre du jour du 4 décembre. Nous avons également inclus un compendium de documents de lecture pour votre référence, afin d'aider à éclairer la discussion. La documentation supplémentaire suivra.

Merci,

Stephen Bent

From: Beaudoin, John (PHAC/ASPC)
Sent: 2019-12-02 3:17 PM
Subject: Le discours du Trône à expliquer

Avec l'ouverture de la nouvelle session parlementaire dans quelques jours, nous avons pensé que vous pourriez recevoir des renseignements généraux sur le discours du Trône. Le discours est la première occasion pour le nouveau gouvernement à exposer ses principaux objectifs de la politique. Il est, qui aura lieu le jeudi 5 décembre, probablement en après-midi (selon le moment où l'élection du Président est terminé).

Auparavant, les membres de la Chambre des communes serait de se promener dans le hall au Sénat afin d'entendre le discours. CTV News a signalé que, étant donné que le Sénat est dans un autre immeuble, un condensé du nombre de membres de la Chambre seront prises au cours au Sénat par navettes parlementaire. Service de police d'Ottawa sera d'aider à gérer la circulation le long de la rue Wellington pour ce faire.

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https://www.ctvnews.ca/politics/what-may-be-the-first-confidence-vote-answers-to-key-questions-about-the-start-of-a-new-parliament-1.4707376

Qu'est-ce que le discours du Trône?

Chaque nouvelle session du Parlement est inaugurée par un discours du Trône. S'y trouvent énoncés les orientations et les objectifs généraux que le gouvernement s'est donnés, de même que les initiatives qu'il compte mettre en œuvre pour atteindre ses objectifs. Le discours du Trône est prononcé par le chef d'État du Canada, en l'occurrence la reine, ou, comme c'est habituellement le cas, par son représentant, le gouverneur général. Le discours du Trône tire son nom du fait que le gouverneur général occupe pour l'occasion un siège spécial du Sénat, réservé au chef d'État, ou à son représentant à titre de chef du régime canadien de gouvernement par l'exécutif. Le gouverneur général fait lecture du discours à une assemblée composée de parlementaires (députés à la Chambre des communes et sénateurs) et d'autres personnalités, par exemple les juges de la Cour suprême du Canada.

Qui rédige le discours du Trône?

C'est le gouvernement en place qui rédige le discours. Le gouverneur général est invité à y inclure des remarques introductives où il fait état de ses propres activités et des visites royales.

Pourquoi le discours du Trône est-il lu par le gouverneur général?

Le Parlement se compose de la reine ainsi que des sénateurs et des députés. Il ne se réunit que sur « convocation royale », par la reine, représentée par le gouverneur général. Le Sénat et la Chambre des communes ne peuvent ouvrir une session de leur propre chef.

Pourquoi le discours du Trône est-il prononcé au Sénat?

Le Parlement du Canada s'inspire de celui du Royaume-Uni, où ni la reine ni les membres du Sénat, lesquels ne sont pas élus, ne sont admis dans la Chambre des communes. Le discours est donc prononcé dans la salle du Sénat.

Cette information a été extraites de : https://www.canada.ca/fr/conseil-prive/campagnes/discours-trone/foire-aux-questions.html

Affaires parlementaires
Agence de la santé publique du Canada
PHAC.parliamentary.affairs-ASCP.affaires.parlementaires@canada.ca

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From: Lavoie, Marlene (PHAC/ASPC) **On Behalf Of** Parliamentary Affairs / Affaires Parlementaires (PHAC/ASPC)
Sent: 2019-12-02 1:43 PM
To: Adkins-Taylor, Emily (PHAC/ASPC) ; Al-Karkhi, Lina (PHAC/ASPC) ; Anderson, Kelly (PHAC/ASPC) ; Anderson2, Julie (NRCAN/RNCAN) ; Archambault, Natalie (PHAC/ASPC) ; Arthur, Jacqueline (PHAC/ASPC) ; Au, Emily (PHAC/ASPC) ; Auger, Julie (PHAC/ASPC) ; Baxter, Melissa (PHAC/ASPC) ; Beaudoin, Carlo (PHAC/ASPC) ; Beaudoin, John (PHAC/ASPC) ; Bell, Tammy (PHAC/ASPC) ; Belliveau, Priscilla (FIN) ; Bent, Stephen (PHAC/ASPC) ; Bernier, Erica (PHAC/ASPC) ; Blais, Rose Anne (PHAC/ASPC) ; Borys, Shelley (PHAC/ASPC) ; Bougie, Melissa (PHAC/ASPC) ; Briand, Adam

(PHAC/ASPC) ; Brickles, Spencer (PHAC/ASPC) ; briefing (PHAC/ASPC) ; Brulé, April (PHAC/ASPC) ; Bruneau, Véronique (HC/SC) ; Bulmer, Jackie (PHAC/ASPC) ; Burke, Elizabeth-Ashley (PHAC/ASPC) ; Burns, Steven (PHAC/ASPC) ; Camelon, Lisa (PHAC/ASPC) ; Cameron, Dory (PHAC/ASPC) ; Carson, Derek (PHAC/ASPC) ; Carty, Paula (PHAC/ASPC) ; Caughey, Heather (PHAC/ASPC) ; Chahine, Victoria (PHAC/ASPC) ; Charbonneau, Nicole (PHAC/ASPC) ; Chartier, Martin (SAC/ISC) ; Chia, Marie (PHAC/ASPC) ; Cholette, Marie-Hélène (PHAC/ASPC) ; Clark, Ray (PHAC/ASPC) ; Clymans, Alixanderia (PHAC/ASPC) ; Cooke, Ann (PHAC/ASPC) ; Corbiere, Jennifer (PHAC/ASPC) ; Couturier, Renee (HC/SC) ; Crawford, Claire (PHAC/ASPC) ; Croteau, Adele ; Cundell, Debbie (PHAC/ASPC) ; Danielson, Heather (PHAC/ASPC) ; de Groh, Margaret (PHAC/ASPC) ; Denis, Joel (PHAC/ASPC) ; Dent, Michael (HC/SC) ; Desmarais, Pierre (PHAC/ASPC) ; DesMeules, Marie (PHAC/ASPC) ; DesRosiers-Rodriguez, Allison (PHAC/ASPC) ; Dixon, Crystal (HC/SC) ; Doering, Lesley (PHAC/ASPC) ; Dooher, Shelley (PHAC/ASPC) ; Dorland, Kirk (PHAC/ASPC) ; Dorner, Martin (PHAC/ASPC) ; Doupagne, Anne-Marie (PHAC/ASPC) ; dp / pm (PHAC/ASPC) ; Drouin, Kristin (HC/SC) ; drr / rrm (PHAC/ASPC) ; Ducharme, Doris (PHAC/ASPC) ; Dufour, Lisette (PHAC/ASPC) ; Dufton, Mary (PHAC/ASPC) ; Duhaime2, Marc (PHAC/ASPC) ; Duncan, Ross (PHAC/ASPC) ; Duperre, Jean-Francois (PS/SP) ; Duquette, Angela (PHAC/ASPC) ; Ebrahim, Marwa (SAC/ISC) ; Ellis, Tim (PHAC/ASPC) ; Elmslie, Kim (PHAC/ASPC) ; Enticknap, Matthew (AAFC/AAC) ; Ephrem, Bersabel (PHAC/ASPC) ; Forget, Andrea (HC/SC) ; Fortier, Lauren (PHAC/ASPC) ; Fothergillpayne, Catherine (PHAC/ASPC) ; Fraser, Rhonda (PHAC/ASPC) ; Friel, Stephanie (PHAC/ASPC) ; Gallagher, Gerry (PHAC/ASPC) ; Galloway, Jocelyne (PHAC/ASPC) ; Gardam, Kevin (PHAC/ASPC) ; Gargum, Taha (PHAC/ASPC) ; Gatto, Franca (PHAC/ASPC) ; Geneau, Robert (PHAC/ASPC) ; Giardino, Isabel (PHAC/ASPC) ; Gibbons, Laurie (PHAC/ASPC) ; Gilby, Denise (HC/SC) ; Gilmour, Matthew (PHAC/ASPC) ; Ginsberg, Simon (PHAC/ASPC) ; Glauser, Fabienne (PHAC/ASPC) ; Goddard, Renee (PHAC/ASPC) ; Golden, Jodie (PHAC/ASPC) ; Gomes, Lisa (PHAC/ASPC) ; Gorber, Timna (PHAC/ASPC) ; Gorr, Patti (PHAC/ASPC) ; Gotlieb, David (HC/SC) ; Graham, Barrie (PHAC/ASPC) ; Grant, Andrew (PHAC/ASPC) ; Grundy, Charlene (PHAC/ASPC) ; Guenette, Tara-Lynn (PHAC/ASPC) ; Guercio, Steven (PHAC/ASPC) ; Halliday, Barrett (PHAC/ASPC) ; Hammond, Cheryl R (PHAC/ASPC) ; Harju, Jennifer (NRCAN/RNCAN) ; Harmston, Christine (PHAC/ASPC) ; Hartigan, Maureen (PHAC/ASPC) ; Hawkins, Danielle (PHAC/ASPC) ; Hayne-Farrell, Amanda (PHAC/ASPC) ; Hernandez, Lucero (PHAC/ASPC) ; Hinds, Chris (HC/SC) ; Hollink, Emily (PHAC/ASPC) ; Hopkins, Doug (PHAC/ASPC) ; Hostrawser, Bonnie (PHAC/ASPC) ; Hotte, Alan (PHAC/ASPC) ; Hould, Laura (PHAC/ASPC) ; Hrynuik, Lisa (PHAC/ASPC) ; Hurley, Shannon (PHAC/ASPC) ; idpcb / dgpcmi (PHAC/ASPC) ; Ingraham, Erin (HC/SC) ; Isotalo, Chris (PHAC/ASPC) ; Itzkovitch, Melanie (HC/SC) ; Jackson, Beth (PHAC/ASPC) ; Jackson, Stephanie (PHAC/ASPC) ; Jelowicki, Maia (PHAC/ASPC) ; Johnstone, Marnie (PHAC/ASPC) ; Jones, Luke (PHAC/ASPC) ; Jones, Sarah (PHAC/ASPC) ; Kaboré, Boniface (PHAC/ASPC) ; Kanga, Ismat (SAC/ISC) ; Keighley, Karen (PHAC/ASPC) ; Kenny, Aileen (PHAC/ASPC) ; Kingdom, Erin (PHAC/ASPC) ; Knelsen, Ryan (PHAC/ASPC) ; Kropac, Erin (CFIA/ACIA) ; Kuran, Natasha (PHAC/ASPC) ; Lachapelle, Dominic (PHAC/ASPC) ; Lachhab, Kanza (PHAC/ASPC) ; Lafkas, Cathy (HC/SC) ; Lalonde, Edith (PHAC/ASPC) ; Lattanzio, Elisa (PHAC/ASPC) ; Laurencelle, Philippe (PHAC/ASPC) ; Lavoie, Marlene (PHAC/ASPC) ; Lawuyi2, Niyi (PHAC/ASPC) ; Lee, Sumin (PHAC/ASPC) ; Lee-Fuller, Christina (PHAC/ASPC) ; Leinan, Valerie (PHAC/ASPC) ; Leung, Blossom (HC/SC) ; Lewis, Megan (PHAC/ASPC) ; Lin, Joanne (PHAC/ASPC) ; Linnenbruegger2, Lorian (PHAC/ASPC) ; MacDonald, Patricia (HC/SC) ; MacIntyre, Erin (PHAC/ASPC) ; MacKenzie, Andrew (PHAC/ASPC) ; MacKenzie, Sara (HC/SC) ; MacKinnon3, Sarah (PHAC/ASPC) ; MacRae, Michelle (PHAC/ASPC) ; Magee, Heather (HC/SC) ; Magnan, Anne (PHAC/ASPC) ; Mahmood2, Tahreem (PHAC/ASPC) ; Manconi, Julia (HC/SC) ; Marcoux, Sylvie (PHAC/ASPC) ; Mawby, Russell (PS/SP) ; Mcdougald, Catherine (HC/SC) ; McGill, Wayne (PHAC/ASPC) ; McGillivray, William (PHAC/ASPC) ; McKeen, Madelyn (PHAC/ASPC) ; McKinnon, Karen (PHAC/ASPC) ; Mcleod, Kathleen (HC/SC) ; McLeod, Robyn (PHAC/ASPC) ; McRae, Louise (PHAC/ASPC) ; Mead, Jobina (PHAC/ASPC) ; Melo, Marlie (PHAC/ASPC) ; Menard2, Lynn (PHAC/ASPC) ; Mentor, Darlyn (PHAC/ASPC) ; Mohamed, Tod (PHAC/ASPC) ; Morey, Christian (PHAC/ASPC) ; Murphy, Katie (PHAC/ASPC) ; Nabukeera, Christine (PHAC/ASPC) ; Namiesniowski, Tina (PHAC/ASPC) ; Nera, Maria (PHAC/ASPC) ; Njoo, Howard (PHAC/ASPC) ; Noel, Carole (PHAC/ASPC) ; Novak, Krystal (PHAC/ASPC) ; Ogunnaike-Cooke, Susanna (PHAC/ASPC) ; Onesi, Fabio (HC/SC) ; O'Reilly, Elizabeth (PHAC/ASPC) ; Ouellette, Rachel

(PHAC/ASPC) ; Owen, Michelle (HC/SC) ; Palin, Sylvie (PHAC/ASPC) ; Parisien, Stéphanie (PHAC/ASPC) ; Parkman, Paul (HC/SC) ; Pearson, Michael (PHAC/ASPC) ; Plante, Chantal (PHAC/ASPC) ; Polan, Clayton (PHAC/ASPC) ; Ponic, Pamela (PHAC/ASPC) ; Pouliot, Annie A (PHAC/ASPC) ; Priest, Stephanie (PHAC/ASPC) ; QP Notes (PHAC/ASPC) ; Reasbeck, Melanie (HC/SC) ; Reid, Dana (PHAC/ASPC) ; Rendall, Jennifer (PHAC/ASPC) ; Reynolds, Tracey (PHAC/ASPC) ; Ricard, Daniel (PHAC/ASPC) ; Riendeau, Daniel (PHAC/ASPC) ; Robert, Anne-Marie (PHAC/ASPC) ; Robinson, Kerry (PHAC/ASPC) ; Rodin, Rachel (PHAC/ASPC) ; Romano, Anna (PHAC/ASPC) ; Roussy, Eve (PHAC/ASPC) ; Rubio2, Frances (PHAC/ASPC) ; Russo, Laura (HC/SC) ; Sagolj Eric, Jelena (PHAC/ASPC) ; Saunders, Kelly (STATCAN) ; Savard, Karolyn (PCH) ; Searson, Linda (HC/SC) ; Serjak, Tamara (PHAC/ASPC) ; Shankar, Craig (PHAC/ASPC) ; Sharma, Ranu (PHAC/ASPC) ; Shortall, Jennifer (PHAC/ASPC) ; Simoneau2, Chantal (PHAC/ASPC) ; Smith, Cheryl (HC/SC) ; Sriram, Deepika (PHAC/ASPC) ; Stanley, Beth (PHAC/ASPC) ; Steele, Klara (PHAC/ASPC) ; Steinmetz, Brenda (PHAC/ASPC) ; Sternthal, Steven (PHAC/ASPC) ; Stiles, Aurora (HC/SC) ; Stilwell, Kim (PHAC/ASPC) ; St-James, Louise (PHAC/ASPC) ; Stollman, Michael (PHAC/ASPC) ; St-Pierre, Natalie (PHAC/ASPC) ; Stroud, Crystal (PHAC/ASPC) ; Tafaghod, Marzieh (HC/SC) ; Tam, Dr Theresa (PHAC/ASPC) ; Taylor8, James (PHAC/ASPC) ; Thomas, Sharon (PHAC/ASPC) ; Thompson, Lorraine (PHAC/ASPC) ; Thornton, Sally (PHAC/ASPC) ; Toews, Jennette (PHAC/ASPC) ; Torunian, Michael (PHAC/ASPC) ; Tremblay, Genevieve (PHAC/ASPC) ; Tremblay, Xavier (PHAC/ASPC) ; Turner, Pamela (PHAC/ASPC) ; Turner-Smith, Suzin ; Ugnat, Anne-Marie (PHAC/ASPC) ; Vadneau, Allison (PHAC/ASPC) ; Vaughan, Martha (PHAC/ASPC) ; Verhoeve, Francesca (PHAC/ASPC) ; Walton, Karen (PHAC/ASPC) ; Weekes, Makenzie (PHAC/ASPC) ; White, Amanda (SAC/ISC) ; Williams, Amanda (PHAC/ASPC) ; Windfeld, Erik (PHAC/ASPC) ; Wiseman, Vicki (PHAC/ASPC) ; Woeller, Jessica (PHAC/ASPC) ; Wood, Michelyn (PHAC/ASPC) ; Wrightsell-Carver, Jacqueline (PHAC/ASPC) ; Zahradnik, Nicole (PHAC/ASPC) ; Zygoumis, Zafira (PHAC/ASPC)

Subject: The Speech from the Throne Explained

With the opening of the new Parliamentary Session only a few days away, we thought you might appreciate some background information on the Speech from the Throne. The Speech is the first opportunity for the new Government to lay out its key policy objectives. It is to be held on Thursday, December 5, likely in the afternoon (depending on when the election of the Speaker is completed).

Previously, the members of the House of Commons would walk down the hall to the Senate in order to hear the Speech. CTV News has reported that, since the Senate is in another building, a condensed number of members of the House will be taken over to the Senate by Parliamentary shuttles. Ottawa Police will be helping manage traffic along Wellington for this to happen.
https://www.ctvnews.ca/politics/what-may-be-the-first-confidence-vote-answers-to-key-questions-about-the-start-of-a-new-parliament-1.4707376

What is the Speech From The Throne?

The Speech from the Throne officially opens every new session of Parliament. Until the Speech is delivered, no public business may be conducted by either the Senate or the House of Commons. The Speech sets out the broad goals and directions of the government and the initiatives it will undertake to accomplish those goals. The Speech is usually given by The Queen's representative, the Governor General, although it may be given by The Queen in-person. It is called the Speech from the Throne because the Governor General reads it while sitting in the seat in the Senate Chamber reserved for the Head of State or her representative, as the head of Canada's system of executive government. The Governor General reads the Speech to a gathering of Parliamentarians (Members of the House of Commons and Senators) and others, such as the Justices of the Supreme Court of Canada.

Who writes the Speech from the Throne?

The government of the day writes the Speech. The Governor General is invited to contribute introductory material dealing with his or her own activities and with Royal visits.

Why does the Governor General give the Speech?

Parliament consists of the Queen, the Senate and House of Commons. Parliament meets only at the "Royal summons" of the Queen, represented by the Governor General. The Senate and House of Commons cannot open a session by their own authority.

Why is the Speech given in the Senate?
The Canadian Parliament was modelled on that of the United Kingdom, where neither the Sovereign nor the members of the unelected upper chamber may enter the House of Commons. The Speech is therefore given in the Senate Chamber.
This information was retrieved from : https://www.canada.ca/en/privy-council/campaigns/speech-throne/frequently-asked-questions.html#VII
Marlene Lavoie on behalf of
Parliamentary Affairs
Public Health Agency of Canada
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Affaires parlementaires
Agence de la santé publique du Canada
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From:	Tam, Dr Theresa (PHAC/ASPC)
Sent:	2019-12-18 9:13 PM
To:	Kropp, Rhonda (PHAC/ASPC)
Subject:	LE Indigenous peoples_ stat comparison.docx
Attachments:	LE Indigenous peoples_ stat comparison.docx; ATT00001.htm

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I read the Stats Can Health Reports summary that Anil sent.

I read the "Life expectancy of First Nations, Métis, and Inuit household populations in Canada," report with interest as the LE estimates are very different to what I use in my CPHO annual report just published today.

Here is a summary of the differences in methodology and the LE estimates. I am speaking with my team on the need to adjust the data that I will be using going forward - assuming I will go with the Stats Can estimates. The health inequality remains for FN, Metis and Inuit but the estimates for every group (including the general population) are much more positive than the ones previously published!

Life Expectancy at birth of Indigenous peoples in Canada (in years and by sex)

Comparison of stats used in 2019 CPHO Annual Report versus latest report published by Statistics Canada

Last update: December 18, 2019

Population		2019 CPHO Report	LE of First Nations, Métis & Inuit household populations in Canada[1]
Inuit	Males	66.4	70.0
	Females	73.1	76.1
First Nations	Males	67.6	72.5
	Females	73.7	77.7
Métis	Males	71.7	76.9
	Females	78.2	82.3
Total Canadian population	Males	79.6	81.4
	Females	83.7	87.3

Interpretation:

The difference in LE results between the two reports can be explained by significant methodological differences. The latest Stats Can report uses more sophisticated methods, not available previously, which are believed to improve LE estimate accuracy, compared to previous reports. The summary of the methodological differences between both reports are:

- The 2019 CPHO Report stats are based on the latest LE data available in the Health Inequalities Data Tool[2] which uses Vital Statistics – Death Database (2009-2011) as the primary data source. Population estimates are area-based measures where the indicated sub-population represents the predominant group.

- The latest Stats Can report is based on linking data from the Canadian Census Health and Environment Cohorts (2006-2011) with the Derived Record Depository containing basic personal identifiers using a generalized record linkage software. In essence, this process allows for the linkage of available survey and administrative data (1996 -2011). Stats Can states in their report that this is the first time they employed this new methodological approach, thereby increasing the accuracy of their LE estimates (relying on death registrations alone poses challenges for Indigenous LE estimates as these records do not consistently collect information on Indigenous identity)

[1] Statistics Canada, 2019 (https://www150.statcan.gc.ca/n1/pub/82-003-x/2019012/article/00001-eng.pdf)
[2] PHAC, 2019 (https://health-infobase.canada.ca/health-inequalities/data-tool/index)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-05 5:54 PM
To: Duhaime2, Marc (PHAC/ASPC)
Subject: RE: Leave from [redacted]

Hi Marc,

I hope you have a good holiday season too. See you in 2020.

TT

From: Duhaime2, Marc (PHAC/ASPC)
Sent: 2019-12-05 5:45 PM
Subject: Leave from [redacted]

Good evening,

A quick note that I will be on leave from [redacted]
(I will be in the office on Friday December 6).

Kristen Tipman will continue to be the lead on all communications matters related to the release of the 2019 CPHO Report. Please direct all enquiries on the report's release to her.

Corey Stevenson will be acting on my behalf during this period for all other matters.

I would like to take the opportunity to wish everyone an excellent holiday season and a great start to 2020.

Marc

Marc Duhaime
Communications Executive / Gestionnaire des communications
Public Health Communications Division / Direction des communications en santé publique
Communications and Public Affairs Branch / Direction générale des affaires publiques et des communications
Health Canada / Santé Canada
Tel / tél. 613-618-1870
Tel (when working remotely) / tél. (lorsqu'à l'extérieur du bureau). 613-806-6475
Email / courriel. Marc.duhaime2@canada.ca

100 YEARS OF HEALTH
ANS DE SANTÉ

From: [redacted]

Sent: 2019-12-10 6:36 PM

To: MP Esquimalt-Saanich-Sooke Randall Garrison

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@AlliesForMe.ca

Subject: Letter regarding Myalgic Encephalomyelitis (ME)

Attachments: ME MP Letter.docx

Dear Mr Garrison,

Please find attached a letter regarding an issue that is personally very important to me--the standard of care for Canadians affected by Myalgic Encephalomyelitis (ME). I look forward to your response once you have had the opportunity to review it.

Thank you in advance for your consideration,and congratulations on another term as our MP.

Kind regards,

[redacted]

December 10th, 2019

Randall Garrison
Esquimalt – Saanich – Sooke
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr. Garrison,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease. A close family friend, also one of your constituents, has been dealing with ME for nearly three years now, and the effect it has had on him and his family is devastating. We have not seen him in close to three years, although he lives a five minute drive from us. This former outdoorsman and emergency room nurse doesn't know from one day to the next whether he will have the energy to spend time with his wife and eight year old daughter, or if that effort will be too much. He has been waiting to see a specialist for two years and has another year or so in the queue. I cannot imagine having to exist in this condition for as long as he has, nor having to face another year of this chronic illness with no relief in sight. Thank you for taking the time to read about this debilitating condition.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*"[1].

First, The Bad News…The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are

house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a**

meeting with patients and researchers to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesForME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include ...

a) Discussing ME issues as part of a health-themed town hall or roundtable discussion.
b) Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
c) Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
d) Join our monthly news bulletin by emailing us at **Coordinator@AlliesForME.ca**

Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion

Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities
Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23
[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Available online at: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx
[3] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23
[4] Nacul, L. C., Lacerda, E. M., Campion, P., Pheby, D., Drachler, M. D., Leite, J. C., . . . Molokhia, M. (2011). The functional status and well being of people with myalgic encephalomyelitis/chronic fatigue syndrome and their carers. BMC Public Health, 11(1). doi:10.1186/1471-2458-11-402

ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-18 9:05 PM
To: Hostrawser, Bonnie (PHAC/ASPC)
Cc: Bell, Tammy (PHAC/ASPC); Rendall, Jennifer (PHAC/ASPC); Macey, Jeannette (PHAC/ASPC); Grote, David (PHAC/ASPC); Chia, Marie (PHAC/ASPC)
Subject: Re: Life expectancy of First Nations, Métis, and Inuit household populations in Canada, Trends in mortality inequalities among the adult household population & Cohort profile

---

I have a meeting with Anil tomorrow and will bump into Lynn Barr Telford so will ask her a few questions,

Sent from my iPhone

On Dec 18, 2019, at 11:58, Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca> wrote:

> Hello Theresa,
> Here is the difference between the sources and methods used for Indigenous LE for our report and what SC released.
> Attached is a one pager showing the LE differences with rationale as copied below.
>
> - The 2019 CPHO Report stats are based on the latest LE data available in the Health Inequalities Data Tool[1] which uses Vital Statistics – Death Database (2009-2011) as the primary data source. Population estimates are area-based measures where the indicated sub-population represents the predominant group.
>
> - The latest Stats Can report is based on linking data from the Canadian Census Health and Environment Cohorts (2006-2011) with the Derived Record Depository containing basic personal identifiers using a generalized record linkage software. In essence, this process allows for the linkage of available survey and administrative data (1996 -2011). Stats Can states in their report that this is the first time they employed this new methodological approach, thereby increasing the accuracy of their LE estimates (relying on death registrations alone poses challenges for Indigenous LE estimates as these records do not consistently collect information on Indigenous identity)
>
> Thanks to David for this information.
> Bonnie
>
> **From:** Tam, Dr Theresa (PHAC/ASPC) [redacted]
> **Sent:** 2019-12-18 9:56 AM
> **To:** Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>
> **Cc:** Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>; Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>; Grote, David (PHAC/ASPC) <david.grote@canada.ca>; Chia, Marie (PHAC/ASPC) <marie.chia@canada.ca>
> **Subject:** Re: Life expectancy of First Nations, Métis, and Inuit household

populations in Canada, Trends in mortality inequalities among the adult household population & Cohort profile: The Canadian Census Health and Environment Cohorts (CanCHECs)
Thanks.
A difference in LE is several years is huge. Could you work out the difference in estimates for the inequality ie the gap in LE between FN and other Canadians etc.
Sent from my iPhone

On Dec 18, 2019, at 09:07, Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca> wrote:

> Yes it is different. The CPHO report uses 2009-2011 data which was what was available to us at the time, indicating that LE from birth for women is as follows:, FN is 74 year, Metis 78 years and Inuit 73 years.
> The new analysis of linked census data (even though it si 2011) is as follows: life expectancy at age 1 was 77.7 years for First Nations, 82.3 years for Métis, 76.1 years for Inuit.
>
> **From:** Tam, Dr Theresa (PHAC/ASPC) [redacted]
> **Sent:** 2019-12-18 9:00 AM
> **To:** Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>; Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>
> **Cc:** Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>
> **Subject:** Fwd: Life expectancy of First Nations, Métis, and Inuit household populations in Canada, Trends in mortality inequalities among the adult household population & Cohort profile: The Canadian Census Health and Environment Cohorts (CanCHECs)
> Is this any different to what I ready have in my report since it is 2011 data?
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** "Arora, Anil (STATCAN)" <anil.arora@canada.ca>
> > **Date:** December 18, 2019 at 08:34:36 EST
> > **To:** "Arora, Anil (STATCAN)" <anil.arora@canada.ca>
> > **Subject: Life expectancy of First Nations, Métis, and Inuit household populations in Canada, Trends in mortality inequalities among the adult household population & Cohort profile: The Canadian Census Health and Environment Cohorts (CanCHECs)**
> >
> > Dear colleague,
> > Three new articles released today in *Health Reports* (see *The Daily*) feature analyses and a description of

a new series of datasets developed by Statistics Canada that link several censuses to death data, making it possible to monitor mortality across different population groups over time.

The first article, "Life expectancy of First Nations, Métis, and Inuit household populations in Canada," uses the Canadian Census Health and Environment Cohorts (CanCHECs) to estimate life expectancy for First Nations people, Métis, and Inuit and to compare it with that of the non-Indigenous population. It found that life expectancy was substantially and consistently shorter for First Nations, Métis, and Inuit households from 1996 to 2011. In 2011, life expectancy at age 1 for the male household population was 72.5 years for First Nations, 76.9 years for Métis, 70.0 years for Inuit, and 81.4 years for non-Indigenous people. Among the female household population, life expectancy at age 1 was 77.7 years for First Nations, 82.3 years for Métis, 76.1 years for Inuit, and 87.3 for non-Indigenous people.

The second article, "Trends in mortality inequalities among the adult household population," examines mortality rates by income and education levels over time. Results show that although mortality rates have fallen over time, this decline has not been shared equally across all income and education levels. In 1991, men with less than a high school diploma had a death rate 50% higher than men with a university degree. By 2011, this inequality widened to 90%. In 1991, the death rate was 40% higher for women with less than a higher school diploma compared to women with a university degree. By 2011, this inequality increased to 80%.

The third article, "Cohort profile: The Canadian Census Health and Environment Cohorts (CanCHECs)," provides a description of the datasets. The CanCHEC datasets are rich national data resources that can be used to measure and examine health inequalities across socioeconomic and ethnocultural dimensions for different periods and locations. These datasets can also be used to examine the effects of exposure to environmental factors on human health.

Cher collègue,

Trois nouveaux articles diffusés aujourd'hui dans les *Rapports sur la santé* (voir *Le Quotidien*) mettent en vedette des analyses et une description d'une nouvelle série d'ensembles de données élaborés par Statistique Canada à partir du couplage de données de plusieurs recensements et de données sur le décès.

Cette nouvelle série d'ensembles de données rend possible le suivi de la mortalité dans des groupes de population différents au fil du temps.

Le premier article, « Espérance de vie des populations des Premières Nations, des Métis et des Inuits à domicile au Canada », s'appuie sur les Cohortes santé et environnement du recensement canadien (CSERCan) pour estimer l'espérance de vie des Premières Nations, des Métis et des Inuits et la comparer avec celle de la population non autochtone. Les résultats révèlent que l'espérance de vie a été considérablement et constamment plus courte au sein des populations des Premières Nations, des Métis et des Inuits à domicile de 1996 à 2011. En 2011, l'espérance de vie à 1 an chez les hommes de la population à domicile était de 72,5 ans chez les Premières Nations, de 76,9 ans chez les Métis, de 70,0 ans chez les Inuits et de 81,4 ans chez les non-Autochtones. Chez les femmes de la population à domicile, l'espérance de vie à 1 an était de 77,7 ans pour les Premières Nations, de 82,3 ans pour les Métis, de 76,1 ans pour les Inuits et de 87,3 ans pour les non-Autochtones.

Le deuxième article, « Tendances des inégalités en matière de mortalité au sein de la population adulte à domicile », examine les taux de mortalité selon les niveaux de revenu et de scolarité au fil du temps. Les résultats révèlent que, quoique les taux de mortalité aient diminué au fil des années, cette diminution n'est pas commune à tous les niveaux de revenu et de scolarité. En 1991, les hommes qui n'avaient pas obtenu de diplôme d'études secondaires affichaient un taux de mortalité 50 % plus élevé que celui des hommes qui avaient un diplôme universitaire. En 2011, cet écart avait atteint 90 %. En 1991, chez les femmes qui n'avaient pas obtenu de diplôme d'études secondaires, le taux de mortalité était 40 % plus important que celui des femmes ayant obtenu un diplôme universitaire. En 2011, cette inégalité s'était chiffrée à 80 %.

Le troisième article, « Profil de cohorte : Cohortes santé et environnement du recensement canadien (CSERCan) », fournit une description de la série d'ensembles de données. Les ensembles de données des CSERCan constituent des ressources nationales en matière de données qui sont abondantes et qui peuvent servir à mesurer et à examiner les inégalités en matière de santé selon les aspects socioéconomiques et ethnoculturels au cours de différentes périodes et à divers endroits. Ils peuvent également servir à examiner les effets de l'exposition à des facteurs environnementaux sur la santé humaine.

Anil Arora

Chief Statistician of Canada
Statistics Canada / Government of Canada
anil.arora@canada.ca / Tel: 613-951-9757
Statisticien en chef du Canada
Statistique Canada / Gouvernement du Canada
anil.arora@canada.ca / Tél.: 613-951-9757

[1] PHAC, 2019 (https://health-infobase.canada.ca/health-inequalities/data-tool/index)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-05 5:56 PM
To: McLeod, Robyn (PHAC/ASPC)
Subject: FW: List of items for you to follow up with Tina

I will touch base with Tina on of this tonight or tomorrow.

Please do not send Tina this list.

