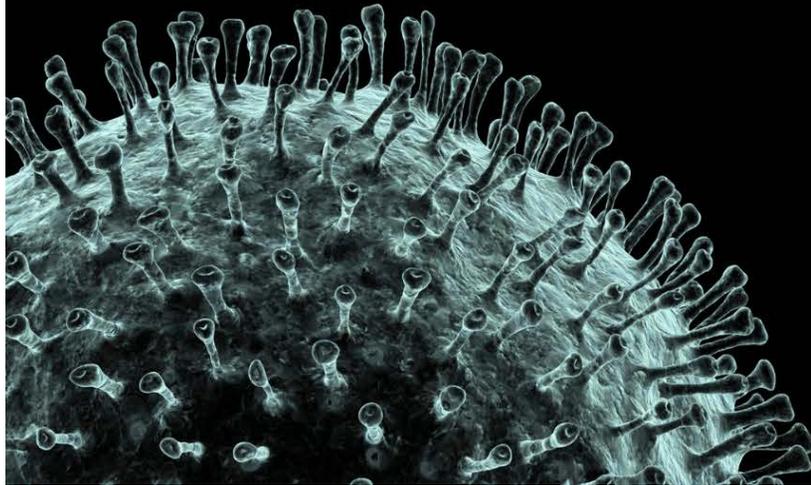


COVID-19 Conversations



Sandro Galea, MD, MPH, DrPH

Dean and Robert A. Knox Professor,
Boston University School of Public Health



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Mental health and Covid-19

Sandro Galea

Boston University School of Public Health



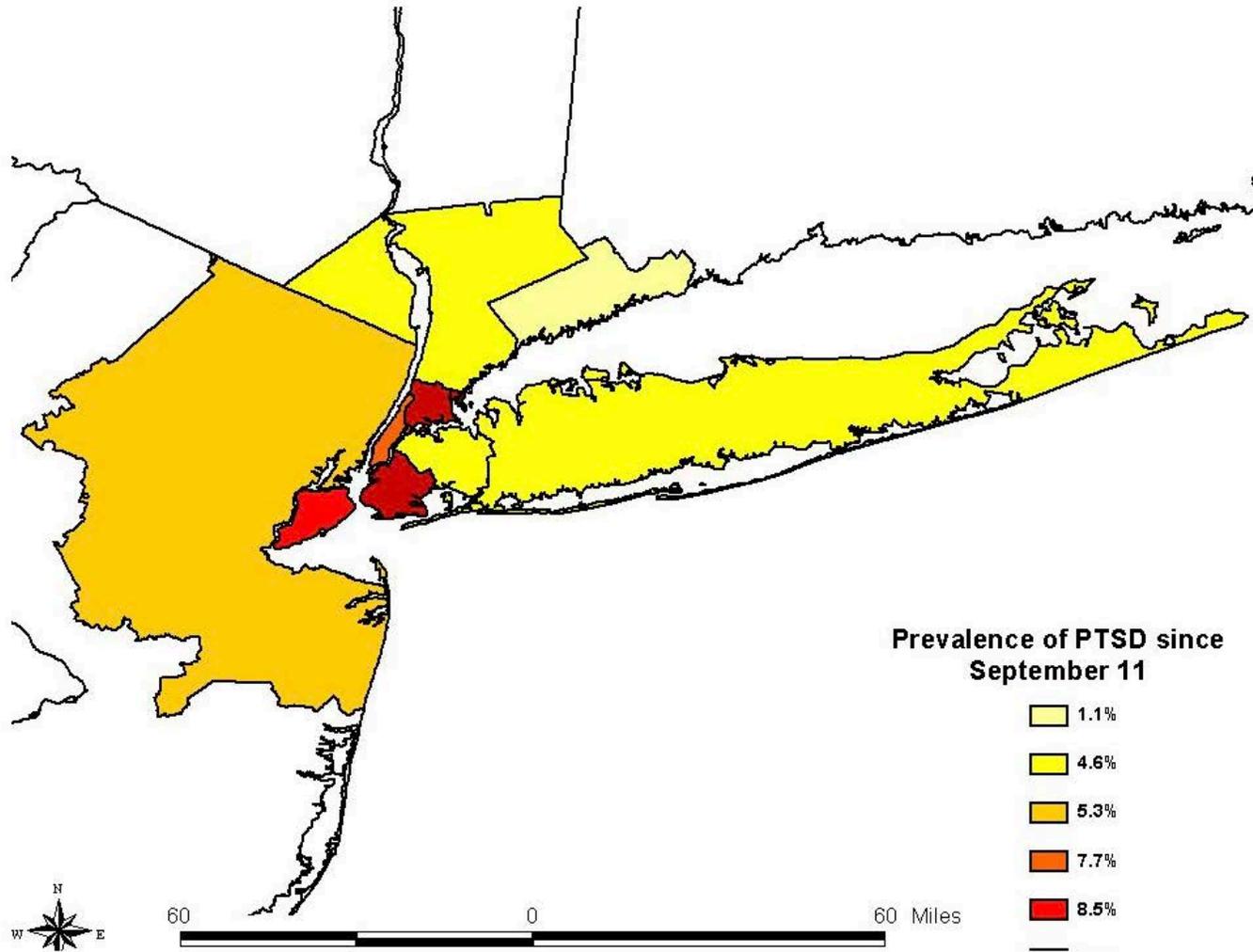
“ A traumatic event is an experience that causes physical, emotional, psychological distress, or harm. It is an event that is perceived and experienced as a threat to one's safety or to the stability of one's world. ”