From: Bell, Tammy (PHAC/ASPC)
Sent: 2019-12-05 2:44 PM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: McLeod, Robyn (PHAC/ASPC) ; Hostrawser, Bonnie (PHAC/ASPC) ; Rendall, Jennifer (PHAC/ASPC)
Subject: List of items for you to follow up with Tina

From our bilat today:

1. Bilat with Min – overview of your role/ plans for the report
2. Bilat with Steven Lucas – your role and overview of the annual report
3. Email to the Clerk and Deputy Clerk on your report – does she want to send or you? Flag sharing findings through DM's breakfast or other committees? Offer conversation on how the framework could be useful to efforts to end stigma in the public service
4. Bilat with Anil – confirm objectives (see below)

Objectives for meeting with Stats Can:

- Learn about SC vision for data/transformation activities and best practices
- Discuss key findings/calls to action from CPHO annual report on stigma; how to bring health equity lens to data
- Update on the drug observatory

*underlining all of this is learning and understanding SC's role in these pieces; learning from their experience; exploring ways/areas where we can work together

ATIA - 69(1)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-16 7:55 PM
To: McLeod, Robyn (PHAC/ASPC)
Subject: FW: [redacted]

Attachments: [redacted]

Please print for DM opioids meeting

From: Romano, Anna (PHAC/ASPC)
Sent: 2019-12-16 5:50 PM
To: Namiesniowski, Tina (PHAC/ASPC) ; Tam, Dr Theresa (PHAC/ASPC)
Cc: Johnstone, Marnie (PHAC/ASPC) ; Bent, Stephen (PHAC/ASPC) ; Hrynuik, Lisa (PHAC/ASPC)
Subject: [redacted]

Tina, Theresa:

As a follow up to our earlier call on the [redacted] DM Taskforce meeting, I am attaching:

1. an updated [redacted] one pager that includes a reference [redacted]
2. [redacted] includes the 5 items for my branch.

Below you will find additional information regarding our pilot with Ellis Don.

Multi-Sectoral Partnership (MSP) project - *Build Smoke Free*:

- Description: Tobacco cessation intervention delivered to workers on construction sites in Ontario (Toronto, Ottawa) and Alberta (Calgary and Edmonton)
- Policy authority: Funded through the *Healthy Living and Chronic Disease Prevention – Multi-sectoral Partnerships* program (Canada's Tobacco Strategy)
- Target is to reach 2000 construction workers over 5 years.
- [redacted] Canadian Cancer Society; December 2018 – November 2023 / [redacted]

Partners and their roles:

- **EllisDon Construction:** EllisDon is the construction workplace partner, permitting access to work sites and actively supporting local public health units/NGOs to deliver the program. EllisDon on-site staff supports delivery of the program through dedicated on-site activities. EllisDon also provides support for incentive prizing, site trailer space, resource support and website/social media awareness raising.
- **Johnson and Johnson Inc.**: Provides and subsidizes Nicotine Replacement Therapy and sponsor contest prizes.
- **Smokers Help Line (SHL):** Provides telephone, online and text support services to workers and, reaches out to all participants. Further, the SHL will provide aggregate reporting of referrals/contacts for clinical and evaluation purposes.
- **Centre for Addiction and Mental Health:** Facilitates NRT disbursement and provides training to all lead interveners in each jurisdiction through TEACH certification.
- **Ontario Tobacco Research Unit**: Leads performance measurement, and developmental evaluation and reporting.
- **Canadian Cancer Society** (CCS): As project lead, CCS contributes staff time, financial and material resources. CCS leads project planning and implementation as well as the

train-the-trainer program in conjunction with Ottawa Public Health for each of the sites.

- **Ottawa Public Health:** Program partner with CCS in updating program material from the pilot, leading initial training sessions, and co-lead training. Ottawa Public Health also works in conjunction with CCS to improve and adapt program delivery methods and materials.

A potential enhancement on pain management/opioids to this project would present potential advantages in terms of efficiency (reach of the target audience, etc.) and the ability to address multiple substance use issues in this population. However, there are some important considerations:

- PHAC administers the Canada Tobacco Strategy, renewed in January 2019. The authorities are specific to tobacco cessation and prevention (vs other substances like opioids). Sole focus is on priority populations, i.e., higher rates of tobacco use and health inequality.
- [redacted]
- Canadian Cancer Strategy (CCS) leads the project on tobacco due to the direct connection between tobacco and cancer. CCS has no expertise in opioids. However, one of their key partners, Centre for Addiction and Mental Health, would be well placed to contribute.
- [redacted] this project could possibly be enhanced, given the partners at the table (i.e., CMHA, EllisDon).

[redacted] for PHAC

[redacted]

- [redacted] for deployment of 14 new Public Health Officers to work with the provinces and territories to improve and expand the surveillance of overdose-related harms and deaths.
- [redacted] for a new G+C program investment in:
  1. Community-based interventions that promote positive youth development and prevent problematic substance use. Interventions could include initiatives that focus on positive youth development in school settings.
  2. A community data and knowledge transition platform that would provide recommendations for types of interventions to be funded.

[redacted]

- [redacted] to identify and address emerging drug threats, including:

Enhanced Surveillance

- Accelerate the National Epidemiological Studies to better understand factors of substance use and harms, and the impact among different populations.
- Support a coordinated approach to mortality reporting with coroners/medical examiners initiatives (i.e. coordinating with coroners/medical examiners).
- Contribute to an Early Warning System by expanding the Canadian Hospitals Injury Reporting and Prevention Program to 3 additional adult hospitals, and create early warning rules for timelier identification and reporting of new substance-related cases, including emerging substances.
- Improved integration of new and existing data, and the application of advanced analytics, to enable timely information and analysis to support decision makers and target substance use-related public health efforts.
- Expansion of IDCDP's "Tracks" surveillance system, providing information on key populations who are disproportionately affected by substance use (including people who inject drugs, Indigenous peoples, and gay, bisexual and other men who have sex with men).
- **Status update:**
  - Nine out of ten FTE's have been hired. Six have started their appointments and three will start by January 13, 2020. Efforts are being made to staff the one remaining term.
  - Hired 1 FTE to start December 16th and who will be supporting analyses of existing datasets and data collection of the surveys of gbMSM in 2020.

  - Amended an existing ILA with Indigenous Services Canada to provide the resources needed to increase the sample size for the surveys of Indigenous Peoples living in First Nations communities.
  - Added a service option to the contract to conduct data collection among gbMSM in 2020 that involves adding more detailed questions on substance use harms.

[redacted]

- [redacted] that implement, expand and/or adapt effective interventions that contribute to system-level changes that help to reduce barriers to care for people who use substances, such as:
  - Peer support and system navigation that supports people who use drugs to access available health systems;
  - Equity-oriented approaches, which aim to improve how systems are designed, organizations function and practitioners engage with people, to respond to the unique and diverse needs of individuals; and,
  - Contact-based programing, which can help to reduce stigma and misconceptions about substance use and people who use drugs.
- **Status update**:
  - In July 2019, through PHAC's existing Health Promotion Program, an open call for proposals to the Pathways to Care program was launched.
  - The full application process consists of two stages. During the first stage, PHAC received 119 Letters of Intent (LOIs) from a wide range of organizations across the country. [redacted]
  - On October 4, 2019, PHAC invited applicants who were successful at the LOI stage to submit a full proposal by November 1, 2019. Reviews of these proposals are currently underway.
  - [redacted]

[redacted]

- [redacted] to enhance the evidence base and data collection processes related specifically to opioids. [redacted]
  - established the surveillance infrastructure necessary to report nationally on apparent opioid-related deaths.
  - placed 11 Public Health Officer's in the provinces and territories to building the capacity to report on this information .

- launched 2 special Epidemiological Studies to fill in the context around opioid-related deaths through special studies.
- developed reporting on non-fatal overdoses using Emergency Medical Services data.
- signed 3 contribution agreements with Indigenous organizations to improve our understanding of the impact of the opioids crisis in Indigenous communities using grants and contributions funding.
- published 2 special issues on opioids in the HPCDP Journal.

[redacted]

- [redacted] under the Canadian Drugs and Substances Strategy for the new Harm Reduction Fund. The Fund supports community-based projects to decrease risk behaviours around the sharing of injection/inhalant drug-use equipment that can result in HIV and hepatitis C infections increase access to harm reduction and other services, and reduce stigma toward this population.
- The objectives of the Harm Reduction Fund are to:
  - strengthen the knowledge of factors associated with increased vulnerability to HIV and hepatitis C among people who share drug-use equipment;
  - strengthen the skills, competencies, and abilities of people who use substances and share drug-use equipment to prevent HIV and hepatitis C infections;
  - reduce stigma and discrimination toward mental health, substance use, and people who share drug-use equipment; and,
  - reduce risk-taking behaviour among people who use substances and share drug-use equipment (injection and inhalation equipment).
- Eligible activities include:
  - Front-line prevention activities such as education about safer drug-use, peer outreach to encourage access to harm reduction facilities, peer-led navigation to support access to care and treatment services.
  - Capacity-building such as training to ensure participation of people of use drugs in project, development of resources for health and service providers, and the development of best practice models.
- Projects are intended to complement provincial or territorial investments and have a high potential for scaling up to increase reach and impact.

- [redacted] public health surveillance capacity building in provinces and territories.

ATIA - 69(1)

From: Hrynuik, Lisa (PHAC/ASPC)
Sent: 2019-12-17 1:12 PM
To: Romano, Anna (PHAC/ASPC); Namiesniowski, Tina (PHAC/ASPC); Tam, Dr Theresa (PHAC/ASPC)
Cc: Johnstone, Marnie (PHAC/ASPC); Bent, Stephen (PHAC/ASPC)
Subject [redacted]
Attachments: [redacted]

Please note that there was a typo under the cost for Youth Vaping in our Branch overview of proposed items for [redacted]. The attached revised version now reflects the total of [redacted] for this proposa[redacted] Please reference this version going forward.

Thank you.

From: Romano, Anna (PHAC/ASPC)
Sent: 2019-12-16 5:50 PM
To: Namiesniowski, Tina (PHAC/ASPC) ; Tam, Dr Theresa (PHAC/ASPC)
Cc: Johnstone, Marnie (PHAC/ASPC) ; Bent, Stephen (PHAC/ASPC) ; Hrynuik, Lisa (PHAC/ASPC)
Subject: [redacted]

Tina, Theresa:

As a follow up to our earlier call on the [redacted] DM Taskforce meeting, I am attaching:

1. an updated [redacted] one pager that includes a reference [redacted]
2. [redacted] includes the 5 items for my branch.

Below you will find additional information regarding our pilot with Ellis Don.

Multi-Sectoral Partnership (MSP) project - *Build Smoke Free*:

- Description: Tobacco cessation intervention delivered to workers on construction sites in Ontario (Toronto, Ottawa) and Alberta (Calgary and Edmonton)
- Policy authority: Funded through the *Healthy Living and Chronic Disease Prevention – Multi-sectoral Partnerships* program (Canada's Tobacco Strategy)
- Target is to reach 2000 construction workers over 5 years.
- [redacted] Canadian Cancer Society; December 2018 – November 2023 / [redacted]

Partners and their roles:

- **EllisDon Construction:** EllisDon is the construction workplace partner, permitting access to work sites and actively supporting local public health units/NGOs to deliver the program. EllisDon on-site staff supports delivery of the program through dedicated on-site activities. EllisDon also provides support for incentive prizing, site trailer space, resource support and website/social media awareness raising.
- **Johnson and Johnson Inc.**: Provides and subsidizes Nicotine Replacement Therapy and sponsor contest prizes.
- **Smokers Help Line (SHL):** Provides telephone, online and text support services to workers and, reaches out to all participants. Further, the SHL will provide aggregate reporting of referrals/contacts for clinical and evaluation purposes.
- **Centre for Addiction and Mental Health:** Facilitates NRT disbursement and provides training to all lead interveners in each jurisdiction through TEACH certification.
- **Ontario Tobacco Research Unit**: Leads performance measurement, and developmental evaluation and reporting.

- **Canadian Cancer Society** (CCS): As project lead, CCS contributes staff time, financial and material resources. CCS leads project planning and implementation as well as the train-the-trainer program in conjunction with Ottawa Public Health for each of the sites.
- **Ottawa Public Health:** Program partner with CCS in updating program material from the pilot, leading initial training sessions, and co-lead training. Ottawa Public Health also works in conjunction with CCS to improve and adapt program delivery methods and materials.

A potential enhancement on pain management/opioids to this project would present potential advantages in terms of efficiency (reach of the target audience, etc.) and the ability to address multiple substance use issues in this population. However, there are some important considerations:

- PHAC administers the Canada Tobacco Strategy, renewed in January 2019. The authorities are specific to tobacco cessation and prevention (vs other substances like opioids). Sole focus is on priority populations, i.e., higher rates of tobacco use and health inequality.
- [redacted]
- Canadian Cancer Strategy (CCS) leads the project on tobacco due to the direct connection between tobacco and cancer. CCS has no expertise in opioids. However, one of their key partners, Centre for Addiction and Mental Health, would be well placed to contribute.
- [redacted] this project could possibly be enhanced, given the partners at the table (i.e., CMHA, EllisDon).

[redacted]

1. **LGBTQ2 Sexual Health Education/Suicide Prevention**

Lead: Canadian Heritage with input from PHAC (HPCDP and IDPC)

Category: Platform Commitment and Mandate Letter (Minister of Diversity and Inclusion and Youth)

Summary: [redacted] LGBTQ2 organizations to hire staff, expand services and reach more people. This includes hotlines and other support services for LGBTQ2 communities, including those that provide sexual health information.

[redacted]

Rationale: Upstream sexual health education is a gap area; People who identify as LGBTQ2 experience numerous sexual health inequities.

2. **Problematic Substance Use (G+C)***

Lead: HC with input from PHAC (HPCDP-CHP-PSU)

Category: High priority item;
SFT reference to PSU;
Mandate Letter (Minister of Health) reference [redacted] that expand community-based services

Summary: A new G+C program to fund:

1) Community-based interventions that promote positive youth development and prevent problematic substance use. Interventions could include initiatives that focus on positive youth development in school settings.
2) A community data and knowledge transition platform that would provide recommendations for types of interventions to be funded

Cost: [redacted]

Rationale: Addressing risk and protective factors that are known to increase (or decrease) the risk of PSU among youth is a gap. To date, federal approach has been *ad hoc* and focused on public education.

3. **Problematic Substance Use (Surveillance)***

Lead: HC with input from PHAC (HPCDP-CSAR)

Category: High priority item;
SFT reference to PSU;
Mandate Letter (Minister of Health)

Summary: [redacted]

Rationale: To support the continued deployment of 14 Public Health Officers (PHO) to work with the provinces and territories to improve and expand the surveillance of overdose-related harms and deaths.

[redacted]

4. **Youth Vaping**

Lead: HC with input from PHAC (HPCDP-VTT, CSAR, CHP, CCDPHE)

Category: Mandate Letter (Minister of Health)

Summary: Additional measures to address the rapid rise in youth vaping by investing in:

1) Supporting guidance development and knowledge mobilisation for health, related allied professionals, and other adult influencers related to prevention, harm reduction and cessation [redacted]
2) Investments in community-based prevention and cessation interventions for priority youth populations (ie. LGBTQ, boys, young men) through Multi-Sectoral Partnerships program [redacted]
3) Youth vaping surveillance [redacted]
   - Health Behaviours in School-Aged Children Survey [redacted]
   - FPT surveillance [redacted]
   - Expand eCHIRPP vaping surveillance [redacted]

[redacted]

Rationale: To address rapid rise in rates of youth vaping and cases of vaping-associated lung illness through enhanced surveillance, guidance and cessation interventions.

5. **Centre for Aging and Brain Health Innovation (CABHI)**

Lead: PHAC (HPCDP-CHP-DASD)

Category: Sunsetter

Summary: [redacted]CABHI as it continues to accelerate technological innovations in brain health and aging, AND as it transitions to other sources of funding and/or a new business model.

[redacted]

Rationale: CABHI has exceeded performance targets in the number of new products, processes, and services introduced into practice or brought to market. A recent evaluation concluded that CABHI appears to be on its way toward its goal of improving the quality of life for those affected by aging and brain health issues, especially dementia. Two additional years of federal funding would allow the organization to leverage their recently acquired practical knowledge regarding the submission of funding request as part of Federal Budget process.

[redacted]

1. **LGBTQ2 Sexual Health Education/Suicide Prevention**

Lead: Canadian Heritage with input from PHAC (HPCDP and IDPC)

Category: Platform Commitment and Mandate Letter (Minister of Diversity and Inclusion and Youth)

Summary: [redacted]LGBTQ2 organizations to hire staff, expand services and reach more people. This includes hotlines and other support services for LGBTQ2 communities, including those that provide sexual health information.

[redacted]

Rationale: Upstream sexual health education is a gap area; People who identify as LGBTQ2 experience numerous sexual health inequities.

2. **Problematic Substance Use (G+C)***

Lead: HC with input from PHAC (HPCDP-CHP-PSU)

Category: High priority item;
SFT reference to PSU;
Mandate Letter (Minister of Health) reference [redacted] that expand community-based services

Summary: A new G+C program to fund:
1) Community-based interventions that promote positive youth development and prevent problematic substance use. Interventions could include initiatives that focus on positive youth development in school settings.
2) A community data and knowledge transition platform that would provide recommendations for types of interventions to be funded.

[redacted]

Rationale: Addressing risk and protective factors that are known to increase (or decrease) the risk of PSU among youth is a gap. To date, federal approach has been *ad hoc* and focused on public education.

3. **Problematic Substance Use (Surveillance)***

Lead: HC with input from PHAC (HPCDP-CSAR)

Category: High priority item;
SFT reference to PSU;
Mandate Letter (Minister of Health)

Summary: Ongoing investments to support surveillance

[redacted]

Rationale: To support the continued deployment of 14 Public Health Officers (PHO) to work with the provinces and territories to improve and expand the surveillance of overdose-related harms and deaths.

[redacted]

4. **Youth Vaping**

Lead: HC with input from PHAC (HPCDP-VTT, CSAR, CHP, CCDPHE)
Category: Mandate Letter (Minister of Health)
Summary: Additional measures to address the rapid rise in youth vaping by investing in:

1) Supporting guidance development and knowledge mobilisation for health, related allied professionals, and other adult influencers related to prevention, harm reduction and cessation[redacted]
2) Investments in community-based prevention and cessation interventions for priority youth populations (ie. LGBTQ, boys, young men) through Multi-Sectoral Partnerships program[redacted]
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   - Health Behaviours in School-Aged Children Survey[redacted]
   - FPT surveillance[redacted]
   - Expand eCHIRPP vaping surveillance[redacted]

[redacted]

Rationale: To address rapid rise in rates of youth vaping and cases of vaping-associated lung illness through enhanced surveillance, guidance and cessation interventions.

5. **Centre for Aging and Brain Health Innovation (CABHI)**

Lead: PHAC (HPCDP-CHP-DASD)
Category: Sunsetter
Summary: [redacted]CABHI as it continues to accelerate technological innovations in brain health and aging, AND as it transitions to other sources of funding and/or a new business model.

[redacted]

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From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-14 3:47 PM

To: steven.hoffman@globalstrategylab.org

Subject: Mandate letter

AMR is in - very happy about it.

Sent from my iPhone

ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-12 8:00 PM
To: Rodin, Rachel (PHAC/ASPC); Raymond, Barbara (PHAC/ASPC); Njoo, Howard (PHAC/ASPC)
Subject: RE: MD hiring

Hi Rachel,

Tina and I are both wanting to get a better handle on needs, in order to discuss talent management and future recruitment of health professionals.

I think HR is preparing info for Tina on the current list of health professionals in the Agency, in preparation for an EC discussion.

Have you identified a specific need that you need to fill at this time?

TT

From: Rodin, Rachel (PHAC/ASPC)
Sent: 2019-12-12 10:03 AM
To: Raymond, Barbara (PHAC/ASPC) ; Njoo, Howard (PHAC/ASPC) ; Tam, Dr Theresa (PHAC/ASPC)
Subject: Re: MD hiring

Thank you both!

Sent from my BlackBerry 10 smartphone on the Rogers network.

From: Raymond, Barbara (PHAC/ASPC)
Sent: Thursday, December 12, 2019 9:54 AM
To: Njoo, Howard (PHAC/ASPC); Rodin, Rachel (PHAC/ASPC); Tam, Dr Theresa (PHAC/ASPC)
Subject: RE: MD hiring

Nor do I.
Will let you know if I do hear of anything.
Barbara

From: Njoo, Howard (PHAC/ASPC) <howard.njoo@canada.ca>
Sent: 2019-12-11 7:43 PM
To: Rodin, Rachel (PHAC/ASPC) <rachel.rodin@canada.ca>; Raymond, Barbara (PHAC/ASPC) <barbara.raymond@canada.ca>; Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: RE: MD hiring

I am not aware of any strategic approach to recruit physicians into the Agency.

Howard Njoo MD, MHSc, FRCPC
Sous-administrateur en chef de la santé publique
et Conseiller médical en chef, Direction générale de la prévention et du contrôle des maladies infectieuses
Agence de la santé publique du Canada

Deputy Chief Public Health Officer
and Chief Medical Advisor, Infectious Disease Prevention and Control Branch
Public Health Agency of Canada

howard.njoo@canada.ca
tel: 613-960-1940
cell: 613-698-8604

Sent from my Bell Samsung device over Canada's largest network.

-------- Original message --------
From: "Rodin, Rachel (PHAC/ASPC)" <rachel.rodin@canada.ca>
Date: 2019-12-11 18:59 (GMT-05:00)
To: "Njoo, Howard (PHAC/ASPC)" <howard.njoo@canada.ca>, "Raymond, Barbara (PHAC/ASPC)" <barbara.raymond@canada.ca>, "Tam, Dr Theresa (PHAC/ASPC)" [redacted]
Subject: MD hiring

Hi there,

I was wondering if you might know of any current initiatives to hire new physicians to the Agency to bolster our capacity. I am interested in whether any competitions are being planned or there are other mechanisms you are aware of for bringing physicians in on term or indeterminate placements. I am happy to have a quick call if that would be better.

Thanks for your assistance.

Sincerely,
Rachel

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-06 10:01 PM
To: Hostrawser, Bonnie (PHAC/ASPC)
Cc: Bell, Tammy (PHAC/ASPC)
Subject: Re: Media lines for 17 related issues

No worries. I can manage with electronic and will priorities the other things that I have to read this weekend.

Sent from my iPhone

On Dec 6, 2019, at 21:46, Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca> wrote:

> Hello Theresa,
>
> Attached are the related media lines. I am sorry I did not print them for you. Please let me know if you would like them in a binder and I can get them to you this weekend.
>
> I can do that if it makes it easier for you to review and digest
>
> Bonnie
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** "Tipman, Kristen (HC/SC)" <kristen.tipman@canada.ca>
> > **Date:** December 6, 2019 at 7:58:02 PM EST
> > **To:** "Hostrawser, Bonnie (PHAC/ASPC)" <bonnie.hostrawser@canada.ca>
> > **Cc:** "Duhaime2, Marc (PHAC/ASPC)" <marc.duhaime2@canada.ca>, "Russo, Laura (HC/SC)" <laura.russo@canada.ca>
> > **Subject: RE: Report Related Media Lines?**
> >
> > Hi Bonnie,
> > Here are all of the existing media line packages we have gathered.
> > Recent lines on opioids are missing. I believe they were with Dr. Tam for approval as of yesterday.
> > All 17 docs seem to have attached to the one email.
> > Attached you will find approved media lines on the following topics:
>
> - Chronic diseases
> - Mental health
> - Dementia
> - Vaping
> - Cannabis
> - Tobacco

- Alcohol
- STBBIs
- Vaccination rates
- AMR
- Climate change
    - Impacts on health and well-being
    - Climate-driven infectious diseases

Have a nice evening,

Kristen

From: Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>
Sent: 2019-12-06 5:32 PM
To: Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca>
Cc: Duhaime2, Marc (PHAC/ASPC) <marc.duhaime2@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>
Subject: Re: Report Related Media Lines?
Ok thank you.

Sent from my iPhone

On Dec 6, 2019, at 5:26 PM, Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca> wrote:

> Hi Bonnie,
> I shared them via a shared drive link on Thursday but I think they wipe the drive at the end of each day. I'll log on later tonight and send them via email. I think it's 16 docs so it might be a couple of emails.
> Thanks,
> Kristen
> Kristen Tipman
> Communications Advisor | Conseillère en communications
> Strategic Communications Directorate | Direction des communications stratégiques
> Health Canada | Santé Canada
> Office | Bureau: (343) 999-3010
>
> Sent from my BlackBerry 10 smartphone on the Bell network.
>
> ---
>
> **From:** Hostrawser, Bonnie (PHAC/ASPC)
> **Sent:** Friday, December 6, 2019 4:24 PM
> **To:** Duhaime2, Marc (PHAC/ASPC); Tipman, Kristen (HC/SC); Russo, Laura (HC/SC)
> **Subject:** Report Related Media Lines?

Hi Marc, Kristen and Laura, I remember Marc saying that you are putting a package together of the related media lines for the report.
Do you have that in case TT's asks?
Thanks so much,
Bonnie

Bonnie Hostrawser
Director, CPHO Reports/Directrice des rapports de l'ASPC
Office of the Chief Public Health Officer / Bureau de l'Administratrice en chef de la santé publique
Public Health Agency of Canada /Agence de la santé publique du Canada
613 668-1601
PIN: 2C38261B

ATIA-16(2)(c)

Subject: Meeting to review of the approach to the 2020 annual report and consultation process
Location: Room 148B - Dial-in [redacted] Conference ID [redacted]

Start: Tue 2020-01-07 2:00 PM
End: Tue 2020-01-07 2:45 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Tam, Dr Theresa (PHAC/ASPC)
Required Attendees: Hostrawser, Bonnie (PHAC/ASPC); Chia, Marie (PHAC/ASPC); Richardson, Gregory (PHAC/ASPC); Adams, Diane (PHAC/ASPC)
Optional Attendees: Bell, Tammy (PHAC/ASPC)

ATIA-16(2)(c)

Subject: Meeting to review of the approach to the 2020 annual report and consultation process
Location: Room 148B - Dial-in [redacted]
Conference ID [redacted]

Start: Thu 2020-01-09 1:00 PM
End: Thu 2020-01-09 1:45 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Tam, Dr Theresa (PHAC/ASPC)
Required Attendees: Hostrawser, Bonnie (PHAC/ASPC); Chia, Marie (PHAC/ASPC); Richardson, Gregory (PHAC/ASPC); Adams, Diane (PHAC/ASPC)
Optional Attendees: Bell, Tammy (PHAC/ASPC)

ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-04 12:37 PM
To: Romano, Anna (PHAC/ASPC)
Cc: McLeod, Robyn (PHAC/ASPC); Tafaghod, Marzieh (HC/SC); Hrynuik, Lisa (PHAC/ASPC)
Subject: Re: Meeting with Anil Aurora

Cheers

TT

Sent from my iPhone

On Dec 4, 2019, at 12:05, Romano, Anna (PHAC/ASPC) <anna.romano@canada.ca> wrote:

> Thanks Theresa.
> HPCDP can lead on a meeting note for your bi-lat with Stats Canada. Will have that to you by end of next week.
> Anna
>
> **From:** Tam, Dr Theresa (PHAC/ASPC [redacted]
> **Sent:** 2019-12-03 10:30 AM
> **To:** Romano, Anna (PHAC/ASPC) <anna.romano@canada.ca>
> **Subject:** Meeting with Anil Aurora
>
> Tina and I have a "bilat" meeting set up with Anil on Dec 19th.
> I thought it might be worthwhile hearing from Anil about their proposal for the national drug observatory as one of a few areas of mutual interest. I will pull the memo that you had sent up on that front. Just wanted to know if there have been any further discussions with ORT since then and if you want any other important messages conveyed.
> Another topic relates to a call to action in my Addressing Stigma report regarding the need to address gaps in (disaggregated) data on the health status of diverse populations eg in relation to gender, race and ethnicity (eg for black Canadians), urban indigenous etc.
> If you or your team have any messages that you want me to convey on gaps in health inequalities data to Stats Can, I would be happy to do that.
> A key topic of discussion is to understand Stats Can's transformation and vision for the future and how they are getting there.
> TT
> Dr. Theresa Tam, BMBS (UK), FRCPC
> Chief Public Health Officer of Canada
> Public Health Agency of Canada
> [redacted]
> Follow me on Twitter
> Administratrice en chef de la santé publique du Canada
> Agence de la santé publique du Canada
> [redacted]
> Suivez-moi sur Twitter

ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-05 6:16 PM
To: Namiesniowski, Tina (PHAC/ASPC)
Subject: Meeting with Stats Can

Hi Tina

Just wanted to confirm your expectations of the meeting with Anil on Dec 19th. We should send him an email in advance of the call with the objectives (briefly outlined below) and I will also ensure background material is prepared.

We are looking forward to a discussion on the following areas of mutual interest, learning from Stats Can on their experience in each area and explore ways that we can work together

- Learn about Stats Can's vision and experience with their data strategy and transformation activities
- Discuss key findings from the CPHO annual report on stigma and its impact on health. Learn about how Stats Can is addressing national data gaps eg disaggregated data on the health status of diverse populations (eg gender, race/ethnicity), to inform policies and programs on health equity.
- Discuss way forward for the National Drug Observatory, including Stats Can's value proposition

We welcome any other topic that you may want to discuss.

Dr. Theresa Tam, BMBS (UK), FRCPC
Chief Public Health Officer of Canada
Public Health Agency of Canada
[redacted]
Follow me on Twitter

Administratrice en chef de la santé publique du Canada
Agence de la santé publique du Canada
[redacted]
Suivez-moi sur Twitter

ATIA - 19(1)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-02 11:03 AM
To: Eric Costen (eric.costen@canada.ca); Bogden, Jacqueline (HC/SC)
Subject: FW: Mega-Connex 2019

I know you are both extremely busy but I was thinking of you when I met this young professional during MegaConnex last week.

Of course I did not get to spend much time with him but he has a lot of science background especially on mental health/brain science and I think he had worked at [redacted]

[redacted]

Would you be interested in speaking with him if I send him your way?

TT

From: [redacted]
Sent: 2019-11-28 4:05 PM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: [redacted]
Subject: Mega-Connex 2019

Dear Dr. Tam,

[redacted]

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

19(1)
Subject to subsection (2), the head of a government institution shall refuse to disclose any record requested under this Act that contains personal information as defined in section 3 of the Privacy Act
Sous réserve du paragraphe (2), le responsable d’une institution fédérale est tenu de refuser la communication de documents contenant les renseignements personnels visés à l’article 3 de la Loi sur la protection des renseignements personnels

From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-23 11:13 AM

To: [redacted]

Subject: RE: Meilleures vœux!

Merci [redacted]

j'espère que tout va bien avec vous.
Je vous souhaite de joyeuses fêtes de fin d'année!

J'ai lancé mon noveau rapport recentment!

https://www.canada.ca/fr/sante-publique/organisation/publications/rapports-etat-sante-publique-canada-administrateur-chef-sante-publique/lutte-contre-stigmatisation-vers-systeme-sante-plus-inclusif.html

Theresa

-----Original Message-----
From: [redacted]>
Sent: 2019-12-23 9:29 AM
To: [redacted]>
Subject: Meilleures vœux!

From: Namiesniowski, Tina (PHAC/ASPC)
Sent: 2019-12-11 3:10 PM
To: Romano, Anna (PHAC/ASPC); Elmslie, Kim (PHAC/ASPC); Tam, Dr Theresa (PHAC/ASPC)
Subject: Fwd: Mental health and Digital Health/Data Task teams

---

Who else might be identify re mental health/substance use team beyond Stephanie?

Kim, below has a bit more info re data piece.

Theresa. FYI and any input you might have.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lucas, Stephen (HC/SC)" <stephen.lucas@canada.ca>
> **Date:** December 11, 2019 at 1:48:51 PM EST
> **To:** "Namiesniowski, Tina (PHAC/ASPC)" <tina.namiesniowski@canada.ca>
> **Cc:** "Murseli, Lissa (HC/SC)" <lissa.murseli@canada.ca>, "Brown, Nicholas (HC/SC)" <nicholas.brown@canada.ca>, "White, Belinda (HC/SC)" <belinda.white@canada.ca>
> **Subject: Mental health and Digital Health/Data Task teams**
>
> Hi Tina - As a follow-up to our Mental Health meeting yesterday, could you please pass along your key folks you would like to have included for the mental health and substance task team? My office will set up a follow-up meeting for us to co-chair before the holidays, and we can continue with setting regular check-in meetings (every 2 weeks) in the new year.
>
> > We are in the process of identifying team members of a similar task team on digital health and data (including Health and AI) that would include SPB, CIHI (Deborah Cohen and Eric Sutherland), StatsCan, and PHAC. As discussed, I welcome your thoughts on who from PHAC would be best suited to join the team. The plan would be to have this team do focused work in the coming months to define areas of action related to data, digital health and propose concrete ideas in various priority areas (eg, primary care, AI and Health, data for CSOP reporting on priorities such as mental health), to support PT engagement in Feb/March at the Deputy and Ministerial levels.
> >
> > I'd like to get both these teams up and running as soon as possible, with kick-off meetings late this week or next week.
> > Thanks,
> > Steve

From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-04 12:40 AM

To: McLeod, Robyn (PHAC/ASPC)

Subject: MinDM

Do you have my decks from last week? I left them in the bag meaning to keep them as the briefings this week are follow ups .

Sent from my iPhone

ATIA - 19(1)

From: [redacted]

Sent: 2019-12-05 10:44 PM

To: Rob.Morrison@parl.gc.ca

Cc: Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis

Attachments: ME MP Letter.docx

Dear Mr Morrison,
I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.
Please see the attached letter.
Sincerely,

[redacted]

December 5th, 2019
Honourable Ron Morrison
MP for Kootenay Columbia
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr. Morrison

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

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First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

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However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

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ATIA - 19(1)

From: [redacted]

Sent: 2019-12-06 10:18 AM

To: Raquel.Dancho@parl.gc.ca

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca

Subject: Myalgic Encephalomyelitis

Attachments: ME MP Letter.docx

Dear Ms. Dancho,
I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter.

Sincerely,
[redacted]

December 2nd, 2019

~~Name of Member of Parliament~~Raquel Dancho
MP for ~~(constituency)~~Kildonan-St Paul
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear ~~(Mr.~~ Ms. ~~Mrs.)~~ Dancho~~(Last Name)~~,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

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From: [redacted]
Sent: 2019-12-11 4:29 PM
To: Randall.Garrison@parl.gc.ca
Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@AlliesForMe.ca
Subject: Myalgic Encephalomyelitis
Attachments: ME MP Letter_Final.docx%3Fver=1575926454337.pdf

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Sincerely,
[redacted]

December 11th, 2019

Randall Garrison
MP for Esquimalt, Saanich, Sooke
House of Commons, Ottawa
K1A 0A6

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Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities

Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Available online at: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx

[3] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

[4] Nacul, L. C., Lacerda, E. M., Campion, P., Pheby, D., Drachler, M. D., Leite, J. C., . . . Molokhia, M. (2011). The functional status and well being of people with myalgic encephalomyelitis/chronic fatigue syndrome and their carers. BMC Public Health, 11(1). doi:10.1186/1471-2458-11-402

ATIA - 19(1)

From: [redacted]

Sent: 2019-12-12 3:34 PM

To: Catherine McKenna MP

Cc: Prime Minister Justin Trudeau; Chrystia.Freeland@parl.gc.ca; Patty.Hadju@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.cc; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis

Attachments: ME MP Letter.docx; Lettre au de´pute´.docx

Dear Mrs. McKenna,
I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.
Please see the attached letter.
Sincerely,
[redacted]

Madame McKenna,
Je suis une citoyenne de votre circonscription atteinte d'encéphalomyélite myalgique (ou EM, anciennement connue sous l'appellation stigmatisante « syndrome de fatigue chronique »), une maladie chronique invalidante. Je vous écris afin de vous demander d'aider les Canadiens comme moi dans leurs efforts de sensibilisation à cette maladie dévastatrice.
Merci de prendre connaissance de la lettre qui suit.

Salutations distinguées,
[redacted]

Le 12 décembre 2019

L'honorable Catherine McKenna
Député d'Ottawa-Centre
Chambre des communes, Ottawa
K1A 0A6

Objet : Trois actions pour accroître la sensibilisation à l'encéphalomyélite myalgique

Madame McKenna,

Je vous écris en tant que citoyenne de votre circonscription. Je fais partie des 580 000 Canadiens et Canadiennes atteints d'encéphalomyélite myalgique (EM), une maladie chronique débilitante anciennement connue sous le terme stigmatisant « syndrome de fatigue chronique » ou « EM/SFC » et j'aimerais obtenir votre aide dans mes efforts de sensibilisation à cette maladie dévastatrice.

Qu'est-ce que l'EM ?

L'EM est une maladie multisystémique complexe classée par l'Organisation mondiale de la santé (OMS) comme une maladie neuro-immunitaire se présentant sous forme sporadique et épidémique. Elle peut toucher n'importe qui, quels que soient son milieu et son âge, même les enfants.

« *L'EM se manifeste souvent de façon soudaine, habituellement après une infection virale ou autre, mais peut également survenir à la suite d'autres types de traumatismes physiques. Dans d'autres cas, la maladie se développe graduellement, sur plusieurs semaines ou plusieurs mois. Les patients disent ressentir des symptômes pseudogrippaux de façon chronique. En plus du malaise post-effort caractéristique de la maladie, les patients peuvent également souffrir de troubles cognitifs, d'un sommeil non réparateur, de manifestations du système autonome telles la variabilité du rythme cardiaque, de douleurs musculaires et articulaires et de sensibilité au bruit, à la lumière et aux produits chimiques. Un titre élevé des anticorps aux virus peut aussi être présent ainsi que de faibles niveaux de sérologie auto-immune. Le degré de sévérité varie grandement d'un patient à l'autre* » *[1].*

D'abord, les mauvaises nouvelles : le contexte canadien de l'EM

Tout d'abord, parlons un peu du contexte entourant cette maladie encore dans l'ombre au Canada. Selon l'enquête sur la santé dans les collectivités canadiennes de 2016 de Statistique Canada, la maladie touche plus d'un demi-million de Canadiens de façon sévère, en plus d'affecter des centaines de milliers de leurs proches et membres de leurs familles. Environ 75 % des personnes atteintes d'EM, soit 435 000 personnes, sont incapables de travailler et 25 % d'entre elles (145 000 personnes) sont confinées à leur lit ou à leur domicile [2]. *Les personnes gravement malades requièrent l'obscurité totale, le silence et l'isolement complet, un tube d'alimentation et un cathéter.*

Tout ceci a des répercussions importantes sur notre économie canadienne. Aux États-Unis, où l'on compte entre 1 et 2,5 millions de personnes vivant avec l'EM, l'impact sur l'économie se traduit par une perte de productivité et des coûts médicaux directs d'environ 17 à 24 milliards de dollars chaque année [3]. Au Canada, une estimation comparable et conservatrice donnerait

entre 11 et 15 milliards de dollars de pertes annuelles. On ne peut, ne serait-ce que d'un point de vue économique, continuer à ignorer cette maladie et les personnes qui en souffrent.

La petite histoire de la maladie

Bien que la description des symptômes de l'EM puisse remonter à des centaines d'années, l'EM a été reconnue pour la première fois lors de l'épidémie de Los Angeles de 1934. On croyait à l'époque être face à une forme atypique de la poliomyélite. Au cours des décennies suivantes, des épidémies similaires ont eu lieu entre autres en Islande, en Suisse et en Australie. De 1984 à 1992, les épidémies d'EM étaient endémiques en Amérique du Nord. Puis, en 2015, le nombre de personnes atteintes d'EM au Canada a bondi de 37 % par rapport à l'année précédente.

Pendant près de 35 ans, cette maladie chronique fut reléguée à la catégorie « problème d'ordre psychologique » et affublée de l'appellation condescendante « syndrome de fatigue chronique », empêchant ainsi les discussions d'ordre médical et les efforts de recherche sur cette maladie biologique. Les patients ont beaucoup souffert de cette négligence de la part des institutions médicales et certains en sont même morts.

Malheureusement, de façon historique, le corps médical a tendance à classer dans la catégorie « psychologique » les maladies physiques qui touchent principalement les femmes (sclérose en plaques, endométriose, lupus, syndrome d'Ehlers-Danlos, fibromyalgie). L'EM n'échappe pas à cette règle. Au coût de décennies de stigmatisation ayant causé la perte de vies humaines, nous avons maintenant la certitude que ces maladies sont d'origine biologique. Aujourd'hui encore, malgré les nombreuses découvertes scientifiques réalisées à l'international sur le dysfonctionnement métabolique, les modifications épigénétiques et ce « quelque chose dans le sérum » des patients, cette façon délétère de pratiquer la médecine affecte encore les Canadiens atteints d'EM. Et malheureusement, l'EM n'est pas enseignée dans les écoles de médecine ; même les collèges des médecins et chirurgiens accusent un accablant retard dans la compréhension de cette maladie.

Les effets délétères des soins médicaux conjugués à la maladie chronique augmentent le risque de suicide

Bien que cette maladie ne soit pas causée par la dépression ou l'anxiété, il est courant que les patients envisagent le suicide en raison de la douleur et de la souffrance constantes dont ils sont affligés. On ressent aisément de l'empathie pour ces personnes qui ont passé des décennies à souffrir d'une maladie intraitable, incurable et encore à ce jour largement stigmatisée par le système de santé — système de santé qui n'est pas encore au fait des dernières découvertes de la science et qui, au quotidien, nuit aux patients et à leurs familles.

De nombreuses études, dont une étude espagnole récente, ont démontré que les patients atteints d'EM ont un taux de suicide environ cinq fois supérieur à la moyenne nationale en raison des douleurs physiques perpétuelles et non traitées dont ils souffrent, de la perte de leur revenu et de leur carrière, de la perte de leur autonomie et parce qu'ils ont la plus faible qualité de vie [4] parmi tous les malades atteints de maladies chroniques. Et pourtant, ils sont rejetés par les médecins, lesquels ne se tiennent pas informés des recherches en cours sur l'EM, pas plus que les administrateurs de leurs collèges.

Cette méconnaissance de la maladie fait non seulement du tort aux patients dans les sphères médicales et sociales, mais elle a presque annihilé le financement pour la recherche. Jusqu'à

tout récemment, les IRSC n'avaient aucuns fonds consacrés à la recherche biomédicale sur l'EM.

La bonne nouvelle

Les IRSC se sont engagés à faire avancer la recherche biomédicale sur l'EM

En décembre 2018, en collaboration avec les IRSC, les parties prenantes se sont rencontrées à Montréal pour mettre sur pied le Réseau canadien de recherche concertée interdisciplinaire sur l'encéphalomyélite myalgique (ICanCME) en prévision d'une possibilité de financement des IRSC pour la recherche biomédicale sur l'EM. Le financement fut ensuite annoncé en avril pour un montant de 280 000 $ par an sur cinq ans.

Le 22 août, la communauté des malades de l'EM assistait à l'annonce de la ministre de la Santé, Ginette Petitpas Taylor, selon laquelle les IRSC s'engagent à financer le Réseau canadien de recherche concertée interdisciplinaire sur l'EM.

La communauté voit cette annonce comme une assise importante qui servira à élargir davantage la recherche biomédicale. La communauté est reconnaissante du fait que les IRSC aient reconnu l'origine biologique de cette maladie et compris la nécessité d'investir dans la recherche collaborative afin de renverser la vapeur et cesser le tort fait aux malades. Cependant, le financement octroyé ne couvrira que la base nécessaire à l'élaboration d'un réseau.

Il faudra beaucoup plus pour attirer les meilleurs chercheurs et réussir à résoudre les mystères scientifiques de l'EM. Malgré tout, la communauté des malades est motivée à tirer le meilleur parti de cette opportunité et entend participer aux efforts visant à augmenter la cadence en matière de recherche afin de recevoir de plus importantes subventions dans le futur.

Les patients atteints d'EM ont des besoins qui nécessitent des investissements ciblés beaucoup plus importants. Le gouvernement doit mettre en place les conditions idéales pour attirer les plus brillants chercheurs dans ce domaine.

Tout commence par la sensibilisation sur l'EM. Nous avons besoin de vous pour y arriver. Nous avons besoin que nos élus soient avec nous, debout à nos côtés.

Trois choses que vous pouvez faire dès maintenant

Comme représentant élu, j'aimerais vous demander de faire trois démarches qui aideront à soutenir les patients tout en accélérant le mouvement vers l'obtention d'un financement équitable, de soins accessibles et de traitements :

1 — Écrire à la nouvelle ministre fédérale de la Santé, l'honorable Patty Hajdu, pour exprimer votre soutien à notre cause et lui demander de faire appel aux ministres concernés et à leurs équipes afin d'**organiser une rencontre avec des patients et des chercheurs.** Cette rencontre leur permettra d'en apprendre davantage sur notre maladie et sur les obstacles à franchir pour accéder à des soins et du soutien convenables au sein de leurs départements respectifs. La liste des ministres en question est incluse dans la section « CC » ci-dessous.

2 — Au nom de vos électeurs, d**istribuer la résolution SO31 aux membres de la Chambre des communes** pour attirer leur attention sur la maladie et la nécessité d'obtenir du financement pour la recherche biomédicale équitable.

3 — Vous joindre à notre groupe non partisan d'alliés, *Allies for ME,* afin de nous aider à sensibiliser le public et les médecins à la stigmatisation dont souffrent les gens atteints de cette maladie chronique invalidante et parler d'EM dans vos infolettres, dans vos rencontres à l'hôtel de ville et lors des consultations publiques et autres actions citoyennes auxquelles vous prenez part. Pour en savoir davantage, rendez-vous sur AlliesForME.ca ou faites parvenir un courriel à : Coordinator@AlliesForME.ca

Voici quelques exemples de ce que vous pourriez faire :

1) Organiser une discussion sur les enjeux de l'EM dans le cadre d'une assemblée d'électeurs ayant pour thème la santé.

2) Aller faire la connaissance de vos électeurs atteints d'EM (et d'autres maladies co-morbides).

3) Sur les réseaux sociaux, appuyer la Journée internationale de la sensibilisation à l'EM, le 12 mai, ainsi que la Journée internationale de la sensibilisation à l'EM sévère, le 8 mai. L'ancienne ministre de la Santé, Ginette Petitpas Taylor, s'est servie de sa plateforme en ligne pour attirer l'attention sur notre maladie, les défis qu'elle présente et nos besoins et l'impact en fut très significatif.

4) Vous abonner à notre bulletin mensuel en écrivant à : Coordinator@AlliesForME.ca

Votre empressement à entreprendre ces démarches sans tarder servira non seulement à démontrer votre soutien envers plus de **500 000 Canadiens atteints d'EM,** mais il constituera également la prochaine étape essentielle vers l'obtention de financement équitable pour la recherche, la sensibilisation de nos médecins et la diminution du tort infligé aux malades sur le plan médical, social et financier.

Ces démarches pourraient figurer parmi vos plus belles réalisations comme représentant élu. En espérant avoir une réponse rapide de votre part, je vous remercie à l'avance de votre engagement.

Salutations distinguées,

[redacted]

CC :
Le très honorable Justin Trudeau, premier ministre
L'honorable Chrystia Freeland,vice-première ministre et ministre des Affaires intergouvernementales
L'honorable Patty Hajdu, ministre de la Santé
L'honorable Diane Lebouthillier, ministre du Revenu national
L'honorable Carla Qualtrough, ministre de l'Emploi, du Développement de la main-d'œuvre et de l'Inclusion des personnes handicapées
L'honorable Lawrence MacAulay, ministre des Anciens Combattants

L'honorable Navdeep Bains, ministre de l'Innovation, des Sciences et de l'Industrie
L'honorable William Morneau, ministre des Finances
L'honorable Ahmed Hussen, ministre de la Famille, des Enfants et du Développement social
L'honorable Maryam Monsef, ministre des Femmes et de l'Égalité des genres et du Développement économique rural
L'honorable Bardish Chagger, ministre de la Diversité et de l'Inclusion et de la Jeunesse
L'honorable Catherine McKenna, ministre de l'Infrastructure et des Collectivités
L'honorable Deb Schulte, ministre des Aînés
Dre Theresa Tam, administratrice en chef de la santé publique du Canada
Dr Michael Strong, président des IRSC

Allies for ME (Coordinator@AlliesForME.ca)

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[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Disponible en ligne à: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx

[3] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

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December 12, 2019

The Honourable Catherine McKenna
MP for Ottawa Centre
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mrs. McKenna,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*"[1].

First, The Bad News…The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a meeting with patients and researchers** to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesForME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include ...

a) Discussing ME issues as part of a health-themed town hall or roundtable discussion.
b) Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
c) Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
d) Join our monthly news bulletin by emailing us at **Coordinator@AlliesForME.ca**

Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities

Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Available online at: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx

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From: [redacted]

Sent: 2019-12-18 4:40 PM

To: Tam, Dr.Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca

Cc: coordinator@alliesforme.ca

Subject: Myalgic Encephalogmyelitis

Attachments: ME MP Letter Dec 2019.docx

Categories: Follow-Up

Please see attached letter. I ask that you increase support for ME awareness, education and research. This is a matter of life and death for hundreds of thousands of Canadians. Not only is this a moral imperative, but it is the fiscally responsible thing to do. Please TAKE ACTION NOW to improve the lives of patients living with ME so they can resume healthy and productive lives. Thank you.

---------- Forwarded message ---------
From: [redacted]
Date: Fri, Dec 13, 2019, 5:02 PM
Subject: Myalgic Encephalogmyelitis
To: <Julie.Dabrusin@parl.gc.ca>
Cc: <justin.trudeau@parl.gc.ca>, <Chrystia.Freeland@parl.gc.ca>, <Patty.Hajdu@parl.gc.ca>, <Diane.Lebouthillier@parl.gc.ca>, <Carla.Qualtrough@parl.gc.ca>, <lawrence.macaulay@parl.gc.ca>, <Navdeep.Bains@parl.gc.ca>, <Bill.Morneau@parl.gc.ca>, <Ahmed.Hussen@parl.gc.ca>, <Maryam.Monsef@parl.gc.ca>, <Bardish.Chagger@parl.gc.ca>, <Catherine.McKenna@parl.gc.ca>, <Deb.Schulte@parl.gc.ca>, <coordinator@alliesforme.ca>

Dear Ms. Dabrusin,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME / CFS) to ask for your assistance in

helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter.

Sincerely,

[redacted]

December 13th, 2019

Julie Dabrusin
MP for Toronto-Danforth
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Ms. Dabrusin,

I am writing as one of your constituents, **to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis** (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) **to ask for your assistance** in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*"[1].

First, The Bad News…The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. **About 75% of individuals with ME are no longer able to work; 25% are house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter**.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and

conservative estimate would be between $11-15 billion lost annually. **It just doesn't make economic sense to continue ignoring this illness and those suffering from it.**

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then **in 2015 Canadian ME rates surged by 37% over the previous year.**

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, **ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind** in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that **patients with ME have a suicide rate approximately 5 times higher than the national average** due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

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Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

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Thank you for your commitment. I look forward to receiving a response from you.

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Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
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[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

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ATIA - 19(1)

From: [redacted]

Sent: 2019-12-20 7:53 PM

To: Randall.Garrison@parl.gc.ca

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Re: Myalgic Encephalomyelitis

Attachments: ME MP Letter_Final (1).docx

Mr Garrison,
I am a citizen of your riding that has a family member suffering from myalgic encephalomyelitis (or ME, formerly known as the stigmatizing “chronic fatigue syndrome”), a chronic disabling disease. I am writing to ask you to help Canadians like me in their efforts to raise awareness of this devastating disease.
Please read the following letter.
Best regards,
[redacted]

December 28nd, 2019

Randall Garrison
MP for Esquimalt, Sannich, Sooke
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr. Garrison,

I am writing as one of your constituents, to express my concerns as I have a family member affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

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Sincerely,

[redacted]

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Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
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[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

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ATIA - 19(1)

From: [redacted]

Sent: 2019-12-04 2:17 PM

To: JULIE.DABRUSIN@parl.gc.ca

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis - how you can make a difference

Attachments: ME letter to Julie Dabrusin.pdf

Dear Ms. Dabrusin,

Thank you for your time in reading this.

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter. I look forward to hearing from you.

Sincerely,

[redacted]

December 4th, 2019

Name of Member of Parliament
MP for (constituency)
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Ms. Dabrusin,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

I have been missing out on all facets of my previous life for three years now, unable to work, get married to my cherished fiancé, have children, travel to see my family overseas and more. I know more can be done to find treatment and/or even a cure for this disabling illness.

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Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance

Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities
Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Available online at: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx

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[4] Nacul, L. C., Lacerda, E. M., Campion, P., Pheby, D., Drachler, M. D., Leite, J. C., . . . Molokhia, M. (2011). The functional status and well being of people with myalgic encephalomyelitis/chronic fatigue syndrome and their carers. BMC Public Health, 11(1). doi:10.1186/1471-2458-11-402

ATIA - 19(1)

From: [redacted]

Sent: 2019-12-11 1:40 AM

To: Randall.Garrison@parl.gc.ca

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis - Three Actions

Attachments: ME MP Letter_Final (2).docx

Dear Mr Garrison,
I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter.

Sincerely,

[redacted]

December 2nd, 2019

Mr Randall Garrison
MP for Esquimalt-Saanich-Sooke
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr Randall Garrison,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*"[1].

First, The Bad News…The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a meeting with patients and researchers** to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesForME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include ...

a) Discussing ME issues as part of a health-themed town hall or roundtable discussion.
b) Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
c) Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
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Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

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Hon. Deb Schulte, Minister of Seniors
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Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

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[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23

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ATIA - 19(1)

From: [redacted]

Sent: 2019-12-04 12:42 PM

To: Andy.Fillmore@parl.gc.ca

Cc: Sabrina Poirier; Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis (ME)

Attachments: ME MP Letter_Fillmore.docx

Dear Mr. Fillmore,

I am writing as one of your constituents and as a passionate ME advocate in Canada, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter. I look forward to hearing from you.

Sincerely,

[redacted]

December 2nd, 2019

Mr. Andy Fillmore
MP for Halifax
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr. Fillmore,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

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Sincerely,

[redacted]

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Hon. Diane Lebouthillier, Minister of National Revenue
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Hon. Navdeep Bains, Minister of Innovation, Science and Industry
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Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
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Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR
Allies for ME (Coordinator@AlliesForME.ca)

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ATIA - 19(1)

From: [redacted]

Sent: 2019-12-10 2:19 PM

To: Randall.Garrison@parl.gc.ca

Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@alliesforme.ca

Subject: Myalgic Encephalomyelitis requires awareness in goverment

Attachments: ME MP Letter to Mr Garrison from [redacted] docx

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Dear Mr. Garrison,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please find my attached letter which includes part of my family's story and further details ME. Thank you for taking the time to review it.

Sincerely,

[redacted]

December 10th, 2019

Name of Member of Parliament
MP for
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mr. Garrison,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

I find myself being primary caregiver to my husband who has severe ME. He is 43. He was an intensive care nurse, avid fly fisherman, amateur sprint triathlete, search and rescue team member. He is great husband and loving father. He is now is the most disabled person I know. He is mostly confined to bedrest, unable to interact with friends and family. He lives with insufferable symptoms and very low quality of life. He has been this ill for over two years.

I have navigated through patient groups, and participated in provincial and national advocacy efforts. For example, I presented in front of the Select Standing Committee on Finance and Government Services in BC, a BC Parliament Subcommittee, and am part of the working group organizing this national letter campaign. Last December, a patient group met with BC Ministry of Health, and the Ministry's response was noncommittal. In May, we hosted a public awareness event (coordinating with over 100 international events) and despite invitations, not a single MLA appeared to meet us on the steps of the Legislature building. Not one.

It feels like my family has reached the end of medicine and no one is listening. I know that getting health care "right" is deeply challenging, as there is no perfect solution to all. But I also know that many illnesses have come before ME, such as HIV and MS, I'm asking for you to help give ME patients their turn.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms*

chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity"[1].

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ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is not caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a meeting with patients and researchers** to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesForME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include ...

a) Discussing ME issues as part of a health-themed town hall or roundtable discussion.
b) Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
c) Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
d) Join our monthly news bulletin by emailing us at **Coordinator@AlliesForME.ca**

Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities
Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

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[1] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23
[2] Institute of Medicine. *Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness*. Washington, DC: The National Academies Press (2015). Available online at: http://www.nationalacademies.org/hmd/Reports/2015/ME-CFS.aspx
[3] Dimmock, M., Levine, S., Wilder, T. (2018). Myalgic Encephalomyelitis / Chronic Fatigue Syndrome: What every family physician needs to know. Family Doctor, 6 (Winter 2018), 23-25. http://www.nysafp.org/NYSAFP/media/PDFs/Family%20Doctor/Family-Physician-Winter-2018WEB.pdf#page=23
[4] Nacul, L. C., Lacerda, E. M., Campion, P., Pheby, D., Drachler, M. D., Leite, J. C., . . . Molokhia, M. (2011). The functional status and well being of people with myalgic encephalomyelitis/chronic fatigue syndrome and their carers. BMC Public Health, 11(1). doi:10.1186/1471-2458-11-402

ATIA - 19(1) ATIA - 15(1)

From: [redacted]
Sent: 2019-12-18 10:39 AM
To: Tam, Dr Theresa (PHAC/ASPC); Romano, Anna (PHAC/ASPC); Vaughan, Martha (PHAC/ASPC)
Cc: [redacted]
Subject: FW: National Australian awareness campaign on alcohol and pregnancy

---

Good morning, I thought that you might be interested to see how [redacted] is assertively moving forward with this strategy to raise awareness of alcohol and pregnancy, in addition to the money that they put into the national FASD strategy last year. Perhaps we can add this to our discussion in the new year.

[redacted]

Check out the online courses here

Stay connected. Stay Informed
www.canfasd.ca

From: [redacted]
Sent: Tuesday, 17 December 2019 5:12 PM
To: [redacted]
Subject: National Australian awareness campaign on alcohol and pregnancy

[redacted]

ATIA - 19(1) ATIA - 15(1)

"People often underestimate [redacted] drinking alcohol during pregnancy. Alcohol can cause a range of adverse effe[redacted] miscarriage, stillbirth and life-long disabilities such as Fetal Alcohol Spectrum D[redacted]," she said.

A new national campaign hig[redacted] sks of alcohol use and pregnancy will have strong synergies with the current Se[redacted] o FASD initiated by the Centre Alliance Senator Stirling Griff.

"We also acknowledge and t[redacted] riff for his tireless advocacy on FASD and for his commitment bringing this hi[redacted] the light," Ms Hepworth said.

Australia has one of the high[redacted] hol use during pregnancy in the world, while FASD is estimated to affect u[redacted] nt of the Australian population, with a potential range between two to nine pe[redacted] born with FASD each year.

"Extraordinary work has bee[redacted] cated and passionate individuals and organisations at the forefront of awareness, [redacted] support for those with FASD. We acknowledge and thank them for this solid [redacted] ork to respond to this complex, preventable disability," Ms Hepworth sai[redacted]

"Until now there had never b[redacted] unds to match this exceptional effort in protecting women and unborn children [redacted] he objective of no new FASD cases in Australia," she said.

http://fare.org.au/vital-fund[redacted]ng-women-and-children-from-alcohol-harm/

https://www.budget.gov.au[redacted]tent/myefo/download/MYEFO_2019-20.pdf

Mid-Year Economic and Fis[redacted]9-20

v Foreword The Mid-Year E[redacted]cal Outlook 2019-20 (MYEFO) has been prepared in accordance wit[redacted] Budget Honesty Act 1998.The Charter requires that the Governme[redacted]d-year budget report which provides updated information on

www.budget.gov.au

Sarah Ward
Principal Policy Officer

Please note: I work part-tim[redacted]n the office on Tuesday, Thursday and Friday.

Foundation for Alcohol R[redacted]ducation
PO Box 19, Deakin West, A[redacted]
02 6122 8600

www.fare.org.au

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

19(1)
Subject to subsection (2), the head of a government institution shall refuse to disclose any record requested under this Act that contains personal information as defined in section 3 of the Privacy Act
Sous réserve du paragraphe (2), le responsable d’une institution fédérale est tenu de refuser la communication de documents contenant les renseignements personnels visés à l’article 3 de la Loi sur la protection des renseignements personnels

15(1)
The head of a government institution may refuse to disclose any record requested under this Act that contains information the disclosure of which could reasonably be expected to be injurious to the conduct of international affairs, the defence of
Le responsable d’une institution fédérale peut refuser la communication de documents contenant des renseignements dont la divulgation risquerait vraisemblablement de porter préjudice à la conduite des affaires internationales, à la défense du Can

ATIA - 19(1) ATIA - 17 ATIA - 14

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-23 2:03 PM
To: Bogden, Jacqueline (HC/SC); Hollington, Jennifer (HC/SC)
Cc: MacKenzie, Sara (HC/SC)
Subject: Near final CCMOH vaping statement
Attachments: PHAC_CCMOH Statement_Vaping#4.DRAFT5.0.clean.docx

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Hi Jacquie and Jen,

[redacted]

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Public Health Agency of Canada
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Statement from the Council of Chief Medical Officers of Health on Nicotine Vaping in Canada

Statement

January XX, 2020

The Council of Chief Medical Officers of Health (CCMOH) remain significantly concerned by the substantial rise of nicotine vaping among Canadian youth as well as the recent emerging evidence on vaping associated lung illness (VALI). In follow up to our previous positions statements on this issue; July 2014; April 2019 and October 2019; we provide the following as a set of regulatory and policy recommendations that we believe are necessary to be taken by the federal, provincial/territorial and municipal governments to address this rapidly emerging public health threat.

This statement pertains to nicotine vaping devices but CCMOH has also produced a related statements on cannabis vaping: Oct 2018, earlier this month January 2020.

The overarching objectives of these recommendations are to protect young people from inducements to use nicotine vaping devices by regulating such devices as equivalent to tobacco products, and to encourage smokers who use vaping devices to use them solely to end or reduce their use of all nicotine-containing products.

These recommendations are made in the context of the emerging evidence of the short and long-term harms associated with the use of vaping products, as well as the limited evidence of the effectiveness of vaping products to help smokers decrease or stop their use of all nicotine-containing products. It is important that the regulatory and policy approaches for vaping products are reviewed as the evidence of health risks and benefits evolves. For example, if it becomes clear that vaping products are effective in helping people stop or reduce their use of all nicotine-containing products, then it may then be appropriate to approve, license and regulate vaping products in the same way as other tobacco cessation products.

Areas in both federal and provincial jurisdiction

Federal action would be preferred to create national consistency, but individual provinces/territories can consider individual action

- ban all flavoured vaping products and then provide regulatory exemptions for a minimum set of flavours to support smokers who chose to use vaping to end or reduce their use of nicotine-containing products
- limit the nicotine content in vaping products, including pods, to a maximum of 20mg/ml (levels lower than this will further decrease the addictive potential for youth) and adopt other appropriate standards regarding nicotine delivery (e.g. temperature, use of nicotine salts) as evidence on vaping products evolves

- tax vaping products in a manner consistent with maximizing youth protection while providing some degree of preferential pricing as compared to tobacco products
- consider making age 21 the minimum sales age for both tobacco and vaping products, knowing that establishing the legal minimum sales age requires balancing policy objectives to minimize an illegal market while delaying the onset of youth use through limiting access through social sources,
- create requirements for age-verification of internet purchases of vaping products that are the same as those required for cannabis
- enhance surveillance and reporting of vaping product use and population health impacts

Areas in Federal Jurisdiction

- restrict the advertising/marketing/promotion/sponsorship of vaping devices in a manner consistent with maximizing youth protection, including online advertising/promotion and social influencers, while allowing adult-oriented marketing of vaping devices as a product that supports adult smokers solely to end or reduce their use of all nicotine-containing products
- require product manufacturers to disclose all ingredients of vaping devices to Health Canada as a condition of being marketed, including establishing consistency in reporting nicotine levels in both open and closed vaping systems
- require plain and standardized packaging along with health risk warnings for all vaping products
- include vaping as part of smoke-free restrictions for locations under federal jurisdiction
- enhance compliance, enforcement and public reporting of the provisions of the *Tobacco and Vaping Products Act*

Areas in Provincial Jurisdiction

- Ban all point of sale advertising of vaping devices and products with an exception for specialized vaping product stores accessible only to those of minimum age
- require a vendor's licence for those selling vaping devices and products
- include vaping as part of provincial smoke-free restrictions
- routinely use youth test purchaser programs for all tobacco and vaping product retail locations

Areas in Municipal Jurisdiction

- include vaping as part of municipal smoke-free restrictions
- restrict the density of tobacco and vaping products retail sites and ban the sale of vaping products and devices within at least 250m of a school

Along with these policy and regulatory actions we recommend that federal, provincial and territorial governments continue to work collaboratively to:

- enhance public awareness and educational initiatives on the risks of vaping products targeted at youth, parents, educators and health care professionals
- establish comprehensive cessation initiatives for people with nicotine addiction, especially for youth
- monitor and research the short and long-term health effects of vaping products
- research the effectiveness of vaping products in supporting smokers to end or reduce their use of all nicotine-containing products
- research the effectiveness of policy approaches to address youth vaping

A number of other products for the delivery of nicotine have or are being developed (e.g. heated tobacco devices, oral nicotine products). We encourage federal and provincial governments to work together to develop a broad regulatory approach to all alternative methods of nicotine delivery (i.e. other than tobacco products) that offers strong youth protection while allowing appropriate access for adult smokers to products if they are proven to decrease or stop the use of all nicotine-containing products. A key component of any such regulatory approach should be the requirement for the manufacturer to provide enough evidence to satisfy the regulator that allowing any new product on the market is in the public interest before that product can be legally sold.

Dr. Theresa Tam
Chief Public Health Officer of Canada

Dr. Bonnie Henry
Provincial Health Officer, British Columbia
Chair, Council of Chief Medical Officers of Health

Dr. Brendan E. Hanley
Chief Medical Officer of Health, Yukon
Vice-Chair, Council of Chief Medical Officers of Health

Dr. Janice Fitzgerald
I/Chief Medical Officer of Health, Newfoundland and Labrador

Dr. Heather Morrison
Chief Public Health Officer, Prince Edward Island

Dr. Robert Strang
Chief Medical Officer of Health, Nova Scotia

Dr. Jennifer Russell
Chief Medical Officer of Health, New Brunswick

Dr. Horacio Arruda
Director of Public Health and Assistant Deputy Minister
Ministry of Health and Social Services, Québec

Dr. David Williams
Chief Medical Officer of Health, Ontario

Dr. Brent Roussin
Chief Provincial Public Health Officer, Manitoba

Dr. Saqib Shahab
Chief Medical Health Officer, Saskatchewan

Dr. Deena Hinshaw
Chief Medical Officer of Health, Alberta

Dr. Michael Patterson
Chief Medical Officer of Health, Nunavut

Dr. Kami Kandola
Chief Public Health Officer, Northwest Territories

Dr. Evan Adams
Chief Medical Officer, First Nations Health Authority, British Columbia

Dr. Tom Wong
Chief Medical Officer, Public Health, Indigenous Services Canada

Important Links

About Vaping

ATIA - 19(1) ATIA - 17 ATIA - 14

From: Hollington, Jennifer (HC/SC)
Sent: 2019-12-23 3:56 PM
To: Bogden, Jacqueline (HC/SC); Tam, Dr Theresa (PHAC/ASPC)
Cc: MacKenzie, Sara (HC/SC)
Subject: RE: Near final CCMOH vaping statement
Attachments: PHAC_CCMOH Statement_Vaping#4.DRAFT5.0.clean (jh).docx

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Hi Theresa,

I will defer to Jacquie on the technical aspects of the statement. I provided a few edits for your consideration. Note that I added hyperlinks to the CCMOH statements from October and April but couldn't find the statement from July 2014.