<http://www.nlm.nih.gov/medlineplus/ency/article/001924.htm>

Levetown M. Communicating with children and families: from everyday interactions to skill in conveying distressing information. *Pediatrics*. 2008;121:e1441-e1460.

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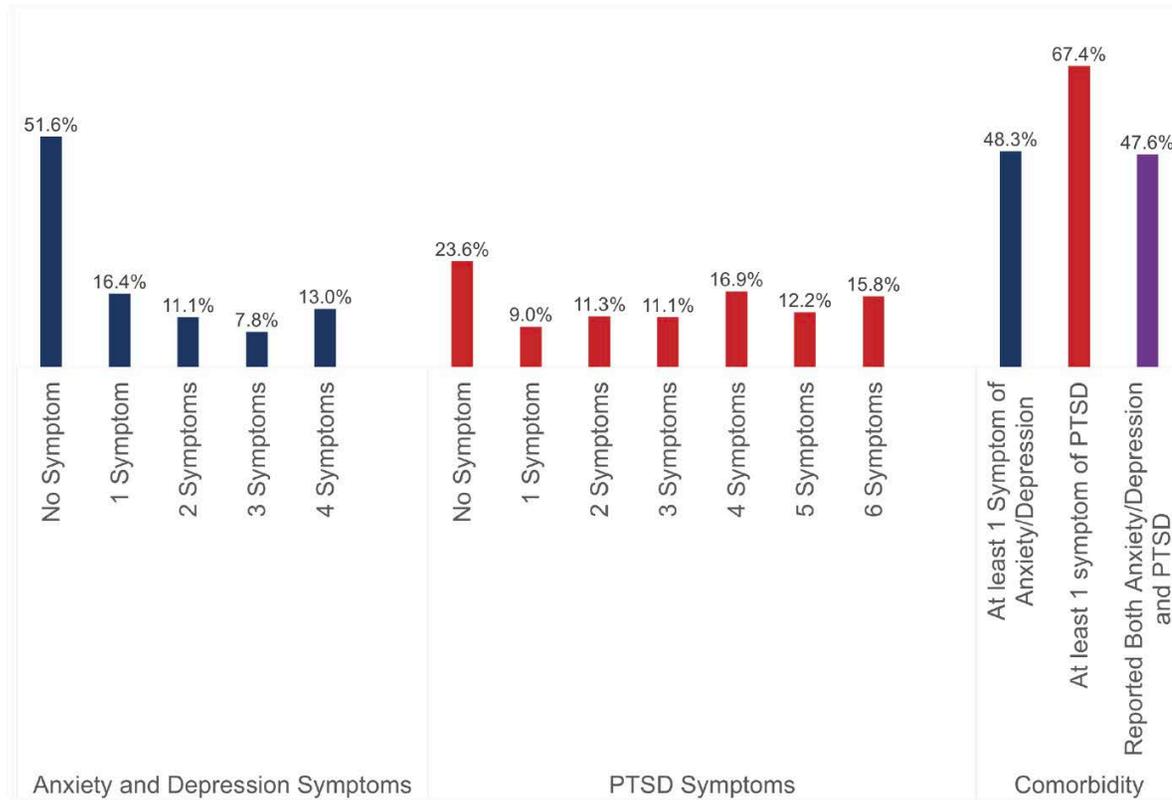


Figure 1 Prevalence of anxiety-depression and PTSD symptoms—National Knowledge, Attitudes and Practices Survey, Sierra Leone, July 2015 (N=3564). PTSD, post-traumatic stress disorder .