Jen

Jennifer Hollington
jennifer.hollington@canada.ca | TEL: 613-960-2176 | CEL: 613-816-6073

From: Bogden, Jacqueline (HC/SC)
Sent: 2019-12-23 14:30
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: Hollington, Jennifer (HC/SC) ; MacKenzie, Sara (HC/SC)
Subject: Re: Near final CCMOH vaping statement
Importance: Low

Theresa, I will have a look at this a little later today and get back to you. Jacquie

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> [redacted]
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Agence de la santé publique du Canada
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ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-24 11:26 AM
To: Wong, Tom (SAC/ISC)
Subject: FW: RE: Near final CCMOH vaping statement
Attachments: PHAC_CCMOH Statement_Vaping#4.DRAFT5.0.clean (jh).docx

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FYI

From: Bogden, Jacqueline (HC/SC)
Sent: 2019-12-24 9:11 AM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: Hollington, Jennifer (HC/SC) ; Boudreau, Michelle (HC/SC) ; MacKenzie, Sara (HC/SC)
Subject: FW: RE: Near final CCMOH vaping statement

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Hi Jacquie,

Thanks for your input and assistance.

HC team also provided useful input into the Cannabis statement and I expect the actual final version to be done this week, in time for Jan 6 posting. I will forward to Steve and Tina as soon as I get this draft.

TT

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- enhance surveillance and reporting of vaping product use and population health impacts

Areas in Federal Jurisdiction

- restrict the advertising~~, /~~marketing~~/~~, promotion~~/ and~~ sponsorship of vaping devices in a manner consistent with maximizing youth protection, including online advertising~~/~~ and promotion and use of social influencers, while allowing adult-oriented marketing of vaping devices as a product that supports adult smokers solely to end or reduce their use of all nicotine-containing products
- require product manufacturers to disclose all ingredients of vaping devices to Health Canada as a condition of being marketed, including establishing consistency in reporting nicotine levels in both open and closed vaping systems
- require plain and standardized packaging along with health risk warnings for all vaping products
- include vaping as part of smoke-free restrictions for locations under federal jurisdiction
- enhance compliance, enforcement and public reporting of the provisions of the *Tobacco and Vaping Products Act*

Areas in Provincial/Territorial Jurisdiction

- ~~B~~ban all point~~-~~of~~-~~sale advertising of vaping devices and products with an exception for specialized vaping product stores accessible only to those of minimum age
- require a vendor's licence for those selling vaping devices and products
- include vaping as part of provincial/territorial smoke-free restrictions
- routinely use youth test purchaser programs for all tobacco and vaping product retail locations

Areas in Municipal Jurisdiction

- include vaping as part of municipal smoke-free restrictions
- restrict the density of tobacco and vaping product~~s~~ retail sites and ban the sale of vaping products and devices within at least 250 m of a school

Along with these policy and regulatory actions we recommend that federal, provincial and territorial governments continue to work collaboratively to:

- enhance public awareness and educational initiatives on the risks of vaping products targeted at youth, parents, educators and health care professionals
- establish comprehensive cessation initiatives for people with nicotine addiction, especially for youth
- monitor and research the short and long-term health effects of vaping products
- research the effectiveness of vaping products in supporting smokers to end or reduce their use of all nicotine-containing products
- research the effectiveness of policy approaches to address youth vaping

A number of other products for the delivery of nicotine have or are being developed (e.g. heated tobacco devices, oral nicotine products). We encourage federal and provincial governments to work together to develop a broad regulatory approach to all alternative methods of nicotine delivery (i.e. other than tobacco products) that offers strong youth protection while allowing appropriate access for adult smokers to products if they are proven to decrease or stop the use of all nicotine-containing products. A key component of any such regulatory approach should be the requirement for the manufacturer to provide enough evidence to satisfy the regulator that allowing any new product on the market is in the public interest before that product can be legally sold.

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Dr. Bonnie Henry
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Chief Medical Officer, First Nations Health Authority, British Columbia

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Important Links

About Vaping

From: Killen, Marita (PHAC/ASPC)
Sent: 2019-12-13 12:17 PM
To: Tam, Dr Theresa (PHAC/ASPC); Macey, Jeannette (PHAC/ASPC)
Subject: FYI: NEJM Efficacy of MAbs in current Ebola outbreak (Results of the PALM trial)

Attachments: nejmoa1910993.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Dr. Tam,

I've attached the research paper, which shows that "both MAb114 and REGN-EB3 were superior to ZMapp in reducing mortality from EVD".

And here's the link to the editorial which highlights this research. It gives kudos to the researchers for completing this CT in very difficult conditions, as well as for it being a joint effort led by investigators in the DRC in collaboration with international investigators.
https://www.nejm.org/doi/full/10.1056/NEJMe1915350?query=recirc_curatedRelated_article

Cheers,
Marita

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A Randomized, Controlled Trial of Ebola Virus Disease Therapeutics

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ABSTRACT

BACKGROUND

Although several experimental therapeutics for Ebola virus disease (EVD) have been developed, the safety and efficacy of the most promising therapies need to be assessed in the context of a randomized, controlled trial.

METHODS

We conducted a trial of four investigational therapies for EVD in the Democratic Republic of Congo, where an outbreak began in August 2018. Patients of any age who had a positive result for Ebola virus RNA on reverse-transcriptase–polymerase-chain-reaction assay were enrolled. All patients received standard care and were randomly assigned in a 1:1:1:1 ratio to intravenous administration of the triple monoclonal antibody ZMapp (the control group), the antiviral agent remdesivir, the single monoclonal antibody MAb114, or the triple monoclonal antibody REGN-EB3. The REGN-EB3 group was added in a later version of the protocol, so data from these patients were compared with those of patients in the ZMapp group who were enrolled at or after the time the REGN-EB3 group was added (the ZMapp subgroup). The primary end point was death at 28 days.

RESULTS

A total of 681 patients were enrolled from November 20, 2018, to August 9, 2019, at which time the data and safety monitoring board recommended that patients be assigned only to the MAb114 and REGN-EB3 groups for the remainder of the trial; the recommendation was based on the results of an interim analysis that showed superiority of these groups to ZMapp and remdesivir with respect to mortality. At 28 days, death had occurred in 61 of 174 patients (35.1%) in the MAb114 group, as compared with 84 of 169 (49.7%) in the ZMapp group (P=0.007), and in 52 of 155 (33.5%) in the REGN-EB3 group, as compared with 79 of 154 (51.3%) in the ZMapp subgroup (P=0.002). A shorter duration of symptoms before admission and lower baseline values for viral load and for serum creatinine and aminotransferase levels each correlated with improved survival. Four serious adverse events were judged to be potentially related to the trial drugs.

CONCLUSIONS

Both MAb114 and REGN-EB3 were superior to ZMapp in reducing mortality from EVD. Scientifically and ethically sound clinical research can be conducted during disease outbreaks and can help inform the outbreak response. (Funded by the National Institute of Allergy and Infectious Diseases and others; PALM ClinicalTrials.gov number, NCT03719586.)

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*A complete list of members of the PALM Consortium Study Team is provided in the Supplementary Appendix, available at NEJM.org.

Drs. Mulangu, Dodd, and Davey and Drs. Lane and Muyembe-Tamfum contributed equally to this article.

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A Quick Take is available at NEJM.org

In August 2018, an outbreak of Ebola virus disease (EVD) began in the provinces of North Kivu and Ituri in the Democratic Republic of Congo (DRC); it was the tenth known outbreak of EVD in that country.[1,2] The outbreak became the second largest that has been recorded since the first description of *Zaire ebolavirus* infection in 1976, and it is surpassed only by the 2013–2016 outbreak in West Africa that resulted in more than 11,000 deaths.

After the end of the outbreak in West Africa, the World Health Organization (WHO) initiated a series of discussions to develop an R&D Blueprint for EVD research that included a working group focused on how experimental therapeutics should be assessed in the context of the next EVD outbreak.[3] These and other discussions led to a consensus that when a new outbreak occurred, the most promising experimental therapeutics should be studied in the context of a randomized, controlled trial, if possible.[4] This groundwork facilitated the uniting of the international community and DRC leadership to develop and implement the trial described in this report.

METHODS

TRIAL DESIGN

The Pamoja Tulinde Maisha (PALM ["Together Save Lives" in the Kiswahili language]) trial compared ZMapp with three newer investigational agents.[5] Patients were assigned in a 1:1:1:1 ratio to receive ZMapp (a triple monoclonal antibody agent), remdesivir (a nucleotide analogue RNA polymerase inhibitor[6]), MAb114 (a single human monoclonal antibody derived from an Ebola survivor[7,8]), or REGN-EB3 (a coformulated mixture of three human IgG1 monoclonal antibodies[9,10]). ZMapp was chosen as the control on the basis of data from the Partnership for Research on Ebola Virus in Liberia II (PREVAIL II) trial.[11] The current trial was originally designed in November 2018 as a three-group trial, and the protocol was updated in January 2019 to add REGN-EB3 as a fourth group; data from this group were compared with those of patients in the ZMapp group who were enrolled on or after the time the REGN-EB3 group was added (the ZMapp subgroup). The primary end point was death at 28 days.

TRIAL OVERSIGHT

The trial was jointly approved by the ethics board at the University of Kinshasa and the institutional review board at the National Institute of Allergy and Infectious Diseases (NIAID) and was overseen by an independent data and safety monitoring board. Trial staff at participating Ebola treatment centers included staff from the Alliance for International Medical Action (ALIMA), International Medical Corps (IMC), Médecins sans Frontières (MSF), and the DRC Ministry of Health. Written informed consent was obtained from all patients or their legal guardians, and assent forms were obtained for children according to local standards and requirements. Full details about the trial design, conduct, oversight, and analyses are provided in the protocol and the Supplementary Appendix, both available with the full text of this article at NEJM.org. The PALM Writing Group performed the primary data analyses, wrote the manuscript, and, on behalf of the PALM Study Group, vouch for the accuracy and completeness of the data and for the fidelity of the trial to the protocol. The Office of Clinical Research Policy and Regulatory Operations of the Division of Clinical Research of the NIAID is the holder of the Investigational New Drug application (125530) from the Food and Drug Administration. The Biomedical and Advanced Research and Development Authority of the U.S. Department of Health and Human Services provided financial support for the production of ZMapp and REGN-EB3. NIAID and the Defense Advanced Research Projects Agency of the U.S. Department of Defense provided financial support for the production and provision of MAb114.

SCREENING AND RANDOMIZATION

Patients were assessed for eligibility on the basis of a reverse-transcriptase–polymerase-chain-reaction (RT-PCR) assay to detect the RNA of the nucleoprotein of Ebola virus (EBOV). Patients of any age, including pregnant women, were eligible if they had a positive result on RT-PCR within 3 days before screening and if they had not received other investigational agents (except experimental vaccines) within the previous 30 days. Neonates who were 7 days of age or younger were eligible if the mother had documented EVD. Randomization was stratified according to baseline nucleoprotein cycle-threshold (Ct) value (≤22.0 or >22.0, corresponding to higher and lower viral loads, respectively, as determined by quantitative RT-PCR) and Ebola treatment center. Trial-group assignments were placed in sequentially numbered envelopes, which were distributed to trial sites

to be opened at the time of enrollment. Data were recorded on bar-coded paper case-report forms that were transmitted from the site to a server, where they were digitally sorted into electronic patient folders with the use of software developed by the University of Minnesota and were then entered by trial staff at the Institut National de Recherche Biomédicale (INRB) Coordinating Center (Kinshasa, DRC) and NIAID (Bethesda, MD) into the Web-based REDCap database.

TRIAL PROCEDURES

All patients received standard care, which consisted of administration of intravenous fluids, daily clinical laboratory testing, correction of hypoglycemia and electrolyte imbalances, and administration of broad-spectrum antibiotic agents and antimalarial agents as indicated. All four trial agents were administered intravenously. Patients in the ZMapp group received a dose of 50 mg per kilogram of body weight every third day beginning on day 1 (for a total of three doses). Patients in the remdesivir group received a loading dose on day 1 (200 mg in adults, and adjusted for body weight in pediatric patients), followed by a daily maintenance dose (100 mg in adults) starting on day 2 and continuing for 9 to 13 days, depending on viral load. Patients in the MAb114 group received a dose of 50 mg per kilogram, administered as a single infusion on day 1. Patients in the REGN-EB3 group received a dose of 150 mg per kilogram, administered as a single infusion on day 1.

The Xpert Ebola Assay (Cepheid) was used for detection of the EBOV RNAs encoding surface glycoprotein and nucleoprotein.[12-14] Clinical chemical analyses of plasma samples that had been separated from whole blood were performed with the use of the Piccolo Xpress Chemistry Analyzer (Abbott).

STATISTICAL ANALYSIS

The primary end point (death at 28 days) was assessed with the use of a modified Boschloo's test for hypothesis testing.[15] We estimated that 145 patients would need to be enrolled in each group to give the trial approximately 80% power, at a type I error rate of 5%, to show that mortality would be 50% lower in each of the groups than in the ZMapp group (15% vs. 30%). Each of the primary comparisons of remdesivir, MAb114, and REGN-EB3 with ZMapp was tested at a two-sided type I error rate of 5%, without adjustment for multiplicity (as prespecified in the statistical analysis plan). After an assessment that was conducted in a blinded manner, the protocol was amended in July 2019 to increase the sample size to 725 to improve the power of the trial while taking into account the availability of ZMapp. The sample size was revised to 185 patients each in the ZMapp, remdesivir, and MAb114 groups and 170 in the REGN-EB3 group. Comparisons were restricted to patients who were enrolled in the trial concurrently.[15,16] Interim data and safety monitoring included four analyses of efficacy that were performed on the basis of prespecified enrollment targets (Table S1 in the Supplementary Appendix). Additional details are provided in the statistical analysis plan, which is included with the protocol.

RESULTS

PATIENTS

From November 20, 2018, to August 9, 2019, a total of 681 patients were enrolled and underwent randomization at Ebola treatment centers in Beni (335 patients), Butembo (243 patients), Katwa (46 patients), and Mangina (57 patients). Eight patients were excluded from the final analysis: 1 patient was later found to have been ineligible because of a false positive EVD result on RT-PCR assay, and 7 patients underwent randomization during a 2-week period when ZMapp was unavailable because of compromised cold-chain conditions. Of the remaining 673 participants, 169 were assigned to receive ZMapp, 175 to receive remdesivir, 174 to receive MAb114, and 155 to receive REGN-EB3. A total of 154 patients were assigned to the ZMapp group after the REGN-EB3 group had been added (the ZMapp subgroup), and data from these patients were used in the comparison of REGN-EB3 with ZMapp (Fig. S1).

Most patients (74.4%) were 18 years of age or older, 12.8% were 6 to 17 years of age, and 12.8% were 5 years of age or younger, of whom 0.7% were neonates (≤7 days old). A total of 55.6% patients were female, of whom 6.1% were pregnant at the time of EVD diagnosis (Table 1).

The mean (±SD) baseline nucleoprotein Ct value was 24.0±5.6, and 42.1% of patients had a baseline value of 22.0 or lower. Patients were enrolled within an average of 5.5 days after the onset of symptoms. The most commonly reported baseline symptoms were diarrhea (in 53.8% of

Table 1. Baseline Demographic and Clinical Characteristics of the Trial Population.*

Characteristic	All Patients (N=673)	ZMapp (N=169)	Remdesivir (N=175)	MAb114 (N=174)	REGN-EB3 (N=155)	ZMapp Subgroup† (N=154)
Age — yr	28.8±17.6	29.7±16.8	29.6±17.2	27.4±18.5	28.2±18.2	30.2±16.7
Age group — no. (%)						
≤5 yr	86 (12.8)	20 (11.8)	16 (9.1)	26 (14.9)	24 (15.5)	17 (11.0)
≤7 days	5 (0.7)	2 (1.2)	2 (1.1)	1 (0.6)	0	2 (1.3)
>5 yr to <18 yr	86 (12.8)	14 (8.3)	25 (14.3)	29 (16.7)	18 (11.6)	13 (8.4)
≥18 yr	501 (74.4)	135 (79.9)	134 (76.6)	119 (68.4)	113 (72.9)	124 (80.5)
Female sex — no. (%)	374 (55.6)	87 (51.5)	98 (56.0)	98 (56.3)	91 (58.7)	80 (51.9)
Positive result on pregnancy test — no./total no. (%)	17/277 (6.1)	4/63 (6.3)	6/77 (7.8)	5/69 (7.2)	2/68 (2.9)	4/61 (6.6)
Weight — kg (% with missing data)	47.0±19.3 (0.1)	49.2±19.2 (0)	47.8±17.7 (0.6)	44.8±19.8 (0)	46.1±20.4 (0)	49.6±18.8 (0)
Patient-reported vaccination with rVSVΔG-ZEBOV-GP — no./total no. (%)‡	155/620 (25.0)	41/154 (26.6)	43/156 (27.6)	36/157 (22.9)	35/153 (22.9)	41/154 (26.6)
<10 days before admission to the Ebola treatment center	80/155 (51.6)	21/41 (51.2)	18/43 (41.9)	21/36 (58.3)	20/35 (57.1)	21/41 (51.2)
≥10 days before admission to the Ebola treatment center	60/155 (38.7)	18/41 (43.9)	21/43 (48.8)	10/36 (27.8)	11/35 (31.4)	18/41 (43.9)
Timing not reported	15/155 (9.7)	2/41 (4.9)	4/43 (9.3)	5/36 (13.9)	4/35 (11.4)	2/41 (4.9)
Current illness§						
Nucleoprotein Ct value ≤22 — no./total no. (%)	282/670 (42.1)	70/168 (41.7)	73/173 (42.2)	73/174 (42.0)	66/155 (42.6)	64/153 (41.8)
Nucleoprotein Ct value (% with missing data)¶	24.0±5.6 (0.4)	23.4±5.2 (0.6)	23.8±5.3 (1.1)	24.6±6.4 (0)	24.1±5.3 (0)	23.3±5.1 (0.7)
Glycoprotein Ct value (% with missing data)	28.5±4.9 (2.4)	28.3±4.7 (1.2)	28.4±4.8 (2.3)	28.5±5.1 (5.2)	28.7±4.9 (0.6)	28.0±4.6 (1.3)
Days since onset of symptoms (% with missing data)	5.5±3.5 (1.2)	5.6±3.6 (1.2)	5.4±3.4 (2.3)	5.5±3.6 (0.6)	5.4±3.2 (0.6)	5.5±3.6 (1.3)
Positive result for malaria — no./total no. (%)	57/557 (10.2)	12/140 (8.6)	15/139 (10.8)	13/140 (9.3)	17/138 (12.3)	12/140 (8.6)
Serum chemical values (% with missing data)						
Creatinine — mg/dl¶	2.5±2.9 (18.6)	2.9±3.3 (22.5)	2.7±3.0 (17.7)	2.1±2.6 (17.2)	2.5±2.8 (16.8)	2.7±3.0 (22.7)
Potassium — mmol/liter	4.4±1.1 (30.5)	4.3±1.1 (34.9)	4.3±1.1 (26.9)	4.4±1.3 (28.7)	4.4±1.0 (31.6)	4.3±1.1 (33.8)
AST — U/liter¶	668±700 (40.6)	767±745 (43.2)	713±702 (47.2)	546±617 (42.0)	648±726 (38.1)	775±749 (42.9)
ALT — U/liter	379±464 (18.1)	404±475 (21.3)	385±471 (18.3)	358±433 (17.8)	368±483 (14.8)	390±445 (21.4)
Vital signs (% with missing data)						
Blood pressure — mm Hg						
Systolic	106.9±17.5 (13.7)	106.1±14.9 (8.9)	107.2±18.5 (13.1)	106.7±17.6 (17.2)	107.6±19.0 (15.5)	105.9±14.8 (9.1)
Diastolic	70.3±15.0 (13.7)	71.0±14.1 (8.9)	70.7±14.4 (13.1)	69.7±14.7 (17.2)	70.0±17.1 (15.5)	70.2±14.0 (9.1)

Pulse — beats/min	98.2±20.8 (2.2)	97.2±21.1 (2.4)	97.2±20.0 (1.7)	98.5±21.5 (1.7)	100.0±20.6 (3.2)	97.4±21.4 (2.6)
Body temperature — °C	37.4±1.2 (1.0)	37.5±1.2 (0.6)	37.3±1.3 (1.1)	37.4±1.2 (1.1)	37.4±1.2 (1.3)	37.5±1.2 (0.6)
Respiratory rate — breaths/min	25.1±7.5 (4.6)	24.8±7.0 (5.9)	24.6±6.9 (2.3)	25.1±7.8 (4.6)	25.8±8.2 (5.8)	24.8±7.3 (5.8)
Oxygen saturation — %	95.8±4.2 (5.2)	95.7±3.1 (5.3)	96.4±3.9 (2.9)	95.5±5.4 (6.9)	95.8±4.1 (5.2)	95.6±3.2 (5.8)

* Plus–minus values are means ±SD. The term "% with missing data" refers to the percentage of patients with missing data. All participants received standard care in addition to the assigned treatment. To convert the values for creatinine to micromoles per liter, multiply by 88.4. To convert the values for potassium to milligrams per deciliter, divide by 0.2558. Percentages may not total 100 because of rounding. ALT denotes alanine aminotransferase, AST aspartate aminotransferase, and RT-PCR reverse-transcriptase–polymerase-chain-reaction.
† The ZMapp subgroup consisted of patients who were enrolled in the ZMapp group on or after the time the REGN-EB3 group was added.
‡ Information on vaccination status during screening was not collected until January 26, 2019, with a revision to the protocol. The total number of patients reflects this.
§ The nucleoprotein and glycoprotein of Ebola virus RNA were detected with the use of quantitative reverse-transcriptase–polymerase-chain-reaction assay, and the levels are expressed as cycle-threshold (Ct) values.
¶ Figure S2 provides the distributions according to group of nucleoprotein Ct values, creatinine levels, AST levels, and the median values for each group.

the patients), fever (in 51.4%), abdominal pain (in 46.4%), headache (in 44.4%), and vomiting (in 39.4%) (Table S2). Malaria coinfection was identified in 57 of 557 patients (10.2%). Patient-reported information regarding vaccination status (i.e., whether the patient had received the rVSVΔG-ZEBOV-GP vaccine) was available for 620 patients; of these, 155 (25.0%) reported that they received the vaccine. Among patients who reported that they had been vaccinated, 38.7% reported that they had received the vaccination at least 10 days before enrollment.

The mean baseline serum creatinine level was 2.5±2.9 mg per deciliter (221±256 μmol per liter), the mean aspartate aminotransferase level was 668±700 U per liter, and the mean alanine aminotransferase level was 379±464 U per liter. The mean baseline creatinine and aspartate aminotransferase values were higher in the ZMapp and remdesivir groups than in the other two groups. However, the baseline creatinine level was not recorded in 18.6% of patients, aspartate aminotransferase level was not recorded in 40.6%, and alanine aminotransferase level was not recorded in 18.1%. In addition, 70.1% of the available baseline samples indicated some degree of hemolysis.

MORTALITY

On August 9, 2019, when 681 patients had been enrolled, the data and safety monitoring board conducted an interim analysis on data from 499 patients and, on the basis of two observations, recommended terminating random assignment to ZMapp and remdesivir. First, results in the REGN-EB3 group crossed an interim boundary for efficacy with respect to a surrogate end point for death at 28 days that took into account outcomes in all patients with at least 10 days of follow-up (Fig. S3). Second, an analysis of mortality showed that there was a clear separation between the MAb114 and REGN-EB3 groups and the ZMapp and remdesivir groups (Fig. S4).

A total of 673 patients were included in the primary analyses. At 28 days, death had occurred in 290 patients (43.1%) overall, in 18.8% of patients with a low viral load (Ct value >22.0), and in 76.1% with a high viral load (Ct value ≤22.0) (Table 2).

The percentage of patients who died was lower in the MAb114 group and in the REGN-EB3 group than in the ZMapp group (Fig. 1 and Table 2). The difference between the MAb114 and

Table 2. Comparison of Death at 28 Days According to Treatment Group.

Population	ZMapp	Remdesivir	Difference, Remdesivir vs. ZMapp	MAb114	Difference, MAb114 vs. ZMapp	REGN-EB3	ZMapp Subgroup	Difference, REGN-EB3 vs. ZMapp Subgroup
	no. of deaths/ total no. (%)	*no. of deaths/ total no. (%)*	*percentage points (95% CI)*	*no. of deaths/ total no. (%)*	*percentage points (95% CI)*	*no. of deaths/ total no. (%)*	*no. of deaths/ total no. (%)*	*percentage points (95% CI)*
Overall	84/169 (49.7)	93/175 (53.1)	3.4 (−7.2 to 14.0)	61/174 (35.1)	−14.6 (−25.2 to −1.7)*	52/155 (33.5)	79/154 (51.3)	−17.8 (−28.9 to −2.9)*
Patients with high viral load†	60/71 (84.5)	64/75 (85.3)	0.8 (−15.3 to 17.2)	51/73 (69.9)	−14.6 (−33.0 to −0.5)	42/66 (63.6)	56/65 (86.2)	−22.5 (−41.8 to −5.1)
Patients with low viral load†	24/98 (24.5)	29/100 (29.0)	4.5 (−9.1 to 19.1)	10/101 (9.9)	−14.6 (−32.4 to −2.6)	10/89 (11.2)	23/89 (25.8)	−14.6 (−32.6 to −2.3)

* The result is significant according to the interim stopping boundary of P<0.035 for the MAb114 group and P<0.028 for the REGN-EB3 group.
† Patients with a high viral load had an EBOV nucleoprotein Ct value of 22.0 or less. Patients with a low viral load had an EBOV nucleoprotein Ct value of more than 22.0. The total number is the total number of patients in this category for each group.

the ZMapp groups was −14.6 percentage points (95% confidence interval [CI], −25.2 to −1.7; P=0.007); the difference between the REGN-EB3 group and the ZMapp subgroup was −17.8 percentage points (95% CI, −28.9 to −2.9; P=0.002); and the difference between the remdesivir and ZMapp groups was 3.4 percentage points (95% CI, −7.2 to 14.0). (Fig. S5 shows the differences in mortality in the remdesivir, MAb114, and REGN-EB3 groups relative to the ZMapp group according to Ct value, age, sex, and site.) The survival benefits seen in the MAb114 and REGN-EB3 groups were also seen in sensitivity analyses adjusted for potential baseline imbalances (Tables 3 and 4 and Table S3).

SECONDARY EFFICACY END POINTS

In an analysis of the time to the first negative result on RT-PCR assay for EBOV nucleoprotein, in which patients who had died were considered as not having had viral clearance, the time to the first negative result was shorter in the MAb114 and REGN-EB3 groups than in the ZMapp group (median in the MAb114 group, 16 days; median in the REGN-EB3 group, 15 days; median in the ZMapp group, 27 days) (Fig. 2). Among patients in the remdesivir group, the estimated median time was more than 28 days because mortality exceeded 50%.

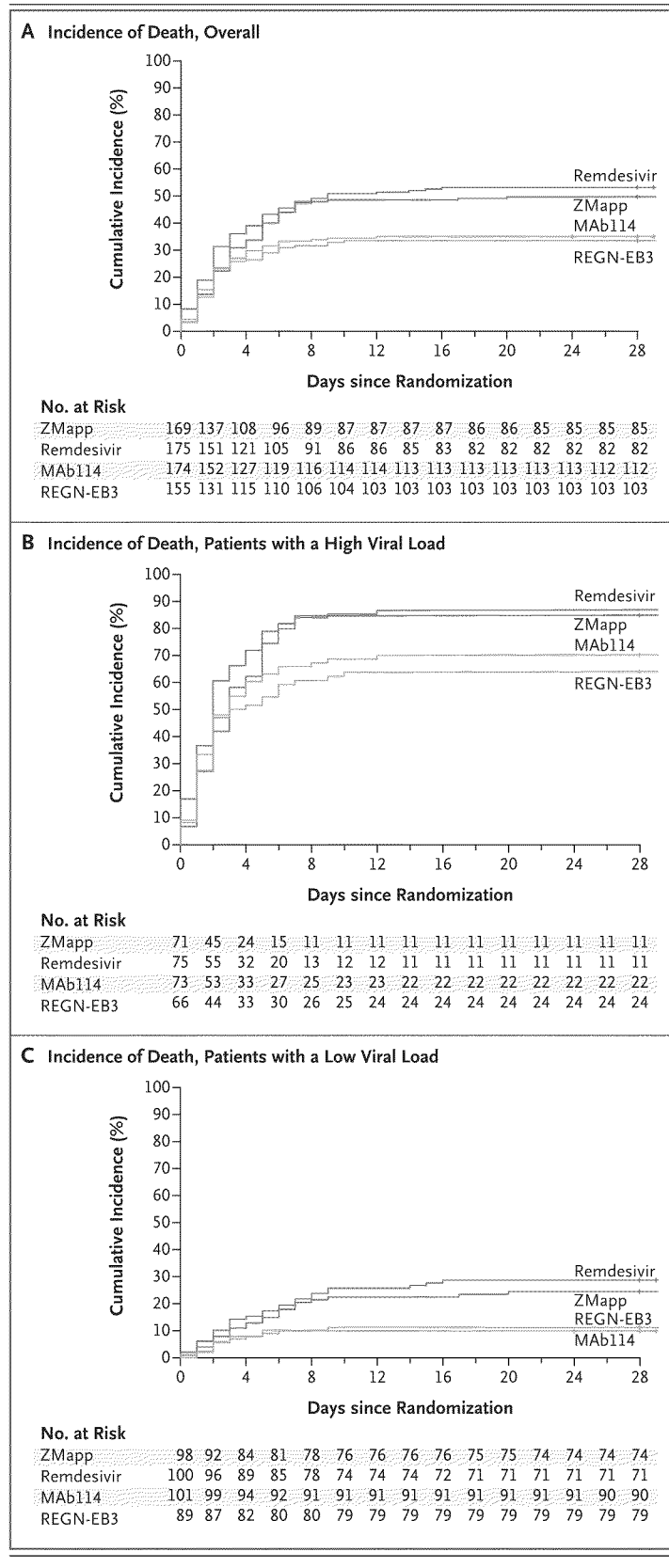
PROGNOSTIC VARIABLES

A longer duration of symptoms before treatment was associated with significantly worse outcomes. Of note, 19% of patients who arrived at the treatment center within 1 day after the reported onset of symptoms died, as compared with 47% of patients who arrived after they had had symptoms for 5 days (Table S4). The odds of death increased by 11% (95% CI, 5 to 16) for each day after the onset of symptoms that the patient did not present to the treatment center (Table 3).

The odds of death were lower among patients with lower viral loads (odds ratio per unit increase in Ct value, 0.66; 95% CI, 0.62 to 0.71) and higher among patients with higher levels of creatinine (odds ratio per 1 mg per deciliter increase, 1.43; 95% CI, 1.31 to 1.56), aspartate aminotransferase (odds ratio per 100 U per liter increase, 1.15; 95% CI, 1.11 to 1.20), and alanine aminotransferase (odds ratio per 100 U per liter increase, 1.43; 95% CI, 1.33 to 1.54). A multivariate logistic-regression analysis showed that

Figure 1. Cumulative Incidence of Death.

Shown are Kaplan–Meier estimates of the cumulative incidence of death. Panel A shows the estimates in the overall population, Panel B the estimates in patients who had a nucleoprotein cycle-threshold (Ct) value of 22 or less at baseline (corresponding to a high viral load), and Panel C the estimates in patients who had a Ct value of more than 22 at baseline (corresponding to a low viral load).



the duration of symptoms at enrollment, baseline nucleoprotein Ct value, and serum creatinine level all remained significant prognostic indicators of death (Table 4). Across all models, the effect estimates of treatment with MAb114 and REGN-EB3 remained significant (Table 3 and 4).

The percentage of patients who died was lower among those who reported that they had received the rVSVΔG-ZEBOV-GP vaccine than among those who reported no vaccination (27.1% [42 of 155 patients] vs. 48.4% [225 of 465]). However, patients who reported vaccination were also more likely to have had fewer days of illness before enrollment, higher baseline nucleoprotein Ct values, and lower levels of alanine aminotransferase (Table S5).

SAFETY

At least 98% of the patients received the infusions according to protocol (Table S6). A total of 29 serious adverse events were determined by trial investigators to be potentially related to the trial drugs (Table S7). However, after adjudication by an independent pharmacovigilance committee, four events in three patients, all of which resulted in death, were determined to be possibly related to a trial drug: one patient in the ZMapp group had worsening of gastrointestinal symptoms; one patient in the ZMapp group had periinfusional hypotension and hypoxia that responded to resuscitation after treatment interruption but that resulted in death within 24 hours; and one patient in the remdesivir group had hypotension that resulted in cessation of a loading dose of remdesivir and that was followed rapidly by cardiac arrest. However, even in these cases, the deaths could not readily be distinguished from underlying fulminant EVD itself.

DELAYS IN TREATMENT ADMINISTRATION

The mean time from randomization to administration of the first infusion was somewhat lon-

Table 3. Logistic-Regression Analyses for Death at 28 Days.

Variable	No. of Patients in Analysis*	Odds Ratio (95% confidence interval)†			
		For Each Variable	Remdesivir vs. ZMapp	MAb114 vs. ZMapp	REGN-EB3 vs. ZMapp
Duration of symptoms	615	1.11 (1.05–1.16) per day of symptoms‡	1.04 (0.66–1.64)	0.49 (0.31–0.78)	0.45 (0.28–0.73)
Nucleoprotein Ct value	620	0.66 (0.62–0.71) per 1 unit increase	1.29 (0.71–2.34)	0.39 (0.21–0.73)	0.37 (0.20–0.68)
Years of age	623	1.00 (1.00–1.01) per 1 yr increase	1.07 (0.68–1.66)	0.52 (0.33–0.82)	0.48 (0.31–0.77)
Creatinine level§	507	1.43 (1.31–1.56) per 1 mg/dl increase	0.93 (0.54–1.59)	0.48 (0.27–0.84)	0.38 (0.21–0.67)
AST level§	380	1.15 (1.11–1.20) per 100 U/liter increase	1.06 (0.54–2.05)	0.31 (0.14–0.67)	0.29 (0.14–0.63)
ALT level§	511	1.43 (1.33–1.54) per 100 U/liter increase	0.95 (0.54–1.68)	0.37 (0.20–0.69)	0.36 (0.20–0.66)
Patient-reported vaccination§	620	0.37 (0.24–0.55) yes vs. no	1.06 (0.67–1.68)	0.48 (0.30–0.77)	0.44 (0.28–0.71)

* Model estimates include data from patients who were enrolled after the REGN-EB3 group was added. The number of patients in the analysis reflects the number enrolled after the REGN-EB3 group was added for whom data were available for each variable.

† Each row shows the odds ratios derived from a multivariate logistic-regression model that included the variable listed plus the four treatment groups.

‡ The variable reflects each additional day of symptoms before admission to the treatment center.

§ Because of its clinical significance, the variable was added after the statistical analysis plan was finalized but before analysis of the data.

ger in the ZMapp and remdesivir groups than in the MAb114 and REGN-EB3 groups. (Table S8 and Fig. S6 provide a summary of the time from randomization to the first infusion according to trial group and site, and Table S9 provides the results of a sensitivity analysis of outcomes that excluded data from patients with delays of more than 6 hours.) Twelve patients were enrolled but died before receiving the first infusion: one in the ZMapp group, three in the remdesivir group, three in the MAb114 group, and five in the REGN-EB3 group.

DISCUSSION

In this trial of four promising experimental treatments against *Z. ebolavirus*, the combination of standard care plus either MAb114 or REGN-EB3 was superior to standard care plus ZMapp against the Ituri EBOV variant currently circulating in the DRC. Survival benefits were seen both in patients with high viral loads and in those with low viral loads at presentation. The reason that mortality among patients who received ZMapp was 22% in the PREVAIL II trial (conducted during the outbreak in West Africa) and 50% in our trial (conducted during the current outbreak in the DRC) is unclear. Potential differences in virulence, the relevant viral epitopes,[14] patient populations, duration of symptoms, and standard-of-care practices are being explored.

In addition to differential effects of the four trial agents with respect to mortality, the results showed the importance of early diagnosis and treatment. We observed an 11% increase in the odds of death for each day that symptoms persisted before enrollment. These data highlight the need for community awareness that earlier diagnosis and treatment are associated with increased survival. Similarly, there was an effect of baseline viral load with respect to death at 28 days with each trial drug: mortality among patients who had a nucleoprotein Ct value of 22 or less at screening (i.e., high viral load) was 4 times as high as mortality among patients with a nucleoprotein Ct value of greater than 22 (i.e., low viral load). As described previously, the degree of baseline renal dysfunction was also a strong adverse prognostic indicator of survival, despite the use of medical countermeasures,[17,18] with higher creatinine levels at presentation correlating with a higher risk of death.

Given that 97% of deaths in this trial occurred within 10 days after enrollment, the efficacy of MAb114 and REGN-EB3 as compared with that of ZMapp and remdesivir might be partly attributable to the fact that the full treatment courses of MAb114 and REGN-EB3 were administered in a single dose, whereas ZMapp

and remdesivir were administered in multiple infusions. Differences in the time to appearance of the first negative nucleoprotein Ct result among trial groups support this observation; patients in the MAb114 and REGN-EB3 groups had faster rates of viral clearance than patients in the ZMapp and remdesivir groups. With ZMapp, the longer preparation time and the recommendation to allot up to 4 hours for the infusion of the first dose led to some delays in initiating therapy until the following day for patients who arrived later in the day to their respective treatment centers. However, in a sensitivity analysis, mortality was only slightly lower when ZMapp recipients with delayed therapy were excluded.

Although most characteristics at baseline were balanced across the four groups, values for serum creatinine and aminotransferases were higher in the ZMapp and remdesivir groups than in the MAb114 and REGN-EB3 groups; patients in the latter groups had better outcomes, despite similar durations of illness before enrollment. This suggests that enrolled patients might, on average, have been somewhat sicker in the ZMapp and the remdesivir groups, which could potentially account for some of the differences in outcomes. A high percentage of missing baseline data complicates this analysis. Nevertheless, sensitivity analyses confirm the persistence of benefits of treatment with MAb114 and REGN-EB3 despite these potential imbalances.

Of the 620 patients for whom information on vaccination with rVSVΔG-ZEBOV-GP was available, 155 patients (25.0%) reported that they had received the vaccine; of these, 38.7% reported that they had received the vaccine at least 10 days before the onset of clinical symptoms. Patients who reported vaccination were more likely to enroll sooner after the onset of symptoms and generally had more favorable prognostic profiles at baseline, suggesting a possible relationship between vaccination and health-seeking behaviors associated with improved outcomes. Alternatively, the less severe clinical status of these persons at presentation could be the result of a direct effect of the vaccine on outcomes. A limitation of these results is that vaccination status was reported by the patient; efforts to confirm vaccination status are under way. Given that vaccination status was not a randomization factor in this trial, it is not possible to draw firm conclusions about its effect on mortality.

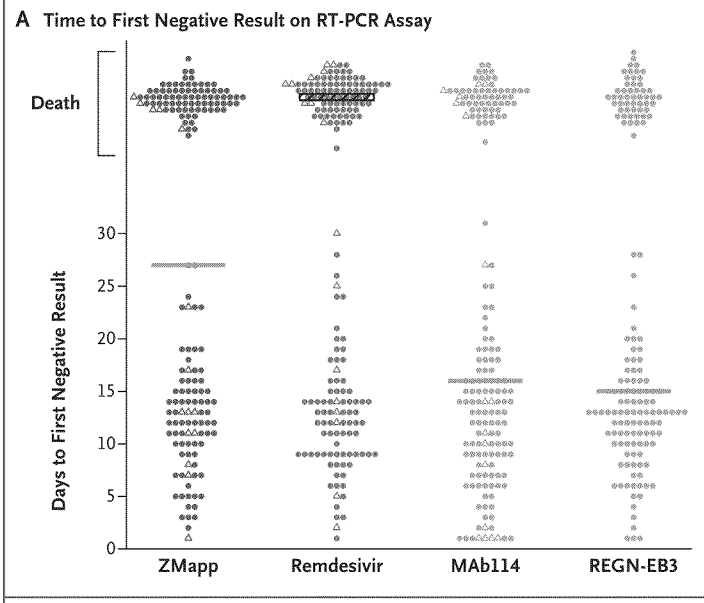
Table 4. Multivariate Logistic-Regression Analyses for Death at 28 Days in the 371 Patients Who Had Data Available for All Variables.

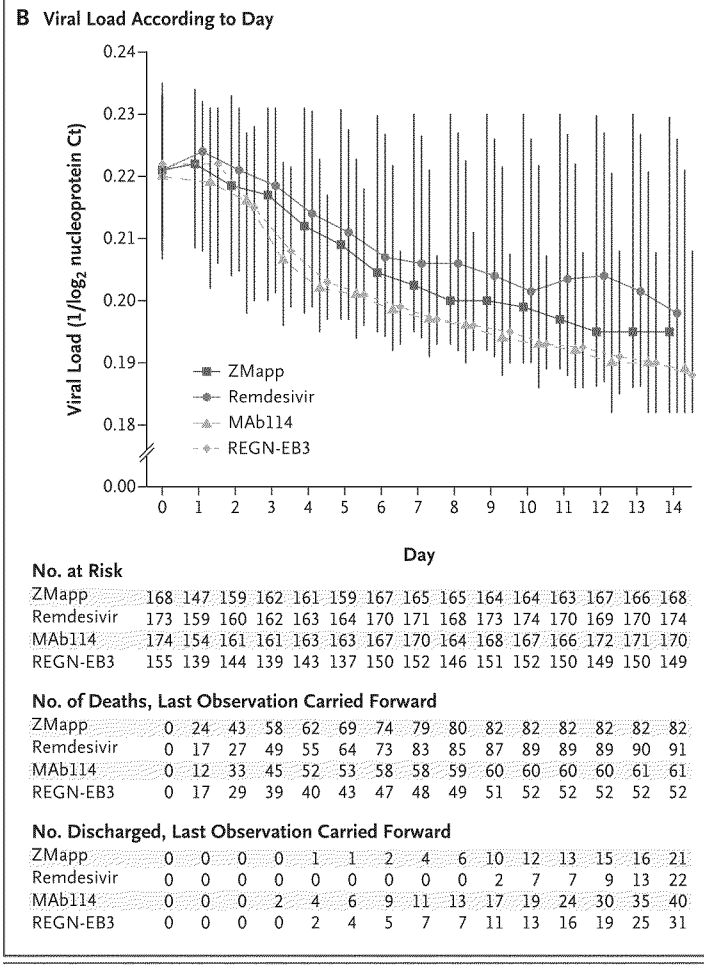
Variable	Odds Ratio (95% CI)
Assignment to remdesivir vs. ZMapp	0.99 (0.46–2.14)
Assignment to MAb114 vs. ZMapp	0.24 (0.10–0.61)
Assignment to REGN-EB3 vs. ZMapp	0.21 (0.08–0.53)
Duration of symptoms before admission to treatment center, per each additional day	1.12 (1.00–1.24)
Baseline nucleoprotein Ct value per 1-unit increase	0.67 (0.59–0.76)
Years of age per 1 yr increase	1.02 (1.00–1.04)
Creatinine level per 1 mg/dl increase	1.36 (1.18–1.58)
AST level per 100 U/liter increase	1.00 (0.92–1.07)
ALT level per 100 U/liter increase	0.96 (0.79–1.17)
Patient-reported vaccination, yes vs. no	0.47 (0.21–1.01)

With few exceptions, the safety profiles of all four trial drugs were generally consistent with either their limited previous investigational use in EBOV-infected humans, published phase 1 data in healthy volunteers, or both. Twenty-nine serious adverse events were reported by the investigators as possibly related to the experimental treatments — not all of which occurred during the treatment period. On review, four were thought to be possibly related to the trial-drug infusions. It is difficult to distinguish adverse events associated with the trial drug from those related to underlying EVD, so the assessment of relatedness is challenging. These favorable safety profiles support the notion that relative efficacy rather than safety considerations will most likely provide the major rationale for the future use of these drugs.

Although the observed treatment benefits of MAb114 and REGN-EB3 were striking, 34% of all patients and 67% of patients who presented with higher viral loads died despite receiving one of these agents. Exploration of more efficacious interventions — such as further improvements in aggressive supportive-care measures and combination strategies that use agents with potentially complementary mechanisms of action — is needed. It is worth noting, however, that all the treatments chosen for this trial had shown comparatively high survival rates in nonhuman primate EBOV challenge models with the use of a non-Ituri EBOV variant (Kikwit), which illustrates a potential limitation of these models in evaluating single-drug and (future) combination-drug strategies.

We encountered numerous challenges in the performance of this trial. It was conducted in a





No. at Risk

ZMapp	168	147	159	162	161	159	167	165	165	164	164	163	167	166	168
Remdesivir	173	159	160	162	163	164	170	171	168	173	174	170	169	170	174
MAb114	174	154	161	161	163	163	167	170	164	168	167	166	172	171	170
REGN-EB3	155	139	144	139	143	137	150	152	146	151	152	150	149	150	149

No. of Deaths, Last Observation Carried Forward

ZMapp	0	24	43	58	62	69	74	79	80	82	82	82	82	82	82
Remdesivir	0	17	27	49	55	64	73	83	85	87	89	89	89	90	91
MAb114	0	12	33	45	52	53	58	58	59	60	60	60	60	61	61
REGN-EB3	0	17	29	39	40	43	47	48	49	51	52	52	52	52	52

No. Discharged, Last Observation Carried Forward

ZMapp	0	0	0	0	1	1	2	4	6	10	12	13	15	16	21
Remdesivir	0	0	0	0	0	0	0	0	0	2	7	7	9	13	22
MAb114	0	0	0	2	4	6	9	11	13	17	19	24	30	35	40
REGN-EB3	0	0	0	0	2	4	5	7	7	11	13	16	19	25	31

Figure 2. Time to Viral Clearance.

Panel A shows the time to the first negative result for Ebola virus (EBOV) nucleoprotein on reverse-transcriptase–polymerase-chain-reaction (RT-PCR) assay in all groups, with deaths imputed as the worst time. The dots indicate individual patients, the triangles indicate patients who were enrolled before January 2019 when the protocol was revised to add the REGN-EB3 group, and the horizontal bars indicate the group means. The black hashed bar in the remdesivir group indicates that the median time was not observed because more than 50% of patients in this group died before the first negative result. Data are not shown for one patient in the ZMapp group and one patient in the REGN-EB3 group who did not have a first negative result before day 28 but who had a negative result at days 48 and 41, respectively. Panel B shows the values for EBOV nucleoprotein as determined on RT-PCR, according to day of the trial. The symbols indicate the median, and the vertical bars indicate the interquartile range.

region of the DRC in which there is regional violence, mistrust of government, mistrust of the Ebola response, an unstable electrical power grid, transportation difficulties, and a history of high morbidity from other infectious diseases. Missing results from laboratory tests make the logistic-regression analyses difficult to interpret. Continual oversight of staffing and supply-chain issues by the DRC Ministry of Health, the INRB, the WHO, ALIMA, IMC, and MSF was essential to maintaining an appropriate standard of supportive care in the trial centers. The trial was interrupted temporarily in two participating centers that had to be evacuated because of violence directed against those units by local community or paramilitary groups who were reportedly suspicious of the activities under way in those facilities.

Reaching a successful conclusion to this challenging trial required careful planning as well as the cooperation, support, and coordination of national and international health agencies, government leaders, pharmaceutical companies, dedicated oversight boards, scientists, and nongovernmental organizations. This trial showed that it is possible to conduct scientifically rigorous and ethically sound research during an outbreak, even in a conflict zone. Although it is important to recognize the collective strength of this partnership in ensuring the completion of the trial, the single greatest factor that ensured its success was the commitment of the staff in the field and at the sites (the physicians, nurses, pharmacists, hygienists, the *gardes-malades* [guardians of the sick], and the numerous other support staff) who worked under highly challenging circumstances at the front lines of this effort in the Ebola treatment centers, as well as that of the patients themselves.

The content of this publication does not necessarily reflect the views or policies of the Department of Health and Human Services, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.

A data sharing statement provided by the authors is available with the full text of this article at NEJM.org.

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Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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APPENDIX

The members of the PALM Writing Group are as follows: Billy Sivahera, M.D., Modet Camara, M.D., Richard Kojan, M.D., Robert Walker, M.D., Bonnie Dighero-Kemp, B.S., Huyen Cao, M.D., Philippe Mukumbayi, M.Pharm., Placide Mbala-Kingebeni, M.D., Steve Ahuka, M.D., Sarah Albert, M.P.H., Tyler Bonnett, M.S., Ian Crozier, M.D., Michael Duvenhage, N.Dip.I.T., Calvin Proffitt, M.A., Marc Teitelbaum, M.D., Thomas Moench, M.D., Jamila Aboulhab, M.D., Kevin Barrett, B.S.N., Kelly Cahill, M.S., Katherine Cone, M.S.W., Risa Eckes, M.A., Lisa Hensley, Ph.D., Betsey Herpin, M.S.N., Elizabeth Higgs, M.D., Julie Ledgerwood, D.O., Jerome Pierson, Ph.D., Mary Smolskis, M.A., Ydrissa Sow, M.D., John Tierney, M.P.M., Sumathi Sivapalasingam, M.D., Wendy Holman, B.S., Nikki Gettinger, M.P.H., David Vallée, Pharm.D., and Jacqueline Nordwall, M.S.

The affiliations of the members of the PALM Writing Group are as follows: the Alliance for International Medical Action (B.S., M.C., R.K.); the Biomedical Advanced Research and Development Authority (R.W.); Battelle (B.D.-K.); Gilead (H.C.); Institut National de Recherche Biomédicale (P.M., P.M.-K., S. Ahuka); Leidos (S. Albert, T.B., I.C., M.D., C.P., M.T.); Mapp Biopharmaceutical (T.M.); the National Institute of Allergy and Infectious Diseases (J.A., K.B., K. Cahill, K. Cone, R.E., L.H., B.H., E.H., J.L., J.P., M.S., Y.S., J.T.); Regeneron (S.S.); Ridgeback Biotherapeutics (W.H.); the Mitchell Group (N.G., D.V.); and University of Minnesota (J.N.).

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ATIA - 19(1)

From: McLeod, Robyn (PHAC/ASPC) on behalf of Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-02 5:45 PM
To: Romano, Anna (PHAC/ASPC); Elmslie, Kim (PHAC/ASPC); Thornton, Sally (PHAC/ASPC); Michel, Pascal (PHAC/ASPC); Abdou, Sheriff (PHAC/ASPC); Bent, Stephen (PHAC/ASPC)
Subject: FW: New Executive Director Federal Relations Role at CIHI
Attachments: O'Reilly-bio.pdf; Steve O'Reilly.jpg

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fyi

From: [redacted] **On Behalf Of** David O'Toole
Sent: 2019-11-29 10:46 AM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: [redacted]
Subject: New Executive Director Federal Relations Role at CIHI

Dear Dr. Tam:

I am writing to inform you of a new executive role we have established at CIHI, to strengthen coordination of our activities with our federal government partners and other agencies.

Stephen O'Reilly will begin working as Executive Director, Federal Relations in December. Stephen has been with CIHI for many years and brings extensive experience of our work with the federal/provincial/territorial jurisdictions; and with a number of pan-Canadian health organizations. Stephen will report directly to me and is a member of our Executive Committee.

This new position will assume a lead role in coordinating our collaborative efforts with respective government departments and with pan-Canadian healthcare organizations. As these partners continue identifying and implementing shared priorities and workplans, Stephen will have a lead role in ensuring the right people from across CIHI are involved on any given initiative.

Please feel free to contact either Stephen or myself should you have any questions.

Regards,

David

David O'Toole
President & CEO/Président-directeur général
Canadian Institute for Health Information (CIHI)
Institut canadien d'information sur la santé (ICIS)
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Steve O’Reilly

Executive Director, Federal Relations

As Executive Director, Federal Relations, Steve O’Reilly is responsible for providing strategic leadership in CIHI’s relations with the Federal government. Working with individuals at all levels within CIHI, he also has a lead role in coordinating CIHI activities with other pan-Canadian healthcare organisations (PCHOs).

With more than 25 years of experience in the health sector, Mr. O’Reilly has extensive knowledge of health information and health information systems including a leadership role with CIHI’s Digital Strategy and Integrated eReporting branch. Prior to joining CIHI, he served as chief executive officer of the Newfoundland and Labrador Centre for Health Information. He did foundational work with the Newfoundland and Labrador Health System Information Task Force and was an early proponent of the electronic health record.

ATIA - 17 ATIA - 19(1)

From: Durette, Maryse (HC/SC)
Sent: 2019-12-18 4:44 PM
To: McLeod, Robyn (PHAC/ASPC)
Cc: Namiesniowski, Tina (PHAC/ASPC); Russo, Laura (HC/SC); Rendall, Jennifer (PHAC/ASPC); Maika, Christine (PHAC/ASPC); Bell, Tammy (PHAC/ASPC); Gray, Kimberly (PHAC/ASPC); Tipman, Kristen (HC/SC); Hostrawser, Bonnie (PHAC/ASPC); Chia, Marie (PHAC/ASPC); Macey, Jeannette (PHAC/ASPC); Payette, Louise (HC/SC); Morrissette, Eric (HC/SC); Patrice, France (PHAC/ASPC); Mead, Jobina (PHAC/ASPC); Johnstone, Marnie (PHAC/ASPC); Killen, Marita (PHAC/ASPC); Tam, Dr Theresa (PHAC/ASPC)
Subject: RE: *NEW* Interview request - CHUM group radio - CPHO report on Stigma
Attachments: List-Spokespersonsv5.docx

Gotcha. Apologies again (long day! for everybody, I'm sure!)
I left 2 messages to the CTV/BNN producer. I'll try again now...
Keep you posted.
m.

From: McLeod, Robyn (PHAC/ASPC)
Sent: 2019-12-18 16:40
To: Durette, Maryse (HC/SC)
Cc: Namiesniowski, Tina (PHAC/ASPC) ; Russo, Laura (HC/SC) ; Rendall, Jennifer (PHAC/ASPC) ; Maika, Christine (PHAC/ASPC) ; Bell, Tammy (PHAC/ASPC) ; Gray, Kimberly (PHAC/ASPC) ; Tipman, Kristen (HC/SC) ; Hostrawser, Bonnie (PHAC/ASPC) ; Chia, Marie (PHAC/ASPC) ; Macey, Jeannette (PHAC/ASPC) ; Payette, Louise (HC/SC) ; Morrissette, Eric (HC/SC) ; Patrice, France (PHAC/ASPC) ; Mead, Jobina (PHAC/ASPC) ; Johnstone, Marnie (PHAC/ASPC) ; Killen, Marita (PHAC/ASPC) ; Tam, Dr Theresa (PHAC/ASPC)
Subject: RE: *NEW* Interview request - CHUM group radio - CPHO report on Stigma
Yes, CHUM at 1 pm. We're waiting a confirmed time for interview with [redacted]

From: Durette, Maryse (HC/SC) <maryse.durette@canada.ca>
Sent: 2019-12-18 4:37 PM
To: McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca>
Cc: Namiesniowski, Tina (PHAC/ASPC) <tina.namiesniowski@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>; Maika, Christine (PHAC/ASPC) <christine.maika@canada.ca>; Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Gray, Kimberly (PHAC/ASPC) <kimberly.gray@canada.ca>; Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca>; Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>; Chia, Marie (PHAC/ASPC) <marie.chia@canada.ca>; Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>; Payette, Louise (HC/SC) <louise.payette@canada.ca>; Morrissette, Eric (HC/SC) <eric.morrissette@canada.ca>; Patrice, France (PHAC/ASPC) <france.patrice@canada.ca>; Mead, Jobina (PHAC/ASPC) <jobina.mead@canada.ca>; Johnstone, Marnie (PHAC/ASPC) <marnie.johnstone@canada.ca>; Killen, Marita (PHAC/ASPC) <marita.killen@canada.ca>; Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: RE: *NEW* Interview request - CHUM group radio - CPHO report on Stigma
Apologies. I think I am mixing my calls up.
Yes, for CHUM at 1 p.m. tomorrow. Am I right?
Tx.

From: Durette, Maryse (HC/SC)
Sent: 2019-12-18 16:34
To: McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca>
Cc: Namiesniowski, Tina (PHAC/ASPC) <tina.namiesniowski@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>; Maika, Christine (PHAC/ASPC) <christine.maika@canada.ca>; Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Gray, Kimberly (PHAC/ASPC) <kimberly.gray@canada.ca>; Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca>; Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>; Chia, Marie (PHAC/ASPC) <marie.chia@canada.ca>; Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>; Payette, Louise (HC/SC) <louise.payette@canada.ca>; Morrissette, Eric (HC/SC) <eric.morrissette@canada.ca>; Patrice, France (PHAC/ASPC) <france.patrice@canada.ca>; Mead, Jobina (PHAC/ASPC) <jobina.mead@canada.ca>; Johnstone, Marnie (PHAC/ASPC) <marnie.johnstone@canada.ca>; Killen, Marita (PHAC/ASPC) <marita.killen@canada.ca>; Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: RE: *NEW* Interview request - CHUM group radio - CPHO report on Stigma

I plan on it. ☺
Any news for the radio interview with the CHUM group reporter?

From: McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca>
Sent: 2019-12-18 16:14
To: Durette, Maryse (HC/SC) <maryse.durette@canada.ca>
Cc: Namiesniowski, Tina (PHAC/ASPC) <tina.namiesniowski@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>; Maika, Christine (PHAC/ASPC) <christine.maika@canada.ca>; Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Gray, Kimberly (PHAC/ASPC) <kimberly.gray@canada.ca>; Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca>; Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>; Chia, Marie (PHAC/ASPC) <marie.chia@canada.ca>; Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>; Payette, Louise (HC/SC) <louise.payette@canada.ca>; Morrissette, Eric (HC/SC) <eric.morrissette@canada.ca>; Patrice, France (PHAC/ASPC) <france.patrice@canada.ca>; Mead, Jobina (PHAC/ASPC) <jobina.mead@canada.ca>; Johnstone, Marnie (PHAC/ASPC) <marnie.johnstone@canada.ca>; Killen, Marita (PHAC/ASPC) <marita.killen@canada.ca>; Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: RE: *NEW* Interview request - CHUM group radio - CPHO report on Stigma

Hi Maryse,
Please confirm for 1 pm tomorrow. Will you come to Colonnade?
Thanks,
Robyn

From: Durette, Maryse (HC/SC) <maryse.durette@canada.ca>
Sent: 2019-12-18 1:50 PM
To: Tam, Dr Theresa (PHAC/ASPC) [redacted]
Cc: Namiesniowski, Tina (PHAC/ASPC) <tina.namiesniowski@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>; Durette, Maryse (HC/SC) <maryse.durette@canada.ca>; Rendall, Jennifer (PHAC/ASPC) <jennifer.rendall@canada.ca>; Maika, Christine (PHAC/ASPC) <christine.maika@canada.ca>; Bell, Tammy (PHAC/ASPC) <tammy.bell@canada.ca>; Gray, Kimberly (PHAC/ASPC) <kimberly.gray@canada.ca>; Tipman, Kristen (HC/SC) <kristen.tipman@canada.ca>; Hostrawser, Bonnie (PHAC/ASPC) <bonnie.hostrawser@canada.ca>; Chia, Marie (PHAC/ASPC) <marie.chia@canada.ca>; McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca>; Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>; Payette, Louise (HC/SC) <louise.payette@canada.ca>; Morrissette, Eric (HC/SC) <eric.morrissette@canada.ca>; Patrice, France (PHAC/ASPC) <france.patrice@canada.ca>; Mead, Jobina (PHAC/ASPC) <jobina.mead@canada.ca>; Johnstone, Marnie (PHAC/ASPC)

<marnie.johnstone@canada.ca>; Killen, Marita (PHAC/ASPC) <marita.killen@canada.ca>
Subject: *NEW* Interview request - CHUM group radio - CPHO report on Stigma
Bonjour Dr. Tam,
We have a bite from media (aside from the proactive performed this a.m.).
This reporter for CKLW radio in Windsor, Ontario contacted us after seeing the NR on your report re: stigma.
Ideally, she wanted a pre-recorded interview today, to edit for the Afternoon News show today (the show is between 3 and 6 p.m. today).
**Excerpts for the interview would be pulled to be included in a news story to be distributed within the CHUM group of radio stations, operated by BellMedia, across the country.
In light of your availabilities today, they would be willing to do the interview tomorrow, either late a.m. (11 a.m.) or early p.m. (1 p.m.)
We recommend this interview to take place, at your convenience, as it will give us a radio audience from coast to coast.
We are also contemplating calling upon the special offer i.e. making health system actors available for additional perspective on the issue. That determination will be done only once you tell us if this interview is of interest to you.
Thank you!
Maryse
946-6249

Date: December 18, 2019
Media: CHUM group radio, CKLW [redacted]
Deadline: December 19, 2019 before 2 p.m.
Impact: MEDIUM (2)
Complexity: MEDIUM (2)
Context: The reporter contacted us after seen the NR about the CPHO report released today. I got her questions:
1 – Why is stigma an issue in the health care system? How prominent is it?
2 – What kind of stigma are we most likely to see, in the health care system?
3 – What can health providers do to eliminate stigma?
4 – What can we all do, as Canadians, to help with addressing stigma?
5 – Why was this an important issue for you?
Merci beaucoup!! / Thank you!
Maryse
****

Maryse Durette
Senior Media Relations Advisor | Conseillère principale en Relations avec les médias
Media Line - Ligne média 613-957-2983
Serving Health Canada and the Public Health Agency of Canada | Au service de Santé Canada et de l'Agence de la santé publique du Canada
Government of Canada | Gouvernement du Canada
(t) 613.946-6249
(e) maryse.durette@hc-sc.gc.ca

Available People to Speak to Stigma Experiences and Knowledge

The Chief Public Health Officer's Report on the State of Public Health in Canada 2019

Addressing Stigma: Towards a More Inclusive Health System

ENGLISH

Ian Culbert
Executive Director
Canadian Public Health Association
613-725-3769 x. 142
iculbert@cpha.ca

Ian Culbert is the Executive Director of the Canadian Public Health Association (CPHA). CPHA's mission is to enhance the health of people in Canada and to contribute to a healthier and more equitable world. In December 2018, CPHA released a policy statement on racism and public health.

Carmen Logie
Associate Professor, Factor-Inwentash School of Social Work
University of Toronto
647-454-4203
carmen.logie@utoronto.ca

Dr. Carmen Logie, the Canada Research Chair in Global Health Equity & Social Justice with Marginalized Populations, and Associate Professor at the Factor-Inwentash Faculty of Social Work, University of Toronto is an expert in stigma research. She is a global stigma research leader, and Canada's most published stigma researcher, with more than 125 peer-reviewed publications (cited over 2600 times) that have significantly contributed to understanding stigma and associated health outcomes. Her ground breaking research on stigma measurement and conceptualization is evidenced by her membership on working groups and consultations with the World Health Organization, US National Institutes of Health, U.S. President's Emergency Plan for AIDS Relief, White House Office of National AIDS Policy, Canadian Public Health Association, and the Public Health Agency of Canada.

Myrna Lashley
Assistant Professor, Department of Psychiatry
McGill University
514-808-2693
myrna.lashley2@mcgill.ca

Dr. Myrna Lashley holds a PhD in counseling psychology from McGill University and is assistant professor in the department of psychiatry of McGill University as well as a researcher and project leader at the Lady Davis Institute for Medical Research of the Jewish General Hospital. Dr. Lashley works with police, other security agencies, and governments on issues of stigmatisation, security and racial profiling. She is an internationally recognized clinical, teaching and, research authority in cultural psychology, and serves as an expert psychological consultant to institutions. She is a former director of the Canadian Race Relations Foundation.

Dr. Sarah Funnell
First Nation Family physician and Public Health Specialist
613-293-9336

Available People to Speak to Stigma Experiences and Knowledge

The Chief Public Health Officer's Report on the State of Public Health in Canada 2019

Addressing Stigma: Towards a More Inclusive Health System

sarah.funnell@ottawa.ca Dr. Sarah Funnell is a First Nation family physician and Public Health Specialist. She is the Associate Medical officer of Health with the City of Ottawa, and Indigenous Health Director, Queen's University. She is co-chair of the College of Family Physicians of Canada's Indigenous Health Working Group and a member of the Royal College of Physicians and Surgeons of Canada's Indigenous Health Advisory Committee.
Barbara Hamilton Hinch Assistant Professor, School of Health and Human Performance Dalhousie University 902-222-5133 (cell) 902-494-3391 (office) B.Hamilton-Hinch@Dal.Ca Dr. Barb Hamilton-Hinch is an Assistant Professor in the School of Health and Human Performance-Recreation and Leisure Studies. Her primary areas of research include institutional and structural racism, equity, diversity and inclusion, mental health, social and structural determinants of health and examining ways to improve quality of life for populations that have been marginalized. In relation to stigma Barb has been a member of a number of research projects that examine the lived experiences of diverse populations. One research project specifically looked at Recreation for individuals with mental health challenges examining ways in which individuals with mental health challenges access health care. One of her current research projects examine the challenges of individuals who have been incarcerated and trying to integrate back in to their communities.
Canadian Indigenous Nurses Association Lea Bill president@indigenousnurses.ca 403-921-9061 (cell) Or 587-337-2364 (cell) Lea is able to speak to experiences of stigma in the health care system - as an Indigenous (FN) Registered Nurse with over 30 years experience. As the CINA President, Lea can speak to addressing stigma in health work force and health programs or community service delivery. More specifically - how CINA is developing an approach that engages Indigenous leaders, community Elders, etc.
Claire Bekter President, Canadian Nurses Association **Via** Eve Johnson, Media and Communications Coordinator 613-237-2159 x. 114 (office) 613-282-7859 (cell) ejohnston@cna-aiic.ca **or Via** Aden Hamza Policy Advisor, Policy & Government Relations

613-237-2159 Ext. 523 (office)
613-266-7710 (cell)

Michael Villeneuve
Chief Executive Officer, Canadian Nurses Association
Via Eve Johnson, Media and Communications Coordinator
613-237-2159 x. 114 (office)
613-282-7859 (cell)
ejohnston@cna-aiic.ca

or Via Aden Hamza
Policy Advisor, Policy & Government Relations
613-237-2159 Ext. 523 (office)
613-266-7710 (cell)

ENGLISH – AVAILABLE IN FRENCH WITH ADVANCE NOTICE

Sume Ndumbe-Eyoh
Senior Knowledge Translation Specialist
National Collaborating Centre for Determinants of Health
416-509-0337
seyoh@stfx.ca

Sume Ndumbe-Eyoh is a Senior Knowledge Translation Specialist with the National Collaborating Centre for Determinants of Health. Sume leads initiatives that support public health organizations to improve the everyday living conditions that affect health and promote social justice in public health. She has a passion for the elimination of racism and sexism as drivers of sub-optimal health and wellbeing. She holds a Master of Health Science in Health Promotion and Global Health from the University of Toronto.