Jalloh MF, Li W, Bunnell RE, et al. Impact of Ebola experiences and risk perceptions on mental health in Sierra Leone, July 2015. *BMJ Glob Health* 2018;3:e000471. doi:10.1136/bmjgh-2017-000471

Table 2. Severity Categories of Depression, Anxiety, Insomnia, and Distress Measurements in Total Cohort and Subgroups

Severity category	Total, No. (%)	Occupation		P value	Sex		P value	Working position			Type of hospital			Location			P value
		No. (%)	No. (%)		Men	Women		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
PHQ-9, depression symptoms																	
Normal	623 (49.6)	268 (54.4)	355 (46.5)	.01	171 (58.3)	452 (46.8)	<.001	217 (41.5)	406 (55.2)	<.001	483 (51.7)	140 (43.2)	.03	335 (40.0)	146 (55.9)	142 (60.1)	<.001
Mild	448 (35.6)	157 (31.8)	291 (38.1)		92 (31.3)	356 (36.9)		211 (40.4)	237 (32.2)		326 (34.9)	122 (37.6)		296 (38.9)	85 (32.5)	67 (28.3)	
Moderate	108 (8.6)	44 (8.9)	64 (8.4)		21 (7.1)	87 (9.0)		59 (11.3)	49 (6.6)		71 (7.6)	37 (11.4)		73 (9.6)	19 (7.2)	16 (6.7)	
Severe	78 (6.2)	24 (4.9)	54 (7.1)		9 (3.0)	69 (7.1)		35 (6.7)	43 (5.8)		53 (5.6)	25 (7.7)		56 (7.3)	11 (4.2)	11 (4.6)	
GAD-7, anxiety																	
Normal	697 (55.4)	293 (59.4)	404 (52.9)	.03	189 (64.5)	508 (52.6)	.001	253 (48.4)	444 (60.4)	<.001	533 (57.1)	164 (50.6)	.06	391 (51.4)	155 (59.3)	151 (63.9)	<.001
Mild	406 (32.3)	143 (29.0)	263 (34.4)		71 (24.2)	335 (34.7)		185 (35.4)	221 (30.0)		291 (31.1)	115 (35.4)		257 (33.8)	85 (32.5)	64 (27.1)	
Moderate	88 (7.0)	34 (6.9)	54 (7.1)		23 (7.8)	65 (6.7)		48 (9.1)	40 (5.4)		61 (6.5)	27 (8.3)		66 (8.6)	11 (4.2)	11 (4.6)	
Severe	66 (5.3)	23 (4.7)	43 (5.6)		10 (3.4)	56 (5.8)		36 (6.8)	30 (4.0)		48 (5.1)	18 (5.5)		46 (6.0)	10 (3.8)	10 (4.2)	
ISI, insomnia symptoms																	
Absence	830 (66.0)	358 (72.6)	472 (61.8)	<.001	208 (70.9)	622 (64.5)	.04	310 (59.3)	520 (70.7)	<.001	635 (68.0)	195 (60.1)	.02	473 (62.2)	186 (71.2)	171 (72.4)	.001
Subthreshold	330 (26.2)	107 (21.7)	223 (29.2)		66 (22.5)	264 (27.3)		148 (28.3)	182 (24.7)		227 (24.3)	103 (31.7)		214 (28.1)	60 (22.9)	56 (23.7)	
Moderate	85 (6.8)	24 (4.9)	61 (8.0)		17 (5.8)	68 (7.0)		55 (10.5)	30 (4.0)		61 (6.5)	24 (7.4)		65 (8.5)	12 (4.6)	7 (2.9)	
Severe	12 (1.0)	4 (0.8)	8 (1.0)		2 (0.6)	10 (1.0)		9 (1.7)	3 (0.4)		10 (1.0)	2 (0.6)		8 (1.0)	2 (0.7)	2 (0.8)	
IES-R, distress symptoms																	
Normal	358 (28.5)	163 (33.1)	195 (25.5)	.01	122 (41.6)	236 (24.4)	<.001	124 (23.7)	234 (31.8)	<.001	259 (27.7)	99 (30.5)	0.81	190 (25.0)	76 (29.1)	92 (38.9)	<.001
Mild	459 (36.5)	167 (33.9)	292 (38.2)		88 (30.0)	371 (38.4)		178 (34.0)	281 (38.2)		349 (37.4)	110 (33.9)		272 (35.7)	106 (40.6)	81 (34.2)	
Moderate	308 (24.5)	120 (24.3)	188 (24.6)		59 (20.1)	249 (25.8)		146 (27.9)	162 (22.0)		231 (24.7)	77 (23.7)		202 (26.5)	60 (22.9)	46 (19.4)	
Severe	132 (10.5)	43 (8.7)	89 (11.6)		24 (8.1)	108 (11.2)		74 (14.1)	58 (7.8)		94 (10.0)	38 (11.7)		96 (12.6)	19 (7.2)	17 (7.2)	

Abbreviations: GAD-7, 7-item Generalized Anxiety Disorder; IES-R, 22-item Impact of Event Scale-Revised; ISI, 7-item Insomnia Severity Index; PHQ-9, 9-item Patient Health Questionnaire.