FRENCH

Fanta Ongoiba
Directrice executive, Africans in Partnership Against AIDS
647-296-8936
Fanta@apaa.ca

Fanta Ongoiba est la directrice exécutive d'Africans in Partnership Against AIDS. Sous sa direction, l'APAA assure l'éducation, la formation et le développement communautaire pour sensibiliser le public et lutter contre la stigmatisation. Cela a inclus des approches dirigées par la communauté telles que la sensibilisation à base religieuse pour lutter contre la stigmatisation du VIH. Au sujet de la stigmatisation: « À tous les niveaux nous les femmes noires immigrants expériencent la stigmatisation. Je me rappelle il y a plus d'une dizaine d'années, que j'étais stigmatiser par rapport au travail relier au VIH. Les gens me fuyaient soit disant que j'apporterais le SIDA chez eux. Mes employés ont eu les mêmes expériences aussi. De nos jours c'est moins pire, mais cela existe toujours. Imaginez pour une personne qui vit avec le virus du VIH, c'est encore plus traumatisant. »

Available People to Speak to Stigma Experiences and Knowledge

The Chief Public Health Officer's Report on the State of Public Health in Canada 2019

Addressing Stigma: Towards a More Inclusive Health System

Josette Roussel *Conseillère executive,* Association des infirmières et infirmiers du Canada **a/s** Eve Johnson, Coordonnatrice des médias et des communications 613-237-2159 x. 114 (bureau) 613-282-7859 (cellulaire) ejohnston@cna-aiic.ca **ou a/s** Aden Hamza Policy Advisor, Policy & Government Relations 613-237-2159 Ext. 523 (bureau) 613-266-7710 (cellulaire)

ATIA - 19(1)

From: [redacted]
Sent: 2019-12-08 12:35 PM
To: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; [redacted] Ahmed.Hussen@parl.gc.ca; [redacted] Bardish.Chagger@parl.gc.ca; [redacted] Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; [redacted]
Subject: On Myalgic Encephalomyelitis
Attachments: ME MP Letter1.docx

Dea[redacted]

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

Please see the attached letter.

Sincerely,

[redacted]

December 2nd, 2019

Bernadette Jordan
MP for (constituency)
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Mrs Bernadette Jordan,

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*".

First, The Bad News...The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are house or bed bound. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into

approximately $17-24 billion annually in lost productivity and direct medical costs. In Canada, a comparable and conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is <u>not</u> caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering. It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest

quality of life of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a meeting with patients and researchers** to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesFo HYPERLINK "http://www.alliesforme.ca/" HYPERLINK "http://www.alliesforme.ca/" HYPERLINK "http://www.alliesforme.ca/"r HYPERLINK "http://www.alliesforme.ca/" HYPERLINK "http://www.alliesforme.ca/" HYPERLINK "http://www.alliesforme.ca/"ME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include ...

- Discussing ME issues as part of a health-themed town hall or roundtable discussion.
- Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
- Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
- Join our monthly news bulletin by emailing us at **Coordinator@AlliesForME.ca**

Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development
Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities
Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

ATIA - 17 ATIA - 19(1)

From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-30 11:27 AM

To: Hostrawser, Bonnie (PHAC/ASPC); Rendall, Jennifer (PHAC/ASPC); Bell, Tammy (PHAC/ASPC)

Subject: Fwd: Opinion: In Thunder Bay, an Indigenous teen's death by suicide shows how bias can be deadly - The Globe and Mail

---

Sent from my iPhone

Begin forwarded message:

> **From:** TAM [redacted]
> **Date:** December 28, 2019 at 21:36:40 EST
> **To:** Theresa Tam [redacted]
> **Subject: Opinion: In Thunder Bay, an Indigenous teen's death by suicide shows how bias can be deadly - The Globe and Mail**
>
> https://www.theglobeandmail.com/opinion/article-in-thunder-bay-an-indigenous-teens-death-by-suicide-shows-how-bias/
>
> Sent from my iPhone

ATIA - 19(1)

From: [redacted]
Sent: 2019-12-11 12:21 PM
Subject: Re: Opioids & Public Health - J of Pub Health

Hello, the below linked new article re: opioids & public health may interest you.
https://academic.oup.com/jpubhealth/advance-article/doi/10.1093/pubmed/fdz162/5671801
Best regards

[redacted]

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-13 9:03 AM
To: Macey, Jeannette (PHAC/ASPC)
Subject: Fwd: Ottawa Citizen: High rates of influenza B could spell bad flu season for young children

---

Need FluWatch for this week in prep for next week's potential interviews.

Sent from my iPhone

Begin forwarded message:

> **From:** "Media Monitoring / Suivi des Medias (HC/SC)" <hc.media.monitoring-suivi.des.medias.sc@canada.ca>
> **Date:** December 13, 2019 at 08:22:44 EST
> **Subject: Ottawa Citizen: High rates of influenza B could spell bad flu season for young children**
>
> Dist: HC.F PEIA Influenza / La grippe AREP F.SC
> December 13, 2019
> **High rates of influenza B could spell bad flu season for young children**
> Source: OttawaCitizen.com, by Elizabeth Payne
> It is still early, but there are signs that this could be a tough flu season for young children.
> Influenza B, which typically shows up later in the season, is being seen in significant amounts at the beginning of the season this year, something that is unusual. As a result, things are already busy at CHEO's emergency department with flu and other viral illnesses.
> "This is a recipe for a very busy viral season," said Dr. Anne Pham-Huy, a pediatric infectious disease specialist at CHEO.
> Eastern Ontario's children's hospital has already seen almost twice as many cases of influenza B since September as it did during the entire flu season last year. It is also dealing with cases of influenza A and RSV, a common respiratory virus.
> And while both influenza A and B can be serious for those at high risk, including young children, influenza B tends to hit children harder than older adults, who are most at risk from influenza A.
> Across Ottawa, 59 cases of laboratory confirmed flu have been reported since September, about 60 per cent of them influenza A and 40 per cent influenza B. There has been one flu-related death, of an older adult.
> In 2017-2018, when influenza B also showed up early in the season, there were more than average numbers of hospitalizations among children and nine pediatric deaths in Canada. During the same flu season, 186 children died in the U.S., the highest number of pediatric deaths ever recorded during a flu season.
> Dr. Michelle Murti, a public health physician at Public Health Ontario, said the flu season is starting with unusually high amounts of influenza B in the mix, province-wide. So far in Ontario, two-thirds of cases have been influenza A and one-third influenza B. In Alberta so far, about half of confirmed cases have been influenza B. Children under the age of nine may be more severely affected by influenza B, she said, with hospitalization in some cases and even deaths.
> A 2012 study challenged the long-held notion that influenza B is milder than influenza A. The study found it is more severe than previously thought and that it is more fatal in children.

“Historically, people thought of influenza B as not as severe,” in part, because it didn’t tend to cause as much illness in older adults, said Murti. “But we have seen children do seem to be particularly affected by influenza B and can lead to more rates of hospitalization or severe outcomes.”

Murti said it is still early in Ontario to see exactly what shape the flu season will take. According to federal government surveillance, flu is already widespread in parts of Eastern Ontario, including Ottawa, and some of Quebec. It is being seen sporadically in the rest of Ontario, but numbers are starting to increase.

“Over the next couple of weeks we will start to see more cases and outbreaks,” said Murti.

The good news about influenza B is that the strain being seen appears to be a good match to the flu vaccine available this year. The nasal spray flu vaccine — which is popular with children — is not available this year. But flu shots are widely available at pharmacies, doctors offices and clinics. Children and adults should be vaccinated, said Murti. Pregnant women should also be vaccinated to protect themselves and their children. And anyone around an infant less than six months of age, which is too young to be vaccinated, should get a flu shot, officials recommend.

The elderly are the hardest hit by influenza A, but they also tend to have high vaccination rates, which other groups do not.

CHEO and Ottawa Public Health produced a video to help people understand when to go to the hospital with flu symptoms and when to remain at home.

https://www.youtube.com/watch?v=QBXjoVrDHCU

https://ottawacitizen.com/news/local-news/high-rates-of-influenza-b-could-spell-bad-flu-season-for-young-children

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From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-13 2:46 PM

To: Rendall, Jennifer (PHAC/ASPC); Bell, Tammy (PHAC/ASPC); Hostrawser, Bonnie (PHAC/ASPC)

Subject: Fwd: Ottawa Public Health video on healthy communities

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This is the Ottawa PH video that references the CPHO report on healthy communities.

Cute and can be on my report card on " reach" of my CPHO reports.

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Sent from my iPhone

Begin forwarded message:

> **From:** Theresa Tam [redacted]
> **Date:** December 13, 2019 at 01:23:24 EST
> **To:** Theresa Tam [redacted]
> **Subject: Ottawa Public Health video on healthy communities**
>
> https://youtu.be/7jfp9q_rutc
>
> References the CPHO report
> Sent from my iPad

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Review

Using a Developmental-Relational Approach to Understand the Impact of Interpersonal Violence in Women Who Struggle with Substance Use

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Abstract: Substance use among women is a major public health concern. This review article takes a developmental-relational approach to examine processes through which early relational trauma and violence in relationships may lead to substance use. We examine how early exposure to violence in relationships can impact neurological development, specifically through interference with physiological mechanisms (e.g., the hypothalamic-pituitary-adrenal axis), brain structure and functioning (e.g., the hippocampus and prefrontal cortex), and neuropsychological development (e.g., executive functioning and emotion regulation) across the lifespan. Further, we discuss the impact of exposure to violence on the development of relational capacity, including attachment, internal working models, and subsequent interpersonal relationships across the lifespan, and how these developmental pathways can lead to continued problematic substance use in women.

Keywords: interpersonal violence; domestic violence; substance use; intervention; women; developmental-relational; gender-specific approach

1. Introduction

Substance use among women is a major public health concern. There is recognition of the concurrent challenges associated with substance use and the barriers to reduce use for women (e.g., poverty, untreated mental health difficulties [1,2]). Another challenge is women's experiences with interpersonal violence. Interpersonal violence is commonly thought of as domestic violence or intimate partner violence. Though both women and men experience violence in partner relationships, women are more often victims of violence in relationships, experience more severe forms of violence, and are more afraid of the harm that abusers cause than are men (e.g., [3]). Importantly, experiences with violence in relationships often begin before women enter adulthood (e.g., via childhood maltreatment, witnessing violence between parents) and continue throughout adolescence and into early adulthood. It is for this reason that we use the term interpersonal violence (IPV), to highlight the developmental and intergenerational nature of violence in relationships and that violence in relationships is not exclusive to violence between partners. For many women, the struggle with substance use arises from their experiences of trauma and violence in relationships across development. Though there are many types of trauma for women, we will focus on interpersonal trauma, or trauma associated with violence in relationships. In this review paper, we discuss developmental mechanisms—neurological

and relational—through which early and ongoing experiences with IPV can lead to substance use. Though these developmental mechanisms may exist for both women and men, this paper will focus on what we know about these processes among women. That is, through clinical experience working with women who have substance use issues and a review of literature on women's substance use and relationships, this paper will explore the ways in which substance use may be a mechanism for coping with negative and traumatic relational experiences that many women have experienced since childhood and across development. Further, given that women are more often victims of interpersonal violence than are men [3], we focus on the pathways to substance use for women using a developmental-relational approach, and describe the importance of gender-specific programming for women who have experienced IPV and who use substances.

2. A Developmental-Relational Approach to Understand the Impact of IPV for Women

A developmental-relational approach is one in which the bidirectional associations between development and relationships are emphasized as important processes in understanding behavior and functioning. From a developmental perspective, we consider the individual and environmental contributions to development, and focus on how the transactional nature of these contributions changes and grows over time throughout childhood, adolescence, and adulthood [4]. From this perspective, developmental experiences are seen as contributing to cascading trauma and violence in relationships and future substance use, given their impact on neurological and relational mechanisms. In working with substance using women and their children, we recognize that negative developmental experiences must be attended to across the lifespan to promote optimal neurological and relational development. From a relational perspective, we consider development—growth within the individual, the environment, and within and across systems—as coming about through relationships with others [5, 6]. Thus, the developmental-relational approach places individuals' behaviors (e.g., substance use) within a larger context that includes an understanding of their history and ongoing development over time, and a focus on how behavior is shaped through relationships within the broader systemic context.

This approach has been established through our research and clinical understanding of women attending a community-based prevention and early intervention program in Canada called Breaking the Cycle (BTC) [7,8]. Since 1995, Breaking the Cycle has provided comprehensive, integrated supports for mothers who are struggling with substance use issues, and their young children aged 0-6 years. Programming at BTC is directed towards women, their children, and the mother-child relationship. Over the past 25 years, we have come to understand that the vast majority of women who struggle with substance use issues in their adult lives have been traumatized in relationships since early childhood and across development. The lifelong struggle with trauma in relationships is often part of the experience faced by women with substance use issues. A developmental-relational approach can be used to more fully understand this link, as follows. (1) Experiences of interpersonal violence can be viewed as disruptions to normative developmental processes across the lifespan that can create and perpetuate lifelong trauma; (2) Interpersonal violence can begin in early childhood, including experiences of child maltreatment and neglect, and have enduring and compounding impacts, often continuing into adolescence and adulthood [9]; (3) Experiences of trauma in relationships can also involve witnessing violence between parents or caregivers, being manipulated by one caregiver to abuse the other, experiencing the aftermath of violence against a caregiver, and suffering the consequences of financial abuse, among others [10–12]; (4) Early traumatic experiences can also include household dysfunction, including conflictual parental divorce or separation, parental incarceration, as well as living with a parent experiencing mental health or substance use issues [13,14]. These adverse childhood experiences (ACEs) are consistently shown to relate to poor mental and physical health outcomes and wellbeing in adulthood [14–16]. All of these experiences are relational in nature, in that they disrupt positive bonds between caregivers and children, they damage a child's sense of safety in relationships, and they disrupt the development of secure attachment between children and their parents [17,18]. These disruptions can have long-term consequences across development and

into adulthood [19,20]. As such, it is essential to understand developmental experiences of trauma in relationships as pervading beyond early childhood, contributing to a cascade of trauma and violence in relationships given their impact on adult life, including difficulties forming healthy relationships, difficulties in parenting, ineffective coping strategies, and problematic substance use. It is also vital to consider the potential underlying neurological and relational mechanisms that may contribute to these cascading effects.

These links are evident in our work with women who struggle with substance use at BTC. Women's initiation of substance use, problematic substance use, use of substances to cope, and inability or difficulty abstaining from substance use stem from the lifelong trauma of adverse relational experiences and their impact on development. For instance, in a sample of 160 women who had substance use issues and received services at BTC, the majority reported experiences of interpersonal violence in childhood (see [21] for a full description of the sample and methodology). Specifically, 88% of women reported a history of physical abuse, with almost half of those women (49%) reporting that the abuse began when they were 10 years or younger (see Table 1). Eighty-nine percent of women reported a history of emotional abuse, with over half of those women reporting that the abuse started before adolescence (12 years or younger). Finally, 76% of women reported a history of sexual abuse, with almost a quarter (22%) of those women reporting that the abuse began when they were five years old or younger. Almost half (43%) of women had involvement with the child welfare system when they were children.

Table 1. Percentage of Women Reporting Histories of Abuse Across Childhood.

Onset of Abuse	Physical Abuse (%)	Emotional Abuse (%)	Sexual Abuse (%)
Percentage of women reporting histories of abuse (total)	88	89	76
Onset (among women who reported abuse)			
"As long as I can remember"	5	10	0
Early childhood	9	7	22
Childhood	35	33	20
Late childhood	5	4	6
Early adolescence	6	6	13
Adolescence	15	24	12
Late adolescence	3	1	8
Adulthood	22	15	19

Early childhood = 0–5 years. Childhood = 6–10 years. Late childhood = 11–12 years. Early adolescence = 13–14 years. Adolescence = 15–16 years. Late adolescence = 17–18 years. Adulthood = 19 years or older.

The overwhelming majority of women at BTC have used or are currently using alcohol, and many reported that their alcohol use began at very young ages: 19% of women reported first using alcohol when they were 10 years old or younger (in the same sample of 160 women; [21]). Problematic alcohol use also began early: 7% reported that problematic use began in childhood, and an additional 56% reported that problematic use began in adolescence. Women also reported that they started to use other substances at very young ages (12 or younger), with 24% of those who used reporting early cannabis and 6% reporting early cocaine or crack cocaine use. Of the women who used, many reported that their use of these substances became problematic in adolescence (prior to age 19): 77% cannabis, 74% nicotine, 66% hallucinogens, 64% amphetamines, 43% barbiturates, 39% cocaine, 38% heroin, and 27% crack cocaine. As girls and teenagers, these women began using substances as a means of coping with the relational trauma that they were experiencing and/or had experienced. One BTC woman talked about her history of physical abuse at the hands of her mother, who was also a substance user:

> *All of the things I witnessed at home really affected me in my early teenage years . . . and at that point I became addicted myself. And so, even though I kind of had a realization that I was following in my mom's footsteps, I wasn't really able to do anything about it, and my own cycle of addiction kind of took over at that point.* [22] (p. 98)

Another woman discussed how her early experiences of violence and trauma had lifelong consequences on her patterns of thought and behavior.

> *It creates a lifetime of fear because you've spent a lifetime like that, walking on eggshells, not knowing ... just expected to duck the next blow ... It's something that's been one of the hardest things in my life to challenge and attempt to change, because it's something that I've been formed like ... I have, you know, severe reactionary issues when it comes to safety, and conversely overreactive sense of safety.* [23] (p. 22)

Our research has also identified the developmental pathways leading to continued problematic substance use. These pathways have been discussed as dynamic cascades or developmental cascades: early risk factors increase exposure to more risk processes that develop across the lifespan [24–26]. From a developmental-relational perspective, we have begun to understand how early experiences of interpersonal violence can cascade to impact and impede development across development and into adulthood. Without healthy relationships, relationship capacity is delayed and relationship perspectives are skewed (e.g., women learn to expect violence as a part of close relationships; see Section 2). As one BTC woman reported:

> *There was all this violence in our house, and I thought that was normal, and I thought that's what I was supposed to be growing up. And I was receiving violence from whomever, and I just let that happen ...* [27] (p. 15)

The continued impact of these relationship challenges is also evident in women's ongoing experiences of violence, with 14% of women reporting that their current partner relationships have been abusive, and 13% of women reporting that their past partner relationships were violent (see [21] for sample details). Other close relationships appear to be impacted as well, as many women reported little to no contact with their families of origin (little to no contact with mothers, 31%; and fathers, 47%), or reported difficult and/or abusive relationships with their mothers (25%) and fathers (9%). One BTC woman talked about the effect of violence in her family:

> *[It] de-sensitized you a little bit ... my parents were so abusive towards each other, and there was no respect or love or affection, and there was always turmoil, turmoil, turmoil – we were moving, there was fighting, there was police, there was violence – that I found out even as an adult, because that was so normal for me, if my life was going along smoothly and calmly, it's like unfamiliar so I create this chaos, this craziness, because that feels more comfortable to me.* [27] (p. 16)

Through the work conducted at BTC, it is also evident that an intervention focusing on supporting healthy relationships can help to decrease women's problematic use of substances. For instance, in a comparison of BTC to a standard integrated treatment program that included a focus on addiction treatment but did not focus explicitly on supporting and enhancing relationship capacity, it was found that women attending BTC had improvements in relationship capacity, mental health symptoms, as well as addiction severity [28]. Indeed, improvements in relationship capacity among women at BTC further predicted decreases in addiction severity, even accounting for other improvements, including social support, mental health, and abstinence self-efficacy. In another study, it was found that the duration of service use at BTC was associated with improvements in women's substance use (as well as improvements in the parent-child relationship) [21]. Further, the earlier that woman began the relationship-based intervention (i.e., during pregnancy as opposed to postnatally), the more positive the outcomes. These studies provide further support for the critical link between relationship capacity and substance use issues, as evidenced by improvements based on attending a relationship-based and trauma-informed intervention program.

It should be noted that there are many co-occurring factors that compound the life challenges of women with substance use issues; these factors include poverty, low educational attainment, unstable housing, criminal involvement, and mental health difficulties (often untreated). Women at BTC

reported high levels of depression and anxiety and a lack of social support from both family and friends [7]. These factors, as well as a host of other factors, are implicated in the complex interplay of, and challenges associated with, problematic substance use for women, particularly in the context of parenting. Though we won't address these factors in detail here, they are often present and play a critical role in women's continued substance use. Thus, we acknowledge the impact of these additional factors, but focus on using a developmental-relational approach to elucidate the role of prior trauma and experiences of relational violence across the lifespan in our understanding of women's substance use.

3. Origins of Substance Use in Women Exposed to IPV

Research offers converging evidence that exposure to IPV in childhood and across development contributes to future substance use issues. Robust effects are found specifically for females within the literature, with substance use issues persisting into middle adulthood for only female (and not male) victims of childhood maltreatment [29–32] and physical abuse [33]. Although there are a few studies on the mechanisms of the intergenerational pathway from IPV in childhood to subsequent substance use issues, several processes have been proposed. The disruptive effects of early experiences of IPV on psychosocial functioning, the stress response system, and the limbic system may lead to heightened risk-taking behaviors, such as the use of substances [34,35]. Substance use may also serve as an external mechanism to cope with, or escape from, the negative effects of trauma across development [36]. Several studies have indicated that maltreatment may result in greater risk for the development of internalizing symptoms in females than in males (e.g., [37–40]). This differential risk could account, in part, for the higher incidence of internalizing problems in females relative to males (e.g., [41,42]). Therefore, as an external coping mechanism, substance use is thought to be particularly notable in women given that they may be more prone than men to internalizing symptoms due to early experiences of IPV, which can elicit self-destructive behaviors (i.e., substance use) [43]. Because substance use does not directly address the negative effects of trauma, the need for substances may persist or increase over time, thus heightening the risk for substance use issues and dependence [30]. Given that women exposed to early IPV are also more likely to have low self-esteem or low perceived self-efficacy, substance use issues have been proposed as a means through which they enhance their self-esteem [30]. Chronic substance use may also arise from these women's low perceived self-efficacy in regards to maintaining abstinence [36]. In addition, substance use may be a means through which women are able to reduce feelings of isolation and loneliness, gain control over negative experiences, or engage in self-destructive behavior [43]. Externalizing behaviors, antisocial behaviors, and abuse-related posttraumatic stress disorder (PTSD) may mediate the relation between early experiences of IPV and future substance use issues [30]. In the following sections, we discuss the mechanisms that appear most significant in leading women to substance use within a developmental-relational perspective.

3.1. IPV and Neurological Development

Exposure to IPV can negatively impact neurological development, affecting physiological mechanisms, brain structure and functioning, as well as overall neuropsychological development. Although neurological development is most vulnerable to the effects of IPV during early childhood, these detrimental effects persist across the lifespan. Impairments in neurological development impact other developmental domains, including physical, cognitive, and social-emotional development. The literature highlighted in this section predominately captures studies on male and female victims of childhood maltreatment; however, some studies are specific to females with histories of childhood maltreatment or intimate partner violence (e.g., [44,45]).

3.1.1. Physiological Mechanisms

Exposure to IPV can interfere with the sympathetic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis. Exposure to IPV can induce chronic psychological stress that results in repeated activation of the HPA axis and subsequent HPA axis dysfunction [44,46,47].

Children exposed to IPV often have elevated baseline cortisol (stress hormone) levels, as well as a faster increase and slower decline of cortisol following stress exposures [48]. At chronically elevated levels, cortisol can have neurotoxic effects on "nonessential" brain regions during the stress response [44]. Neurotoxic effects have subsequent consequences on brain structure and functioning [49], which can persist into adulthood [44,46]. Chronic cortisol elevation also leads to increased arousal, anxiety, aggression, hypervigilance, sympathetic nervous system stimulation, depression, and PTSD [50].

3.1.2. Brain Structure and Functioning

Many areas of the brain undergo neurobiological changes upon exposure to chronic stress via IPV across development. Research has identified the effects of IPV on brain structure and functioning in the midbrain, sensory cortices and fiber tracts, corpus callosum, and dopaminergic reward circuit (e.g., [51]). There is also a substantial body of research on the structural and functional effects of IPV on the stress response system through the HPA axis, which is expanded upon below.

The plasticity of the fetal, infant, and early childhood brain creates a heightened sensitivity to chemical influences of chronic stress exposure [52]. Many glucocorticoid receptors exist within the amygdala, hippocampus, and prefrontal cortex (PFC), which are part of a network of connected regions involved in the stress response. Exposure to early stressful experiences alters the size and neuronal architecture of these regions, contributing to functional differences in learning, memory, and executive functioning [46,53]. Chronic exposure to stress is associated with overactivity in the amygdala and orbitofrontal cortex, as well as the loss of neurons and neuronal connections in the hippocampus and medial PFC [53]. Functionally, these structural changes result in more fear and anxiety due to the hyperactivation of the amygdala, alongside lower higher-order PFC control [54].

The hippocampus is involved in the HPA axis and modulates cortisol levels; however, chronic stress diminishes this capacity due to hippocampal volume loss, which is linked to memory and mood-related impairments [53,54]. Chronic stress exposure can lead to impairments in memory encoding and contextual learning, which are vital for discriminating conditions of danger from safety [44,53]. Decreased neuronal volume in the PFC impairs executive and cognitive functioning; the loss of neuronal connections between the hippocampus and the PFC hinders the PFC's regulation of heightened cortisol levels and the regulation of autonomic balance between sympathetic and parasympathetic nervous system responses [46,53]. Chronic stress also induces architectural and connection changes within and between the hippocampus, PFC, and amygdala, potentially contributing to variability in stress-responsiveness [55]. These structural changes can functionally heighten reactivity to mild levels of stress and impair coping abilities during future stress both in childhood and across the lifespan (e.g., [52]).

3.1.3. Neuropsychological Development

Although research has only begun to address the structural and related functional impairments in brain development due to exposure to IPV, there is a substantial body of research on the resulting neuropsychological impairments in executive functioning and emotion regulation. Executive functioning enables flexible, context-appropriate, goal-oriented emotional and behavioral responses and is largely localized in the PFC [56]. Exposure to IPV during childhood is associated with the development of impairments in executive functioning processes, which, in turn, are associated with increased risk for PTSD and depression [46]. Deficits in executive functioning due to trauma in relationships may accumulate across development, persisting through adolescence and into adulthood; more pronounced deficits have been found with an earlier onset of trauma (e.g., [57]). Deficits in executive functioning pose heightened risk for future substance use issues; therefore, executive functioning deficits may represent a mechanism in the intergenerational pathway between IPV and substance use [58].

Differences in the structure, function, and connectivity of prefrontal regions underlying executive functioning processes are also associated with impairments in emotion regulation in adults with

PTSD due to IPV [45,59]. Emotion regulation involves strategies to manage cognitive, behavioral, and physiological responses to emotions [46] and is largely localized to the anterior cingulate cortex within the PFC [44]. Children exposed to IPV often have persisting deficits in emotion regulation, including attentional biases to negative or threatening stimuli, trouble recognizing emotions, and difficulty effectively modulating or reappraising distress [46]. Problems with emotion regulation are also correlated with lower levels of social competence, difficulties with peer relationships, aggressiveness, and disruptive behaviors that can impact functioning into adulthood [47]. Additionally, emotion dysregulation contributes to mental health problems, including PTSD and depression [60]. Children exposed to IPV may struggle with emotional awareness, understanding, and regulation because such capacities are developed, in part, through interactions with supportive caregivers and adults (e.g., [61]). Children who experience IPV often receive less positive modeling of emotional labeling, expression, and regulation behaviors, which leads to deficits in appropriate emotion regulation capacities [46]. Exposure to childhood IPV is linked to emotion regulation deficits across the lifespan; however, emotion regulation is most impacted by chronic trauma in early development [46]. Given that deficits in emotion regulation pose heightened risk for future substance use issues, emotion dysregulation may represent a critical mechanism in the pathway between IPV and substance use [62,63].

3.2. IPV and the Development of Relational Capacity

Exposure to IPV can negatively impact the development of relational capacity across various levels, affecting attachment, internal working models, and subsequent interpersonal relationships. The impact of IPV on the development of relational capacity contributes to future substance use issues. In fact, the link between difficulties in relationships and substance use may be particularly strong for women. Relationships are important to women, and women who use substances may have less social support and are more likely than men to have important people in their lives who also struggle with substance use issues (e.g., families of origin, partners) [64–67]. Further, male partners with substance use issues may be resistant to and unsupportive of their female partners' attempts to access treatment [68]; women may, therefore, be hesitant and fear damaging these relationships by engaging in substance use treatment. Thus, women's initiation and continuation of substance use (including relapse) may often occur in the context of relationships, or as a result of challenges in relationships. We will describe the pathways through which early and enduring experiences of violence in relationships can affect ongoing relationship challenges into adulthood, which in turn can impact women's substance use.

3.2.1. Attachment

Attachment theory postulates that children are predisposed to seek and sustain relationships that satisfy their intrinsic need for security [69]. The failure to develop secure attachment reverberates across the lifespan in the form of difficulties with relationships, self-esteem, and the regulation of emotions and impulses [70]. Predictable, sensitive, and responsive caregiving during times of stress is crucial for healthy child development [47]; however, for children exposed to IPV, chronic stress often occurs within the context of the caregiving relationship. Research has consistently demonstrated that maltreated children have higher rates of insecure attachment, namely disorganized attachment, relative to non-maltreated children, even when compared to other high-risk children (e.g., [71]). Similarly, maltreated children have been consistently found to be at heightened risk for future substance use issues [72–74], with effects persisting into middle adulthood for females only [29–32]. Children classified as having disorganized attachment often vacillate between avoidant and anxious parent-child behaviors due to conflicting and unpredictable caregiver responses; these children often have poor outcomes across many domains, including lower academic achievement and self-esteem, poor peer interactions, atypical classroom behaviors, cognitive immaturity, and externalizing behavioral concerns (e.g., [70]). Disorganized attachment is further associated with poor mental health outcomes in adulthood, including borderline personality disorder and dissociative identity disorder [75]. Although

much research has indicated the relationship between maltreatment and future substance use issues, a growing body of literature has begun to address attachment as a key mechanism in this relationship [74]. Attachment insecurity with caregivers poses a heightened risk for future substance use issues in adolescence and adulthood [76–80]. There is also strong evidence for the temporal precedent of attachment issues, with insecure attachment predating the onset or increased use of substances across time [81].

3.2.2. Internal Working Models

The characteristic patterns of caregivers' responses to children's expression of attachment behavior accumulate over time [82]. These patterns are organized into schematic cognitive representations of the parent-child relationship, theorized as internal working models of attachment [69,83]. Children use their internal working models of attachment to perceive and appraise attachment-related information and to plan future action [83]. Based on the internal working model of attachment, children develop expectations about the self and others: the self as worthy or unworthy of care and protection and others as available or unavailable to provide care and protection when needed [69]. Children exposed to IPV develop negative models of themselves as unworthy of care and protection, and models of their caregivers as rejecting and unreliable [71]. Although internal working models of attachment develop across the lifespan alongside changes in cognitive capacity and attachment relationships, the models show great stability throughout life [84].

Children who experience IPV early in life may transfer their negative internal working models of attachment to future relationships, thus expecting the same abuse in adult relationships and viewing such abuse as normative [85,86]. Therefore, according to attachment theories, IPV in early caregiving relationships initiates a developmental cascade in which insecure attachments continue to occur across the lifespan, due to existing insecure internal working models [87]. In addition to impacting attachment in future relationships, internal working models contribute to one's ability to regulate emotions autonomously in the absence of an attachment figure [77]. As discussed above, deficits in emotion regulation contribute to future substance use issues, thus representing a mechanism in the pathway between IPV and substance use given the impact on attachment and internal working models [62,63]. Furthermore, IPV and insecure attachment are more common in children whose parents also experienced IPV and insecure attachment [88]. Therefore, there is intergenerational transmission of both attachment styles and IPV (e.g., [89–91]). Attachment styles and the development of internal working models have a putative mediating role in the intergenerational transmission of IPV and subsequent substance use issues, given that IPV becomes a frame through which people come to understand relationships, and substance use becomes a means through which people regulate emotions in the absence of secure attachment and positive internal working models [76,77,87]. This may be particularly problematic for women, given the importance women place on relationships and the lack of social support that substance using women often face (in comparison to men) [64,65].

3.3. A Model of IPV and Substance Use Across the Lifespan

Overall, early and enduring experiences of IPV negatively impact neurological development, namely physiological mechanisms, brain structure and functioning, as well as neuropsychological development (i.e., executive functioning and emotion regulation). Experiences of IPV across development are traumatic and disrupt the development of relational capacity, specifically attachment and internal working models that affect relationships characterized by IPV across the lifespan [71]. IPV negatively impacts executive functioning [46] and emotion regulation [44,46,47], which are also impaired through substance use issues [92]. There is a strong relationship between childhood IPV and future substance use issues [30], thus compounding the negative effects that both factors have on executive functioning and emotion regulation. These neuropsychological deficits interact to divert development onto a pathway toward unhealthy relationships. At the same time, these deficits elicit substance use as a necessary means of coping (see Figure 1 for an illustrative model).

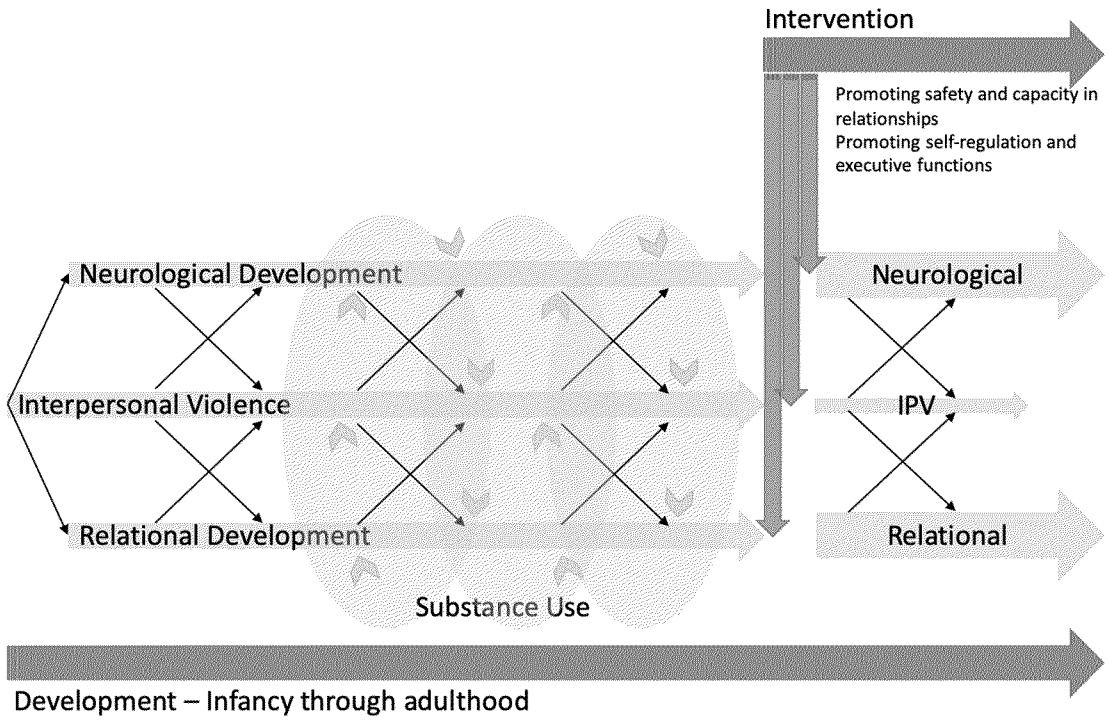

Figure 1. A model of interpersonal violence (IPV) and substance use (SU) across the lifespan, highlighting the bidirectional effects of IPV on neurological and relational development.

4. Conclusions

In this review paper, we have outlined how a developmental-relational approach helps us understand the link between women's experiences of violence in relationships across development and later substance use issues. Potential mechanisms that underly this pathway include impairments to neurological development, namely physiological mechanisms, brain structure and functioning, and neuropsychological development (i.e., executive functioning and emotion regulation), as well as impairment to the development of relational capacity (i.e., attachment and internal working models). Though there is a paucity of research specifically examining differences in these links between women and men (particularly regarding the neurological effects of childhood maltreatment), there is some evidence that early experiences of IPV may be particularly problematic for women and may lead to enduring substance use into adulthood. For instance, women may internalize trauma and turn to substances as a coping mechanism more so than men [43], and women's initiation and continuation of substance use seems to occur often in the context of relationships [66,67], which are negatively impacted by early experiences of IPV.

Through this review, we have highlighted that IPV is a lifelong disrupting force on women's neurological development and capacity for relationships, which can lead women to use substances, as well as to further developmental and relational impairments. These factors can perpetuate the pathway of IPV across the lifespan, while reinforcing substance use as a necessary means of coping. A developmental-relational approach to understanding substance use, therefore, has important implications for clinical practice. In a recent review, we outlined specific strategies that can be used to promote women's self-regulation and executive functions (e.g., supporting time management through reminder phone calls and predictable appointments), and promoting safety and capacity in relationships (e.g., staff training in trauma-informed practice) [93]. Attention should also be paid to strategies that may be uniquely important for women (e.g., including a buzzer entry system; not allowing male partners in the center) and mothers (e.g., providing child-minding and child development programming in the same program location). As such, by using a developmental-relational approach to understand women's pathways to substance use, we can begin to engage in a process of reparation

and reintegration for women whose neurological development, sense of self, and capacity to form relationships has been significantly impacted by experiences of violence in relationships.

Author Contributions: For this article, several authors gave their individual contributions as follows: Conceptualization, N.C.Z.A., M.M., M.L., and D.J.P.; investigation, N.C.Z.A. and B.C.B.; writing—original draft preparation, N.C.Z.A., M.M., and B.C.B; writing—review and editing, M.L. and D.J.P; supervision, M.L. and D.J.P.

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Conflicts of Interest: The authors declare no conflict of interest.

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From: Serrano, Blanca (PHAC/ASPC)
Sent: 2019-12-04 4:25 PM
To: Tam, Dr Theresa (PHAC/ASPC); Rendall, Jennifer (PHAC/ASPC)
Subject: FW: Paper Published in the Journal of Environmental Research and Public Health
Attachments: Andrews et al 2019 -Using a Developmental Relational Approach to Understand the Impact of Interpersonal Violence.pdf

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Good afternoon,
I wanted to share the attached article from our CAPC/CPNP Breaking the Cycle project in Toronto. The paper has recently been published in the International Journal of Environmental Research and Public Health. It highlights the important work and services provided to support families with complex needs. Hope it is of interest.

Best,
Blanca Serrano-
PHAC Ontario

From: [redacted]
Sent: 2019-12-04 3:20 PM
To: Ramos, Rosetta (PHAC/ASPC)
Cc: Serrano, Blanca (PHAC/ASPC)
Subject: FW: Paper Published in the Journal of Environmental Research and Public Health

Hi Rosetta and Blanca,

I hope this email finds you both well.

I'm delighted to let you know that our paper **Using a Developmental-Relational Approach to Understand the Impact of Interpersonal Violence in Women Who Struggle with Substance Use** has been published in the International Journal of Environmental Research and Public Health. The paper draws on our work in Mothercraft's Breaking the Cycle program (CAPC/CPNP) and in the Building Connections family violence initiative. It examines how early exposure to violence in relationships can impact neurological development, brain structure and functioning, and neuropsychological development across the lifespan. The paper also discusses the impact of exposure to violence on the development of relational capacity, including attachment, internal working models, and interpersonal relationships across the lifespan, and how these developmental pathways can lead to continued problematic substance use in women. Blanca, I'm cc'ing you because of the relevance of the paper to infant mental health.

You'll find the paper attached, and feel free to disseminate further.

Wishing you both a good evening.

[redacted]

ATIA - 19(1)

[redacted]

From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-01 4:33 PM

To: McLeod, Robyn (PHAC/ASPC)

Subject: Parking receipt for today

I forgot to ask for a receipt for my parking st the Rideau Centre.
I parked there at 9:15 and walked up to parliament hill ahead of the 9:45 start. I finished the reception at the NAC just after 1pm and walked back so I think I should claim 4 hours.

According to the website the cost of parking is $2 for first 30 mins and then $2.25 for each 30 minutes after that.

TT

Sent from my iPhone

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-16 8:14 PM
To: Russo, Laura (HC/SC)
Cc: Macey, Jeannette (PHAC/ASPC); Johnstone, Marnie (PHAC/ASPC)
Subject: RE: PHAC EC DAILY and LA: Monday December 16, 2019

Hi Laura,

I am still a bit unclear as to what testing HC performs versus what the manufacturer performs according to HC requirements. If I get asked questions on vaping cannabis post CPHO report release, I would feel better if I could speak with HC program if that can be arranged tomorrow. Who would I speak with at HC? Can this be arranged with Eric Morrissette?

From: Johnstone, Marnie (PHAC/ASPC)
Sent: 2019-12-16 7:00 PM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: Macey, Jeannette (PHAC/ASPC)
Subject: FW: PHAC EC DAILY and LA: Monday December 16, 2019

FYI – request from Daily for a copy of the clarifications sent to Second Opinion reporter.

From: Russo, Laura (HC/SC) <laura.russo@canada.ca>
Sent: 2019-12-16 3:50 PM
To: Johnstone, Marnie (PHAC/ASPC) <marnie.johnstone@canada.ca>
Subject: FW: PHAC EC DAILY and LA: Monday December 16, 2019

This follow-up from Daily should have gone to you instead of Jeanette.

From: Butara, Frank (HC/SC) <frank.butara@canada.ca>
Sent: 2019-12-16 2:04 PM
To: Macey, Jeannette (PHAC/ASPC) <jeannette.macey@canada.ca>
Cc: Morrissette, Eric (HC/SC) <eric.morrissette@canada.ca>; HC.F SCD DGO / BDG DCS F.SC <hc.scddgobdgdcs.sc@canada.ca>; Russo, Laura (HC/SC) <laura.russo@canada.ca>
Subject: FW: PHAC EC DAILY and LA: Monday December 16, 2019

Hi Jeannette,

As requested in the email below (highlighted in yellow), please find attached the clarification that was sent to the CBC.

Thanks!

Frank

Frank Butara
Communications Executive/ Gestionnaire en Communications
Health Canada / Santé Canada
613-818-1917

- Dr. Tam would like to see the clarification that was sent to the CBC reporter on cannabis vaping over the weekend. **Frank/Media Relations to follow-up.**

ATIA - 19(1)

From: Morrissette, Eric (HC/SC) []
To: [redacted]
CC: [redacted]
Subject: Health Canada
Date: Saturday, December 14, 2019 18:55:25

Good evening,

Further to the publication of the Second Opinion excerpt by [redacted] earlier today, Health Canada would like to clarify a few points.

Health Canada and the Public Health Agency are monitoring closely the vaping illness situation in Canada in the U.S., and are in close contact with the U.S. Food and Drug Administration and the U.S. Centers for Disease Control and Prevention to better understand their investigations into the cause or causes of the illnesses.

To date, investigations have indicated that most of the individuals who have fallen ill have vaped products that contain THC obtained from informal sources, such as friends and family, or through the illegal market, and that vitamin E acetate has been identified as a chemical of concern.

There is currently a vast illegal market for cannabis vaping products in Canada and some Canadians choose to use cannabis vaping products despite their inherent risks. Providing legal access to strictly regulated cannabis products is one of the best ways to protect Canadians from the risks posed by products from the illegal market, which are not subject to any standards, testing or oversight for safety or quality.

The *Cannabis Act* and its Regulations establish strict controls to help lower the known and foreseeable risks of cannabis use and better safeguard the health of Canadian consumers, including those additional risks posed by the illegal market, and to enable Health Canada to respond to emerging health issues in a timely manner.

For example, cannabis vaping products may be produced only by a processor with a licence from Health Canada. Licensed processors must comply with strict requirements

and standards, including Good Production Practices, product formulation restrictions, quality standards on ingredients, limits on microbial and chemical contaminants and mandatory testing requirements. These requirements are backed by Health Canada regular and unannounced inspections.

Health Canada's priority is the health and safety of Canadians. Given recent concern about vaping-associated lung illnesses, as a precautionary measure, Health Canada has obtained additional information from licensed processors on the ingredients and product formulation of certain vaping products they intend to sell in Canada's legal market. Health Canada has proactively assessed this information to determine whether these products contain any expressly prohibited ingredient, or any other substance or thing that may cause injury to the health of the user when the product is used as intended or in a reasonably foreseeable way. Health Canada has reviewed all additional information received to date and has notified a few licensed processors of certain concerns where warranted. In these cases, appropriate action has been taken by the licensed processors to protect the health and safety of Canadians. Two specific ingredients of concern, namely vitamin E acetate and diacetyl, have not been identified in any of the submissions from licensed processors.

Licence holders are required to test vaping liquids containing cannabis for contaminants and to maintain records of the test results, and Health Canada can verify these test results during inspections and take samples for independent testing.

In developing the regulations governing the production and sale of new cannabis products, including vaping products, Health Canada took into consideration risks associated with various routes of exposure to cannabis. Inhalation poses potential health risks because of the greater sensitivity and vulnerability of lung tissue to certain chemicals. For this reason, some of the regulatory requirements pertaining to inhalable cannabis extracts, such as vaping products, are even more stringent than those for other non-inhaled cannabis products.

Ingredients that can be used in cannabis vaping products are restricted. It is prohibited for cannabis extracts, including cannabis vaping products, to contain anything that may cause injury to the health of the user when the cannabis product is used as intended or in a reasonably foreseeable way. The use of sugars, sweeteners or sweetening agents as ingredients in cannabis vaping products is not allowed. Similar to the rules for nicotine vaping products, the use of any ingredient listed in Column 1 of Schedule 2 to the *Tobacco and Vaping Products Act* is also not permitted in cannabis vaping products.

This includes prohibiting the addition of colouring agents, mineral nutrients and vitamins, including vitamin E acetate.

All cannabis licence holders must comply with the provisions of the *Cannabis Act* and the *Cannabis Regulations,* including not selling a cannabis product that contains anything that may cause injury to the health of the user when used as intended or in a reasonably foreseeable way.

Regards,

Eric

Eric Morrissette

Chief of Media Relations, Communication and Public Affairs Branch

Serving Health Canada and the Public Health Agency of Canada | Government of Canada

eric.morrissette@canada.ca | Tel: 613.957-2985 | Mobile : 613-219-6556

Chef des relations avec les médias, Direction générale des communications et des affaires publiques

Au service de Santé Canada et de l'Agence de la santé publique du Canada | Gouvernement du Canada

eric.morrissette@canada.ca | Tel: 613.957-2985 | Mobile : 613-219-6556

Subject: PLACEHOLDER: Review of Performance Measurement & Qualitative Interview Guide

Start:	Wed 2020-01-22 2:00 PM
End:	Wed 2020-01-22 2:45 PM
Show Time As: Tentative	
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Tam, Dr Theresa (PHAC/ASPC)
Required Attendees:	Rendall, Jennifer (PHAC/ASPC)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-14 10:51 AM
To: [redacted]
Subject: Re: Planned letter to the Canadian Council of Ministers of the Environment re: Marine water human sewage contamination leading to norovirus illnesses

---

Thanks for the heads up [redacted]

I hope you get a bit of well earned rest too.

Happy holidays and best wishes for an inspiring 2020.

TT

Sent from my iPhone

> On Dec 14, 2019, at 07:08, [redacted] wrote:
>
> Hi Theresa,
> Just wanted to give you a heads up that this letter will be sent to the CCME in case questions come your way.
> Hope you get a break over the holidays!
> My best,
> [redacted]
>
>
>
>
> From: [redacted]
> Sent: Friday, November 22, 2019 2:29 PM
> To: [redacted]
> Cc: [redacted]
> Subject: Planned letter to the Canadian Council of Ministers of the
> Environment re: Marine water human sewage contamination leading to
> norovirus illnesses
>
> Hi [redacted] and [redacted],
>
> We would like to give you a head's up that EHS is planning on sending a letter to the Canadian Council of Ministers of the Environment on behalf of the Environmental Transmission of Norovirus into Oysters (ETNO) Working Group, a working group that EHS chairs.
>

> If you have any questions, concerns or, if there is anyone else that you would like us to connect with prior to sending, please let us know.
>
> I have attached a copy of the letter and an executive summary of the working group's report and included background information below.
>
> Warmest regards,
[redacted]
>
>
> Background:
> The ETNO Working Group was formed during the 2016/17 norovirus outbreaks. The group worked with the Public Health Agency of Canada to investigate the source(s) of marine water pollution that contaminated oyster farms causing hundreds of gastroenteritis illnesses associated with norovirus in consumers.
> The working group included members from the shellfish industry, federal and provincial regulators, health specialists and scientific experts.
> The working group developed a full report on their findings and recommendations. This report outlines all of the work done by the working group and the document has been publicly available on the website since October 2018. http://www.bccdc.ca/health-professionals/professional-resources/norovirus-marine-water-contamination. At the time the report was posted, BCCDC and PHSA senior leadership were made aware.
> The working group continues to meet on an annual basis.
>
> Purpose of the letter:
>
> · To inform the Canadian Council of Ministers of the Environment of the working group's concerns regarding waste management practices affecting the environment, shellfish aquaculture and public health in British Columbia.
>
> · To request specific actions from governing agencies.
>
> · To invite representatives of the Ministers of Environment to the annual update meeting on this issue in the spring of 2010.
>
> · The letter does not contain any new information that is not already in the report.
> Who else will be notified about this letter:
>
> · All members of the working group are aware and have consented to the letter being sent. This includes reps from the Health Protection Division of the Ministry of Health.
>
> · [redacted] is aware and will also flagging the sending of this letter with government communications
>
>
>
>
[redacted]
>

> I acknowledge that I live and work on the ancestral, traditional and unceded territories of the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and sel̓íl̓witulh (Tsleil-waututh) Nations.
>
>
>
> <CCME letter from ETNO WG_updated Nov 2019.docx> <Executive
> Summary_Final.pdf>

ATIA - 19(1) ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)

Sent: 2019-12-14 11:25 AM

To: Namiesniowski, Tina (PHAC/ASPC); Elmslie, Kim (PHAC/ASPC)

Subject: Fwd: Planned letter to the Canadian Council of Ministers of the Environment re: Marine water human sewage contamination leading to norovirus illnesses

Attachments: CCME letter from ETNO WG_updated Nov 2019.docx; ATT00001.htm; Executive Summary_Final.pdf; ATT00002.htm

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FYI

While requests are not directed at us, HC and PHAC were part of the Working Group cited below.

Tina, Do you want me to forward to Steve Lucas and HC ADMs as the heads up came from the [redacted] in BC?

Sent from my iPhone

Begin forwarded message:

From: [redacted]@gov.bc.ca>
Date: December 14, 2019 at 07:07:15 EST
To: "Theresa Tam (PHAC/ASPC)" [redacted]
Subject: Fwd: Planned letter to the Canadian Council of Ministers of the Environment re: Marine water human sewage contamination leading to norovirus illnesses

Hi Theresa,
Just wanted to give you a heads up that this letter will be sent to the CCME in case questions come your way.
Hope you get a break over the holidays!
My best,
[redacted]

[redacted]

From: [redacted]
Sent: Friday, November 22, 2019 2:29 PM
To [redacted]
Cc [redacted]
Subject: Planned letter to the Canadian Council of Ministers of the Environment re: Marine water human sewage contamination leading to norovirus illnesses

Hi [redacted] and [redacted],

We would like to give you a head's up that EHS is planning on sending a letter to the Canadian Council of Ministers of the Environment on behalf of the Environmental Transmission of Norovirus into Oysters (ETNO) Working Group, a working group that EHS chairs.

If you have any questions, concerns or, if there is anyone else that you would like us to connect with prior to sending, please let us know.

I have attached a copy of the letter and an executive summary of the working group's report and included background information below.

Warmest regards,
[redacted]

Background:
The ETNO Working Group was formed during the 2016/17 norovirus outbreaks. The group worked with the Public Health Agency of Canada to investigate the source(s) of marine water pollution that contaminated oyster farms causing hundreds of gastroenteritis illnesses associated with norovirus in consumers.
The working group included members from the shellfish industry, federal and provincial regulators, health specialists and scientific experts.
The working group developed a full report on their findings and recommendations. This report outlines all of the work done by the working group and the document has been publicly available on the website since October 2018. http://www.bccdc.ca/health-professionals/professional-resources/norovirus-marine-water-contamination. At the time the report was posted, BCCDC and PHSA senior leadership were made aware.
The working group continues to meet on an annual basis.

Purpose of the letter:

· To inform the Canadian Council of Ministers of the Environment of the working group's concerns regarding waste management practices affecting the environment, shellfish aquaculture and public health in British Columbia.

· To request specific actions from governing agencies.

· To invite representatives of the Ministers of Environment to the annual update meeting on this issue in the spring of 2010.

· The letter does not contain any new information that is not already in the report.
Who else will be notified about this letter:

· All members of the working group are aware and have consented to the letter being sent. This includes reps from the Health Protection Division of the Ministry of Health.

[redacted] is aware and will also flagging the sending of this letter with government communications

[redacted]

I acknowledge that I live and work on the ancestral, traditional and unceded territories of the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and sel̓íl̓witulh (Tsleil-waututh) Nations.

BC Centre for Disease Control
Provincial Health Services Authority

655 West 12th Avenue
Vancouver, BC V5Z 4R4

Tel 604.707.2400
Fax 604.707.2401
www.bccdc.ca

Environmental
Health Services

604.707.2440
604.707.2441

November 19, 2019

Dear Canadian Council of Ministers of the Environment

Re: Marine water human sewage contamination leading to norovirus illnesses

On behalf of the Environmental Transmission of Norovirus into Oysters working group we wish to inform you of our concerns regarding waste management practices affecting the environment, shellfish aquaculture and public health in British Columbia. This working group was formed to investigate the source(s) of marine water pollution that contaminated oyster farms causing hundreds of gastroenteritis illnesses associated with noroviruss in consumers. During the norovirus outbreaks we reported to the national Outbreak Investigation Coordination Committee (OICC). This is a national committee chaired by the Public Health Agency of Canada, who are responsible to investigate outbreaks affecting Canadians in more than one province. OICCs include representatives from each province in government and health sectors. Our working group also included other members from the shellfish industry, federal and provincial regulators, health specialists and scientific experts. The objectives of this letter are to raise your general awareness of the importance of sewage management in directly preventing human illness and to request specific actions from your governing agencies.

In the preceding three years, raw oysters contaminated with human sewage have caused norovirus illnesses in three separate outbreaks – one of which was the largest recorded norovirus outbreak linked to oysters in Canadian history, with 449 cases.[1] Illnesses occurred in BC, elsewhere in Canada, and internationally. These outbreaks have been economically devastating to our shellfish aquaculture and oyster producers. The economic cost for shellfish aquaculture for one of these outbreaks was estimated at $9.1 million.[2] The economic costs associated with the public investigation and human illness have not been calculated.

These illnesses were preventable. Oysters and shellfish become contaminated with norovirus when they are exposed to human sewage sources. These outbreaks are believed to have occurred through a combination of septic and sewage discharges into marine waters near aquaculture farms exacerbated by climate conditions (2016-2017) and through improper waste handling by commercial boaters (2018).[1,3,4]

Assessment of sewage management was hampered by lack of information. Key information was either not collected, permission was lacking to share among agencies, there was no platform to share it, or it was collected but not formatted to be mapped without extensive interpretations (Table 1 in full report).[3] Gaps were divided into six main areas: mapping; norovirus behavior in marine environments; epidemiological assessments; sewage sources from land; sewage sources from vessel traffic and methodological. During the outbreak period it was difficult to access information about marine sources of pollution, such as effluent discharges. For example, when inquiring with the federal system “Effluent Regulatory Reporting Information System” (ERRIS) we learned that the collected and collated information is not publicly available. The only way to obtain this information would be under an FOI request.

We are deeply concerned about the 2018 outbreak that implicated sewage discharge from commercial vessels into shellfish farms. While use of pump-out stations for sewage can prevent the spread of harmful pathogens into marine environments and food sources, our survey of pump-out stations within BC revealed that no commercial fishing vessels ever used pump-outs. [4] Interviews of pump-out operators revealed that the main users of these facilities were visitors from the United States, where use of pump-outs is legislated and mandatory. Puget Sound has recently been declared a zero-discharge area,[5] can we do the same for Baynes Sound (the area between Vancouver Island and Denman Island)? Regulations

within marine waters need to be strengthened near shellfish farming areas and they should be declared no dumping zones.

In our opinion the following issues need to be addressed to prevent further illness.

- Control and remove untreated sewage sources entering the marine environment through a combination of improved infrastructure, regulation, compliance, education and enforcement.
- Include environmental impact assessment prior to approval and issuance of building permits in communities without adequate wastewater treatment facilities.
- Develop accountability for untreated sewage in the marine environment by actively auditing for discharges.
- Develop and re-evaluate norovirus specific plume effluent models challenged by environmental conditions.
- Improve current spill event reporting to be real-time and electronically accessible; improve mapping of all discharges to the marine environment and make these accessible online (as in the example above, make ERRIS an open data-set).
- Improve waste water treatment plant (WWTP) infrastructure in areas of discharge to the marine environment and incorporate treatments to inactivate enteric viruses.
- Improve understanding of norovirus loading into marine environments through examination of WWTP catchment size, secondary WWTP treatments, and seasonal changes to treatments.
- Improve the science to understand the impact of human enteric viruses in the marine environment including supporting research to develop detection methods and assess environmental risk factors.
- Create opportunities to discuss these issues with all levels of stakeholders to identify solutions.
- Focus on First Nations communities that rely on marine foods for traditional foods sources.
- Educate home owners, developers and the public about risks and responsibilities.

We invite you to read the executive summary attached to this letter, and our full report on the BCCDC web-site (http://www.bccdc.ca/health-professionals/professional-resources/norovirus-marine-water-contamination).[3] Although this working group is now finished we are interested in developing measures in collaboration with the Ministers of the Environment to ensure that marine waters are safe from human sewage contamination. We would also like to invite representatives of the Ministers of Environment to our annual update meeting on this issue to be scheduled in the spring of 2020. We are willing to assist in any way we can to protect the environment and public health and to ensure the longevity of the shellfish industry in BC. Please feel free to contact me by phone or e-mail.

On behalf of the working group members, sincerely,

[redacted]

Cited in this letter:

1. Meghnath K, Hasselback P, McCormick R, et al. Outbreaks of Norovirus and Acute Gastroenteritis Associated with British Columbia Oysters, 2016–2017. Food Environ Virol. 2019 March 21;11(2):138-48.10.1007/s12560-019-09374-4
2. BC Shellfish Growers Association, Cascadia Partners. Food safety and business risk project - Final report (March 2018)2018 March.
3. Miller A, Cumming E, McIntyre L, et al. Summary working group report of the environmental transmission of norovirus into oysters following the 2016/17 national outbreak of norovirus linked to the consumption of BC oysters. Vancouver, BC: BC Centre for Disease Control; 2018. Available from: http://www.bccdc.ca/health-professionals/professional-resources/norovirus-marine-water-contamination.
4. Environmental Health Services BCCDC. 2018 norovirus outbreak linked to consumption of BC oysters: evaluation of environmental sewage sources find commercial vessels to be plausible source for contamination of the harvest area. Vancouver, BC: BC Centre for Disease Control; 2018. Available from: http://www.bccdc.ca/health-professionals/professional-resources/norovirus-marine-water-contamination.
5. Department of Ecology State of Washington. Puget Sound is now a no-discharge zone for vessel sewage. 2018 [cited 2019 Sep 10]; Available from: https://ecology.wa.gov/Water-Shorelines/Puget-Sound/No-discharge-zone.

m1095: CCME letter from ETNO WG_Nov2019
LM:lm

BC Centre for Disease Control
An agency of the Provincial Health Services Authority

655 West 12th Avenue
Vancouver, BC V5Z 4R4

Tel 604.707.2400
Fax 604.707.2441

www.bccdc.ca

Executive Summary of the Environmental Transmission of Norovirus into Oysters

following the 2016 / 2017 national outbreak of norovirus linked to the consumption of BC oysters

Authors: Aroha Miller, Emma Cumming, Lorraine McIntyre and the Environmental Transmission of Norovirus into Oysters working group members

Final Report September 2018

Suggested citation for this document:

A. Miller, E. Cumming, L. McIntyre and the Environmental Transmission of Norovirus into Oysters working group members. Summary working group report of the environmental transmission of norovirus into oysters following the 2016-17 national outbreak of norovirus linked to the consumption of BC oysters. Environmental Health Services, BC Centre for Disease Control. June 2018. Available on-line from:

This report represents the general opinion of the working group, and may not necessarily reflect individual opinions of working group members or the opinions or policies of agencies

Any questions may be directed to fpinfo@bccdc.ca

Agencies who participated in this working group are gratefully acknowledged and include:

- Alberta Health Services
- BC Centre for Disease Control
- BC Ministry of Agriculture
- BC Ministry of Environment
- BC Ministry of Health
- BC Shellfish Growers Association
- Canadian Food Inspection Agency
- Centre for Coastal Health
- Department of Fisheries and Oceans
- Environment and Climate Change Canada
- First Nations Health Authority
- Health Canada
- Indigenous Northern Affairs Canada
- Public Health Agency of Canada
- Vancouver Island Health Authority
- Washington State Department of Health

EXECUTIVE SUMMARY

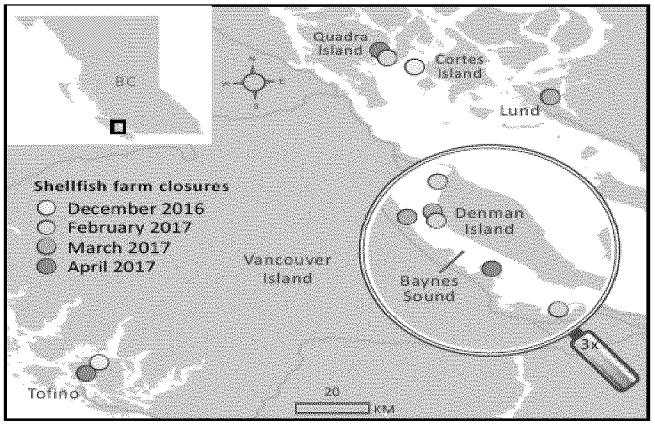
Norovirus is a highly contagious virus that causes vomiting and diarrhea. While it is most commonly spread person-to-person, illness may also occur from consuming contaminated food or water (1). It is a resilient virus with a hard outer shell, and under favorable environmental conditions is able to survive for several months in water and several weeks on surfaces (2).

In November 2016, a norovirus outbreak linked to BC harvested oysters began. The outbreak affected more than 400 Canadians over six months; it was declared over on May 11th 2017 (3). Under the umbrella of the national Outbreak Investigation Coordination Committee, a working group was formed to explore potential causes of environmental norovirus contamination in the growing waters of oysters (Environmental Transmission of Norovirus to Oysters working group, Box 1).[1] Knowledgeable specialists from multiple disciplines including environment, fisheries, public health, regulators and shellfish industry farm owners and managers were invited to provide expert opinion. Experts from outside the working group provided information on specific topics to assist the working group discussions. The purpose of the group was to identify plausible sources of environmental norovirus contamination that may have led to this outbreak in order to mitigate risk of future illness.

Box 1. Environmental Transmission of Norovirus in Oysters Working Group Members

1. BC Centre for Disease Control
2. BC Provincial Ministry of Environment
3. BC Provincial Ministry of Agriculture
4. BC Provincial Ministry of Health
5. BC Shellfish Growers' Association
6. Canadian Food Inspection Agency
7. Environment and Climate Change Canada
8. Fisheries and Oceans Canada
9. Health Canada
10. Public Health Agency of Canada
11. Regional BC Health Authorities
12. Washington State Department of Health
13. Invited experts from the University of British Columbia, Centre for Coastal Health, Alberta Health Services, Applied Science Technologists & Technicians of BC and others

During this prolonged outbreak, 12 BC shellfish farms were closed. All farms were epidemiologically linked to norovirus illnesses. Tests of oysters from some of the implicated farms demonstrated contamination with norovirus, *E. coli* and/or elevated coliphage which is an indicator for enteric virus (see map). Economic losses to the shellfish industry arising from this outbreak were substantial ($9.1 million).



[1] Terms of reference for and roles and responsibilities of working group members can be found in Appendices 1 and 2.

BC was not the only location on the Pacific Northwest coast affected. Washington State also reported over 200 norovirus-like illnesses linked to more than a dozen Washington shellfish harvest sites – although the majority of illnesses traced back to a single growing area (4). Between December 2016 and April 2017, there were 145 separate case and case clusters of illnesses reported in Canada, and 49 case and case clusters reported in Washington State (3, 4).

The working group generated a list of plausible hypotheses for the environmental transmission of norovirus into oysters (summarized in Box 2) and gathered available evidence for and against each hypothesis.

Box 2. Summary of transmission pathways of norovirus into the environment

- Local and metropolitan waste-water treatment plant effluent (including system overflows)
- Land run-off and septic system discharges (including overflows from agricultural and community sources)
- Other sewage outfalls
- Discharge from boats and vessels (commercial, recreational, cruise ships, ferries)
- Wildlife (sea lions on shellfish docks)
- Movement (relay) of contaminated shellstock to a clean area
- Ill shellfish farm workers and/or floathomes or floatcamps
- Wet-storage and processing plants
- Distributors, restaurants and retailers

Hypotheses were developed, based on knowledge of previous oyster and shellfish contamination events, and the expert opinions of working group members. The quality of evidence as to plausible source ranged from strong, i.e., direct evidence definitively proving or disproving the hypothesis, to weak i.e., indirect evidence or opinion suggesting that the hypothesis may be more or less likely. Evidence was examined as it related specifically to the 2016-2017 outbreak and, more generally, to the potential of the hypothesis as a source of contamination in BC shellfish. Arguments for and against each hypothesis were developed based on evidence collected through group discussion, expert opinion, literature review and included examination of data that informed the outbreak and working group investigations.

The working group activities included stakeholder surveys, in-depth literature reviews of specific topics, consultation with scientific and professional experts, collection and evaluation of supporting evidence, analysis of environmental parameters, sewage sources and consensus building discussions. Evidence gaps and research needed to fully evaluate these hypotheses were also discussed. Thirty evidence gaps were identified that hindered our ability to fully assess the plausible hypotheses. Evidence gaps and associated barriers were noted for:

- mapping,
- assessments of various sewage sources,
- baseline data,
- norovirus and indicator testing methods,
- norovirus behaviour in marine environments, and
- epidemiological assessments.

Members were challenged by a lack of information, or where information existed, by barriers that made acquisition and interpretation of that information impossible. A status evaluation of the evidence gaps found 18% were completed and 38% were in progress by November 2017. However, for the majority of evidence gaps (43%), the working group did not know from whom to request information or agencies had no mandate or had not yet explored how to address the gap.

Working group discussions found multiple sources of human sewage contamination of the marine environment the most plausible explanation for norovirus contamination of shellfish farms. Two pieces of evidence support this conclusion.

❶ **The only way for a human to be infected by norovirus is through exposure to feces or vomit of another infected human.** Exposure to as few as 10 norovirus particles can cause illness (5). Norovirus is species—specific: only human strains of norovirus cause illness in humans. Although different strains of norovirus infect animals, evidence so far suggests these strains do not infect humans (6, 7). Animals are not infected by human norovirus, and will not amplify human norovirus even if they are exposed to it.

How did norovirus contaminate so many different shellfish farms?

Human sewage contamination of the marine environment.

Photos of sea lions adjacent to norovirus-contaminated oyster farms suggested the mammals as a plausible source; however, this hypothesis was ruled out based on direct evidence (testing of sea-lion scat in BC was negative for human norovirus) and literature review.

❷ **A single contamination event cannot explain the geographic distribution observed.** BC has linked previous norovirus shellfish illnesses to point-source contamination events in the past. In 2010, norovirus illnesses were linked to overboard discharge and dumping from a boat into one shellfish bed (8). By contrast, in 2016-17, despite an exhaustive investigation of possible pollution sources, no major issues were identified along the coastlines where farms operated (9). Two minor issues were noted during the outbreak period, but neither occurred prior to the first occurrence of illnesses linked to oysters. These minor issues included a waste-water discharge >20 km away from an oyster farm, and the sighting of commercial fishing vessels in early March. Both issues could potentially have contributed to marine water contamination, and the ongoing illnesses but neither would explain earlier contamination.

In the Baynes Sound area where the majority of shellfish farms linked to norovirus illnesses were located, from December onwards, there were no significant point-source contamination events that would explain the wide-spread contamination.

Actively feeding oysters can filter up to 10 litres of water per hour and will bind norovirus to their tissues (10, 11). During the winter norovirus season and because norovirus is a common disease estimated to cause 3 to 4 million illnesses annually in Canada, **all sewage discharge sources are expected to contain norovirus:** *between one to ten thousand norovirus particles per litre of water* (12)

Human sewage contamination of the environment from multiple sources is thus the most plausible reason for shellfish farm contamination and norovirus presence in oysters.

A third piece of evidence supports why norovirus, known to be present in human sewage, was able to survive in the marine environment and spread to shellfish farms in the fall of 2016 and winter of 2017.

❸ **Climate conditions affect survival of this virus. Heavy rainfall, low sunlight conditions[2], down-welling[3] and colder than normal temperatures** allowed norovirus to persist in marine waters for extended periods (13). Norovirus is seasonal: most norovirus illnesses in North America occur in the winter (14). The 2016-17 season had a near-record rainfall event in November during the same month as the Tofino oyster festival where 118 people became ill (15). Temperatures were 2°C colder than average between December 2016 and February 2017 (15). Norovirus also survives longer in water of lower salinity (16). During extreme rainfall events, fresh-water currents floating on top of ocean water have the ability to carry marine viruses long distances. While few studies have been published on how far norovirus can travel from a source of pollution, norovirus has been detected 24 kilometres away from a sewage outfall in New Zealand (17). A United Kingdom study found norovirus levels able to cause illness in a shellfish site characterized by poor marine flushing shellfish and detectable norovirus levels in an open ocean shellfish site, both ten kilometres distant from sewage sources (18). Environmental conditions in BC in 2016-17 contributed to the widespread norovirus (sewage) contamination of the marine environment and oyster growing areas.

What caused the outbreak? Where did the human sewage contamination come from?

In BC, the most plausible sources of human sewage contamination (Box 3) are those nearest to the shellfish farms, although we were unable to rule out contamination from more distant sources. Other countries have shown norovirus levels nearer to waste-water treatment plants create a significant threat for shellfish farms and water quality (13, 19-21).

Box 3. Potential sewage sources impacting shellfish growing areas

Near to shellfish farm locations

- Septic seepage from private homeowners
- Local waste-water treatment plants, lagoons
- Sewerage overflow events from combined water/sewer drainage
- Discharge from commercial and recreational vessels
- Float-homes and float-camps

Distant to shellfish farm locations

- Metropolitan waste-water treatment plant effluent discharges

The greatest conceptual challenge was looking for a single transmission pathway to explain the outbreak.
While a single reason would be convenient,
the working group concluded that multiple sewage sources discharging under environmental conditions favourable to norovirus preservation most likely contributed to shellfish farm contamination.

[2] Strength and duration of sunlight, including ultraviolet light, is lower in the winter due to the angle of the earth relative to the sun. Incidence of rays is lessened, therefore less energy and penetration into marine waters allows for longer virus survival. Combined with cloud layer we called this low sunlight conditions.

[3] Downwelling is when wind and earth's rotation move surface water toward coastlines; upwelling is when surface waters are moved away from the coast.

We cannot fully explain the events of 2016-17: there remains uncertainty why some farms were affected while others were not, or why no norovirus illnesses were reported in other years with similar weather conditions. It remains unclear whether metropolitan waste-water treatment plants effluents[4] containing norovirus could affect distant oyster growing areas, although environmental conditions present during 2016-17 may explain how norovirus survived and why both near and distant sources of norovirus could have impacted shellfish farms.

Looking forward: solutions needed

This norovirus outbreak was not unique. A similar norovirus outbreak linked to oysters harvested from geographically dispersed farms in BC occurred in 2004. **To prevent contamination of oysters with norovirus we must control the amount of raw untreated human sewage entering the marine environment**. This will require multiple actions from multiple stakeholders at all levels of engagement: at community and government levels, with regulators, politicians, engineers, scientists and educators. The health of the public and the future of marine shellfish farming and wild harvesting is at risk from human sewage pollution. What occurred in the 2016-17 season will occur again — the only question is when. More action is required to address this public and environmental health issue immediately.

In summary, multiple sources of human sewage entering the marine environment were identified as the most plausible reason for oysters becoming contaminated with norovirus. The outbreak likely occurred in 2016-17 because environmental conditions allowed norovirus present in sewage sources entering the marine environment to be transported to shellfish farms, and to survive and accumulate in oysters.

[4] Metropolitan waste-water treatment plants were defined as plants near to urban areas and distant (>20 km away) from shellfish farms, e.g., plants located in Vancouver and Victoria.

References for Executive Summary

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From: [redacted]
Sent: 2019-12-04 3:06 PM
To: Elizabeth.May@parl.gc.ca
Cc: Justin.Trudeau@parl.gc.ca; Chrystia.Freeland@parl.gc.ca; Patty.Hajdu@parl.gc.ca; Diane.Lebouthillier@parl.gc.ca; Carla.Qualtrough@parl.gc.ca; Lawrence.Macaulay@parl.gc.ca; Navdeep.Bains@parl.gc.ca; Bill.Morneau@parl.gc.ca; Ahmed.Hussen@parl.gc.ca; Maryam.Monsef@parl.gc.ca; Bardish.Chagger@parl.gc.ca; Catherine.McKenna@parl.gc.ca; Deb.Schulte@parl.gc.ca; Tam, Dr Theresa (PHAC/ASPC); Michael.Strong@cihr-irsc.gc.ca; Coordinator@AlliesForMe.ca
Subject: Please help your constituents with ME (myalgic encephalomyelitis) 3 easy steps
Attachments: ME MP Letter Dec 2019.docx

Thanks for your help in the past. We are still almost nowhere in research funding and appropriate care. Please see the attached and take the 3 easy steps to help move things forward.

[redacted]

Elizabeth.May@parl.gc.ca

December 2nd, 2019

~~Name of Member of Parliament~~Elizabeth May
MP for ~~(constituency)~~Saanich Gulf Islands
House of Commons, Ottawa
K1A 0A6

Re: Three Actions to Increase Awareness of Myalgic Encephalomyelitis

Dear Elizabeth May, ~~(Mr. Ms. Mrs.) (Last Name),~~

I am writing as one of your constituents, to express my concerns as someone affected by the debilitating chronic illness Myalgic Encephalomyelitis (ME, formerly known by the stigmatizing name Chronic Fatigue Syndrome or ME/CFS) to ask for your assistance in helping Canadians like me raise awareness about this debilitating disease.

What is ME?

ME is a complex, multi-system disease classified by the World Health Organization (WHO) as a neuro-immune illness occurring in sporadic and epidemic forms, and it can affect anyone at any given time, including children.

"*The onset of ME is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases, the disease may develop gradually, over a period of weeks or months. Patients describe feeling severe 'flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology. ME/CFS can present with a wide range of severity*"[1].

First, The Bad News...The Canadian Context of ME

First, a bit of background on an illness that is still very much in the shadows in Canada. Based on the Statistics Canada 2016 Canadian Community Health Survey, this illness directly and severely impacts **over half a million Canadians**, as well as hundreds of thousands of their family members and loved ones. About 75% of individuals with ME are no longer able to work; 25% are house or bed bound[2]. The severely ill require complete darkness, complete silence, complete isolation, a feeding tube and catheter.

This has a significant impact on our Canadian economy. In the US, where an estimated 1 - 2.5 million individuals live with ME, the impact on the economy translates into approximately $17-24 billion annually in lost productivity and direct medical costs[3]. In Canada, a comparable and

conservative estimate would be between $11-15 billion lost annually. It just doesn't make economic sense to continue ignoring this illness and those suffering from it.

History of the Illness

ME was first recognized during the 1934 Los Angeles outbreak and thought to be an atypical form of polio, although descriptions of ME symptoms can be dated back hundreds of years prior. Over the ensuing decades, ME outbreaks occurred in Iceland, Switzerland, Australia and elsewhere. From 1984 to 1992, ME outbreaks were endemic in North America. And then in 2015, Canadian ME rates surged by 37% over the previous year.

However, for close to 35 years, a psychological narrative (represented in the misleading and dismissive term 'chronic fatigue syndrome') has overtaken the medical discussion and research on this biological illness and patients have suffered and died because of this institutional harm and neglect.

Unfortunately, the medical establishment has a long history of psychologizing physical illnesses that predominantly affect women (e.g., MS, Endometriosis, Lupus, Ehlers Danlos, Fibromyalgia) and has irrevocably done the same with ME. However, it was subsequently confirmed that these illnesses do in fact have a biological basis, but only after decades of stigma that has resulted in lives lost.

This harmful practice is still happening today to all Canadians with ME, despite the numerous internationally-based scientific discoveries of metabolic dysfunction, epigenetic changes, and 'something in the serum' of ME patients. Unfortunately, ME is not taught in medical schools and even the colleges of physicians and surgeons is woefully behind in their understanding of this illness.

Chronic Illness, Compounded by Medical Harm, Significantly Increases Suicide Risk

It is important to note that, while our illness is not caused by depression or anxiety, it is common for patients to contemplate suicide due to the unrelenting pain and suffering and poverty as many insurers, provincial disabililty and CPP-D often refuse apllicants with ME (CFS). It is easy to empathize with these individuals who have spent decades of their lives suffering with an untreatable, incurable illness that is still today widely stigmatized by the healthcare system - a healthcare system that has yet to catch up with the science and is causing daily harm to patients and their families.

Several studies, including a recent Spanish one, have shown that patients with ME have a suicide rate approximately 5 times higher than the national average due to ongoing and untreated physical pain, loss of income and career, loss of independence and the lowest quality of life[4] of any chronic illness. And yet, we are dismissed in our physicians' offices because they, and their Physician Colleges, have not kept up to date on current ME research.

The impact is not just medical and social harm to ME patients, but this false narrative of ME has almost completely impeded research funding. Up until very recently, there were zero CIHR dollars committed for biomedical ME research.

The Good News Is…

CIHR is committed to moving biomedical ME research forward.

In December 2018, in collaboration with CIHR, ME stakeholders met in Montreal to establish the Interdisciplinary Canadian Collaborative ME Research Network (ICanCME) in anticipation of a CIHR funding opportunity for biomedical ME research. The funding opportunity was released in April and was for $280 000 each year, for 5 years.

On August 22nd, our community attended a funding announcement with the Minister of Health, Ginette Petitpas Taylor, where CIHR committed to funding the ICanCME Research Network.

Our community sees this as building an important foundation for further biomedical research. While we are certainly thankful to CIHR for their acknowledgement and understanding that this illness is biologically based and requires research and collaboration to turn the tide and stop the harm, this funding will only cover the basics of building a network.

Much more is needed to help us attract the best researchers and to really dig in to the science of ME. Regardless, our community is committed to making the most of this opportunity and will expand our research capacity to receive larger grants in the near future.

ME patients require a great deal more comprehensive investment to address our needs effectively and our government needs to provide what is equitable and meaningful to attract the best and the brightest researchers to this field.

All this begins with ME awareness. This is where we require your assistance. We need our elected representatives to step up and stand *with* us.

Three Actions You Can Take Today

I am writing to you as my elected representative because I want to invite you to take three actions which will support patients and increase momentum towards equitable funding, accessible treatments and a cure:

1 - Please write to the new Federal Minister of Health, the Honourable Patty Hajdu, to express your support and ask her to request that relevant Ministers and their teams **host a meeting with patients and researchers** to learn more about our illness and our challenges accessing adequate care and supports within their departments. These Ministers include those listed below in the CC section.

2 - Please share a resolution (SO31) in the House of Commons, drawing awareness to this illness and the need to have equitable biomedical research funding, on behalf of your constituents.

3 - Please join our non-partisan Allies for ME group and help us to raise public and physician awareness of this stigmatized, debilitating and chronic illness by including ME in your town halls, newsletters, consultations and other constituency activities. You can learn more by visiting AlliesForME.ca or by emailing us at Coordinator@AlliesForME.ca.

Some examples of this could include …

a) Discussing ME issues as part of a health-themed town hall or roundtable discussion.
b) Connecting and meeting with your constituents who live with ME (and co-existing illnesses)
c) Supporting International ME Awareness Day on May 12th and International Severe ME Awareness Day on August 8th, on your social media. The previous Minister of Health, Ginette Petitpas Taylor, used her online platform recently to draw attention to our illness, challenges and needs and it was incredibly impactful.
d) Join our monthly news bulletin by emailing us at **Coordinator@AlliesForME.ca**

Your willingness to take action now will demonstrate your support for **over half a million Canadian ME patients** and will be a vital next step towards equitable research funding, increased physician awareness and the reduction of medical, social and financial harm.

This can also be a very important piece of the legacy you will leave behind, as an elected representative.

Thank you for your commitment. I look forward to receiving a response from you.

Sincerely,

[redacted]

cc.
Right Hon. Justin Trudeau, Prime Minister
Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Intergovernmental Affairs
Hon. Patty Hajdu, Minister of Health
Hon. Diane Lebouthillier, Minister of National Revenue
Hon. Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion
Hon. Lawrence MacAulay, Minister of Veteran Affairs
Hon. Navdeep Bains, Minister of Innovation, Science and Industry
Hon. William Morneau, Minister of Finance
Hon. Ahmed Hussen, Minister of Families, Children and Social Development

Hon. Maryam Monsef, Minister for Women and Gender Equality and Rural Economic Development
Hon. Bardish Chagger, Minister of Diversity and Inclusion and Youth
Hon. Catherine McKenna, Minister of Infrastructure and Communities
Hon. Deb Schulte, Minister of Seniors
Dr. Theresa Tam, Chief Public Health Officer
Dr. Michael Strong, President of CIHR

Allies for ME (Coordinator@AlliesForME.ca)

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ATIA - 19(1) ATIA - 13(1)(b)

From: [redacted]

Sent: 2019-12-06 9:50 AM

To: [redacted] Tam, Dr Theresa (PHAC/ASPC); [redacted]

Cc: [redacted]

Subject: Re: Precious comments on the EB draft report

Attachments: Lastes draft [redacted] EB report with grg &FH 0612.docx

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Dear [redacted] and colleagues

I think this reads well and encompasses all the issues that we discussed. I attach a few very minor edits for single words in two or three places - minimal.

I only have one suggested amendment - to the recommendation in para 40 which is a further clarification of what I think we are saying for your consideration.

[redacted]

(The additions are the bolder text - the suggested deletion the words underlined - in redline and strike through in the attached document.

Many thanks to everyone

Best Wishes

[redacted]

[redacted]

For all diary arrangements please contac[redacted]

Email: [redacted]

Mobile [redacted]

From: [redacted]
Sent: Friday, December 6, 2019 3:47:28 AM
To: [redacted] Tam, Dr Theresa (PHAC/ASPC)
Cc: [redacted]
Subject: RE: Precious comments on the EB draft report

Dear [redacted] and team members,
I read the draft report and then the e-mail exchange between [redacted] and [redacted]
I sign off the draft report with much appreciation to all those who contributed to the report.
Best wishes,
[redacted]

From: [redacted]
Sent: Friday, December 06, 2019 10:50 AM
To: Tam, Dr Theresa (PHAC/ASPC)
Cc: [redacted]
Subject: Re: Precious comments on the EB draft report
I also have no further comments.
[redacted]

[redacted]

Sent from my iPhone

On Dec 5, 2019, at 6:56 PM, Tam, Dr Theresa (PHAC/ASPC) wrote:

> Hi [redacted] and team,
> I have no further comments. Thanks. TT
> **From:** [redacted]
> **Sent:** 2019-12-05 9:52 AM
> **To:** [redacted]
> **Cc** [redacted] Tam, Dr Theresa (PHAC/ASPC) ; [redacted]
> **Subject:** Re: [redacted] comments on the EB draft report
> Dear [redacted]
> Thank you for the feedback and comments. I am satisfied with the clarity provided and responses as well as revisions.
> Kind regards
> [redacted]
> On Thu, 05 Dec 2019, 16:46 [redacted] wrote:
>
> > Dear [redacted]
> > Thank you very much for your further comments on the EB draft report. Below I have attempted to answer to your points sent through WhatsApp message and copied the members also because I am suggesting the revision
> > [redacted]

[redacted]

I am available for further clarification and discussions.
Best regards

[redacted]

From: [redacted]
Sent: 04 December 2019 17:42
To: [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]

[redacted]

Subject: RE: EB draft report for [redacted] review and clearance

[redacted] I approve of these version – it is stronger and better organized. I have made some very minor edits which I have entered as track changes on the attached document.

Thanks!

[redacted]

From: [redacted]

Sent: Wednesday, December 4, 2019 10:46 AM

To: [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]

Cc: [redacted]

Subject: EB draft report for [redacted] review and clearance

Dear [redacted] members

Thank you all very much for your edits and comments on the zero draft report.

I have incorporated your feedback and attached the revised draft report in both the clean version and with amendment in track changes.

The attached report contains the edits suggested by [redacted] Theresa and [redacted] and also inputs from [redacted] on the R&D blueprint.

I have tried to capture also [redacted] feedback:

[redacted]

Kindly note that I am following up with the [redacted] to update the figures as appropriate. I am available for clarifications and discussions.

Grateful if you could review this latest draft and sign off if you have no further comments.

May I remind you the submission to the GBS team is due 9 December.

Thank you very much for your great support and guidance

[redacted]

From: [redacted]

ATIA - 19(1) ATIA - 17

Sent: 02 December 2019 21:13
To: Tam, Dr Theresa (PHAC/ASPC) [redacted]
Cc: [redacted]
Subject: RE: For your review - zero draft EB report
My edits attached, on top of Theresa's and [redacted]
From: Tam, Dr Theresa (PHAC/ASPC) [redacted]
Sent: Friday, November 29, 2019 6:29 PM
To: [redacted]
Cc: [redacted]
Subject: RE: For your review - zero draft EB report
Great job [redacted]
Added a few more suggestions. TT
From: [redacted]
Sent: 2019-11-29 11:04 AM
To: [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]
Cc: [redacted]
Subject: RE: For your review - zero draft EB report
[redacted] I agree with [redacted] you have done a terrific job with this zero draft! Thank you. I have made some minor edits on the version that has [redacted]s edits – they are really quite minor. And I have highlighted in yellow data points that still need to be filled in or confirmed, so that we don't miss them.
Thank you, again!
[redacted]
From: [redacted]
Sent: Friday, November 29, 2019 6:46 AM
T [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]

Cc: [redacted]
Subject: Re: For your review - zero draft EB report
Dear [redacted] and colleagues,
First let me say that we should congratulate [redacted] on an excellent zero draft, the best yet. I fully agree with [redacted]
I have flagged literally one or two questions only as to whether we add a couple of words here or there. But this is excellent.
A huge thank you from me. Very well done.
I look forward to colleagues comments.
Best Wishes

[redacted]

Email [redacted]
Mobile [redacted]
For diary enquiries and arrangements:
please contac [redacted]
Email [redacted]
From: [redacted]
Sent: Friday, November 29, 2019 6:49:23 AM
To: [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: RE: For your review - zero draft EB report
Dear [redacted]
Let me apologize for this last minute feedback.
Thank you for your continuing hard work for drafting EB report.
I think that the report is comprehensive and well balanced covering our findings in Turkey and what we discussed in Geneva.
I have nothing to add/delete.
Best wishes,

[redacted]

From [redacted]
Sent: Wednesday, November 27, 2019 11:23 PM
To: [redacted] Tam, Dr Theresa (PHAC/ASPC) [redacted]
Subject: FW: For your review - zero draft EB report
Importance: High
Kind reminder and for your quick reference
Look forward to receiving your feedback and thank you for keeping the deadline of 30 November.

Best regards

[redacted]

From: [redacted]
Sent: 20 November 2019 16:19
To: [redacted]

Tam, Dr Theresa (PHAC/ASPC)

[redacted]

Cc: McLeod, Robyn (PHAC/ASPC) <robyn.mcleod@canada.ca>; [redacted]

Subject: For your review - zero draft EB report
Importance: High

Dear all

Please find attached a zero draft EB report of the [redacted] for your kind review.

The draft has been produced on the basis of the desk review (matrix table and ppts submitted by [redacted] the deliberations from the face to face meeting on 7-8 November and further guidance from [redacted] and [redacted]

Please note that all the figures will be double checked and cleared by the [redacted] programme in due course.

I should be grateful if you could review the draft and send your feedback/inputs by 30 November.

Thank you very much for your support

Best regards

[redacted]

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

13(1)(b)

Subject to subsection (2), the head of a government institution shall refuse to disclose any record requested under this Act that contains information that was obtained in confidence from (b) an international organization of states or an institut

Sous réserve du paragraphe (2), le responsable d’une institution fédérale est tenu de refuser la communication de documents contenant des renseignements obtenus à titre confidentiel : b) des organisations internationales d’États ou de leurs organ

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Sous réserve du paragraphe (2), le responsable d’une institution fédérale est tenu de refuser la communication de documents contenant des renseignements obtenus à titre confidentiel : b) des organisations internationales d’États ou de leurs organ

WITHHELD / RETENUE

Is(Are) exempted and/or excluded pursuant to section(s)
est(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

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Subject: prep for Meeting w/ Dr. Charu Kaushic Dec 17
Location: 146B

Start: Mon 2019-12-16 12:00 PM
End: Mon 2019-12-16 12:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Tam, Dr Theresa (PHAC/ASPC)
Required Attendees: Ephrem, Bersabel (PHAC/ASPC); Kim Elmslie (kim.elmslie@phac-aspc.gc.ca); Johnstone, Marnie (PHAC/ASPC); Macey, Jeannette (PHAC/ASPC); Mead, Jobina (PHAC/ASPC); Namiesniowski, Tina (PHAC/ASPC); Patrice, France (PHAC/ASPC)
Optional Attendees: Elmslie, Kim (PHAC/ASPC); Michel, Pascal (PHAC/ASPC); Jackson, Stephanie (PHAC/ASPC)

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-20 6:28 PM
To: Romano, Anna (PHAC/ASPC); Namiesniowski, Tina (PHAC/ASPC)
Cc: Johnstone, Marnie (PHAC/ASPC); Mead, Jobina (PHAC/ASPC); Killen, Marita (PHAC/ASPC); Gallagher, Gerry (PHAC/ASPC)
Subject: RE: Process for Reporting new VALI cases

Thanks Anna.

The overall process is aligned with what we do with infectious diseases. So, I am OK with this.

I think the frequency of reporting to MinO ie once a week, in line with PT reporting cycle is fine.

However, for a "first case" scenario eg report of the first death from VALI in Canada or first case from a jurisdiction that has not reported any cases before, I think sending a heads up to Sr. management and MinO would be appreciated and Comms can get ready. The weekly web posting should continue but the heads up will allow some planning eg Comms.

Tina may have specific views.

TT

From: Romano, Anna (PHAC/ASPC)
Sent: 2019-12-20 5:58 PM
To: Tam, Dr Theresa (PHAC/ASPC) ; Namiesniowski, Tina (PHAC/ASPC)
Cc: Johnstone, Marnie (PHAC/ASPC) ; Mead, Jobina (PHAC/ASPC) ; Killen, Marita (PHAC/ASPC) ; Gallagher, Gerry (PHAC/ASPC)
Subject: FW: Process for Reporting new VALI cases

Just to close the loop on the issue of reporting to senior management, MINO and PCO….we have lift off! We finalized everything with HC today.

This is my last vaping related email of 2019!

From: Romano, Anna (PHAC/ASPC) <anna.romano@canada.ca>
Sent: 2019-12-19 7:28 PM
To: Bogden, Jacqueline (HC/SC) <jacqueline.bogden@canada.ca>; Hollington, Jennifer (HC/SC) <jennifer.hollington@canada.ca>
Cc: MacKenzie, Sara (HC/SC) <sara.mackenzie@canada.ca>; Ogunnaike-Cooke, Susanna (PHAC/ASPC) <susanna.ogunnaike-cooke@canada.ca>; Ugnat, Anne-Marie (PHAC/ASPC) <anne-marie.ugnat@canada.ca>; Gallagher, Gerry (PHAC/ASPC) <gerry.gallagher@canada.ca>; Ponic, Pamela (PHAC/ASPC) <pamela.ponic@canada.ca>; Vaping illness-maladie vapotage (PHAC/ASPC) <phac.vapingillness-maladievapotage.aspc@canada.ca>; Hrynuik, Lisa (PHAC/ASPC) <lisa.hrynuik@canada.ca>; Van Loon, James (HC/SC) <james.vanloon@canada.ca>
Subject: Process for Reporting new VALI cases

Jacquie and Jen,

As I mentioned on our call last Friday, we would like us to adjust our current process for informing MINO and PCO so that it aligns more closely with how PHAC typically provides real time updates

on public health outbreaks and events.

We are proposing that PHAC send the updates to MinO once per week aligned with the PT weekly reporting deadline and in advance of the weekly web update.

The attached **process map** outlines the simplified approach, whereby the case update goes from the VALI single window to the PHAC President, CPHO and DM Lucas, cc's to ADMs and other implicated officials (distribution list included in map).

In a nutshell:

- Tina's office will send the update to the PHAC Departmental Liaison (Isabelle Faustin), who will forward to MinO. Once MinO has been alerted, Isabelle informs the Office of Strategic Policy to alert PCO Social and Strategic Communications (Sara MacKenzie) to alert PCO Comms. Isabelle will provide a heads up to the Vanessa Wen so that DM Lucas remains informed.

- President's Office signals back to the VALI single window when MinO and PCO have been appropriately briefed, and the single window will notify Comms and the CCMOH Secretariat that they have the okay to communicate the new case information externally.

The updates will follow a **standard template** (see attached), including number of new cases reported, by which PTs, case information and media plan, if available. It will also include information on when the web update will occur.

Apologies for sending this only the evening before our regular call. Happy to chat about it in the morning.

Anna

Anna Romano
Vice-President | vice présidente
Health Promotion and Chronic Disease Prevention Branch | Direction générale de la promotion de la santé et des maladies chroniques
Public Health Agency of Canada | Agence de la santé publique du Canada
Tel: 613-960-2863

ATIA - 17

From: Tam, Dr Theresa (PHAC/ASPC)
Sent: 2019-12-12 1:40 PM
To: McLeod, Robyn (PHAC/ASPC)
Subject: Fwd: PT Antiviral Stock - Current status
Attachments: Current status of FPT antiviral holdingsCIRID.docx; ATT00001.htm

---

Please print

Sent from my iPhone

Begin forwarded message:

> **From:** "PHN Secretariat / RSP (PHAC/ASPC)" <phac.phn.secretariat-rsp.aspc@canada.ca>
> **Date:** December 11, 2019 at 17:46:16 EST
> **To:** "Namiesniowski, Tina (PHAC/ASPC)" <tina.namiesniowski@canada.ca>, "Tam, Dr Theresa (PHAC/ASPC)" [redacted]
> **Cc:** "Auger, Julie (PHAC/ASPC)" <julie.auger@canada.ca>, "Henry, Erin (PHAC/ASPC)" <erine.henry@canada.ca>, "Charos, Gina (PHAC/ASPC)" <gina.charos@canada.ca>, "McLeod, Robyn (PHAC/ASPC)" <robyn.mcleod@canada.ca>, "Denis, Joel (PHAC/ASPC)" <joel.denis@canada.ca>, "Bent, Stephen (PHAC/ASPC)" <stephen.bent@canada.ca>
> **Subject: PT Antiviral Stock - Current status**
>
> Good evening Theresa and Tina,
> As requested at yesterday's PHNC/CCMOH Federal prep, attached for your reference is a one-pager outlining current status of PT antiviral stock in the National Antiviral Stockpile (NAS) and the National Emergency Strategic Stockpile (NESS).
> Included as well is background on the work of the Antiviral Procurement Task Group (AVPTG). A sincere thank you to CIRID for preparing this material.
> If you have any questions please do not hesitate to ask.
> Thank you,
> PHN Secretariat

ATIA - 14 ATIA-15(1) - Def

Current status of antiviral holdings in the National Antiviral Stockpile (NAS) and National Emergency Strategic Stockpile (NESS)

The National Antiviral Stockpile is the collective name for the 13 antiviral stockpiles held by each province and territory (PT). In 2017, the Public Health Network Council endorsed a NAS size range of 17.14% to 23.19% of the population. The federally-held National Emergency Strategic Stockpile (NESS) includes a stockpile of antivirals intended to provide surge capacity to PTs. The current target size of antiviral holdings in the NESS is the equivalent of 2.5% population coverage. In October 2019, PTs were surveyed to update existing data on their NAS holdings.

- [redacted] did not participate in the 2019 survey and there was no existing data on its NAS holdings; therefore, its population was excluded from the overall NAS population coverage in Table 1.
- [redacted] data on their holdings; therefore, existing data was used from an April 2014 NAS survey. Recent communications with [redacted] have confirmed the existing NAS data, as [redacted]

Table 1. Overall NAS and NESS Holdings

Overall NAS and NESS holdings, in courses of treatment, as of October 2019		
	NAS	**NESS**
Zanamivir (Relenza)	[redacted]	[redacted]
Oseltamivir (Tamiflu)		
% of population covered		(Canadian population[1])

[1] Canadian population size 37,293,800

Table 2. Individual PT NAS holdings, in courses of treatment

PT	Relenza	Tamiflu	% Population covered	Date data provided to PHAC
BC	[redacted]			
AB				
SK				
MB				
ON				
QC				
NB				
NS				
PE				
NL				
YK				
NT				
NU				

ATIA - 14

Antiviral Procurement Task Group

- A time-limited FPT group called the Antiviral Procurement Task Group (AVPTG) was formally established under the CIDSC in June 2019, but has been operating informally since 2018. The initial focus on the AVPTG has been on short term contracts to address the immediate replenishment needs of those PTs with expiring/expired AV's. To date [redacted] however, they have recently expressed interest. Any new orders placed under these contracts will not be available until summer or early fall 2020 for orders placed this year.
- In 2015, Dr. Supriya Sharma from HC presented to the CCMOH on HCs perspective on holding expired AVs. Their position is that PTs should respect the labelled expiry date on AVs in the stockpile and that regulatory shelf-life extension (to 10 years) granted to the manufacturer is not applicable to AVs already held in stockpiles. Furthermore, it is our understanding that [redacted] The AVPTG is not considering contracting options that fall outside of the current Food and Drug Regulations.
- The AVPTG is finalizing a request for information (RFI) to seek industry feedback on procurement/stockpiling strategies for future stockpiles. The plan is to post the RFI in Dec. 2019.

ATIA - 19(1) ATIA - 17

From: Evans, Cindy (PHAC/ASPC)
Sent: 2019-12-03 5:59 PM
To: [redacted]
Cc: Njoo, Howard (PHAC/ASPC); Tam, Dr Theresa (PHAC/ASPC)
Subject: Question re Lassa outbreak in Sierra Leone

[redacted]

Further to your question below, PHAC does not have any international deployments in Sierra Leon at this time.

We reached out to our NGO contacts. Samaritan's Purse, Red Cross and MSF have confirmed that they do not have Canadian staff working on the Lassa Outbreak in Sierra Leone.

MSF did share with us that they are following the case of the Dutch physician who recently died of Lassa (although they wanted us to know that the MSF hospital in Sierra Leone is not the same hospital as where the outbreak is focused). MSF are part of the Ministry of Health-led response and coordination team and have apparently shared resources, protocols, supplies etc., in addition to participating in the coordination of the outbreak response.

MSF indicated that they are happy to speak to us (or others) about the Lassa outbreak. Let me know if we can facilitate making that connection if it is of interest.

Sincerely,
Cindy

Cindy Evans
Director General, Directrice générale
Centre for Emergency Preparedness and Response,
Centre de mesures et d'interventions d'urgence
PHAC, ASPC
613-941-6084
-------- Original message --------
From [redacted]
Date: 2019-12-02 15:57 (GMT-05:00)
To: "Tam, Dr Theresa (PHAC/ASPC)" [redacted] "Njoo, Howard (PHAC/ASPC)" <howard.njoo@canada.ca>
Subject: FW: ProMED Digest, Vol 89, Issue 82

Hi Theresa and Howard,
[redacted] raises a good point. Do we know if there are any Canadians responding to this outbreak?
My best,
[redacted]

[redacted]

[redacted]

-----Original Message-----
From: [redacted]
Sent: December 2, 2019 12:42 PM
To: [redacted]
Cc: [redacted]
Subject: FW: ProMED Digest, Vol 89, Issue 82

Hi [redacted]
I know you are keeping tables on [redacted] residents who are working on the EVD outbreak in the Congo. Are you aware of any [redacted] residents who are working on the Lassa outbreak in Sierra Leone?
[redacted]

-----Original Message-----
From: [redacted] On Behalf Of [redacted]
[redacted]
Sent: Saturday, November 30, 2019 4:00 AM
To: [redacted]
Subject: ProMED Digest, Vol 89, Issue 82

Today's Topics:

1. PRO/AH/EDR> Lassa fever - West Africa (41): Netherlands ex
Sierra Leone, WHO (promed@promedmail.org)

Message: 1
Date: Sat, 30 Nov 2019 09:59:16 +0000
From: promed@promedmail.org
Subject: PRO/AH/EDR> Lassa fever - West Africa (41): Netherlands ex
Sierra Leone, WHO
To: promed-post@promedmail.org, promed-edr-post@promedmail.org,
promed-ahead-post@promedmail.org
Message-ID:

<0100016ebbc00ecb-b85094ce-70e8-4ed4-b5a9-1e3a40d58cb0-000000@email.amazonses.com>
Content-Type: text/plain; charset=UTF-8

LASSA FEVER - WEST AFRICA (41): NETHERLANDS ex SIERRA LEONE, WHO
****
A ProMED-mail post
<http://www.promedmail.org>