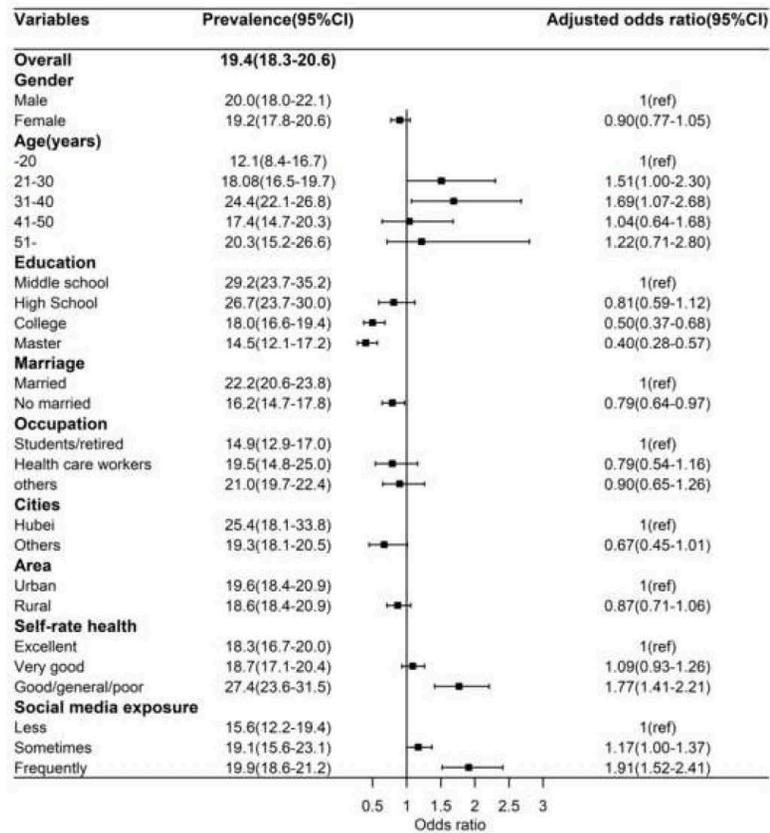


Figure 3. Prevalence of combination of depression and anxiety and relevant factors

Gao, Junling and Zheng, Pingping and Jia, Yingnan and Chen, Hao and Mao, Yimeng and Chen, Suhong and Wang, Yi and Fu, Hua and Dai, Junming, Mental Health Problems and Social Media Exposure During COVID-19 Outbreak (2/17/2020). Available at SSRN: <https://ssrn.com/abstract=3541120> or <http://dx.doi.org/10.2139/ssrn.3541120>

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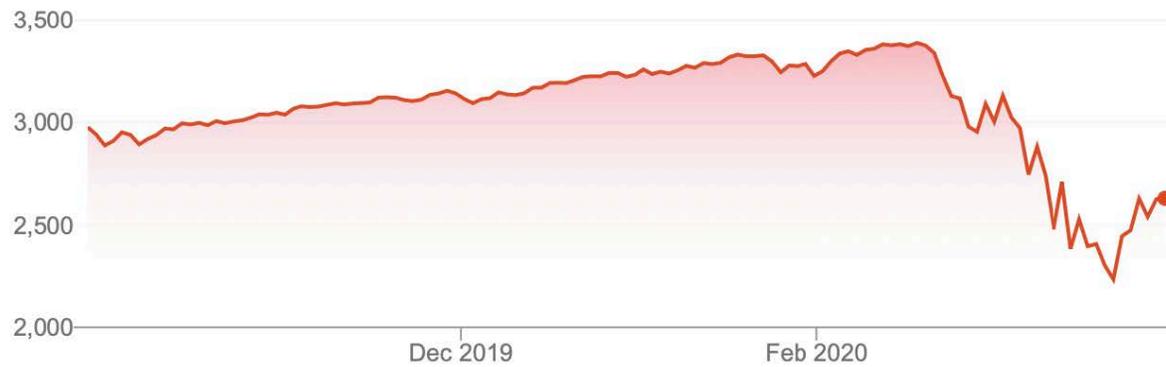
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1 day 5 days 1 month **6 months** YTD 1 year 5 years Max



Open	2,614.69	Low	2,592.76
High	2,637.34		

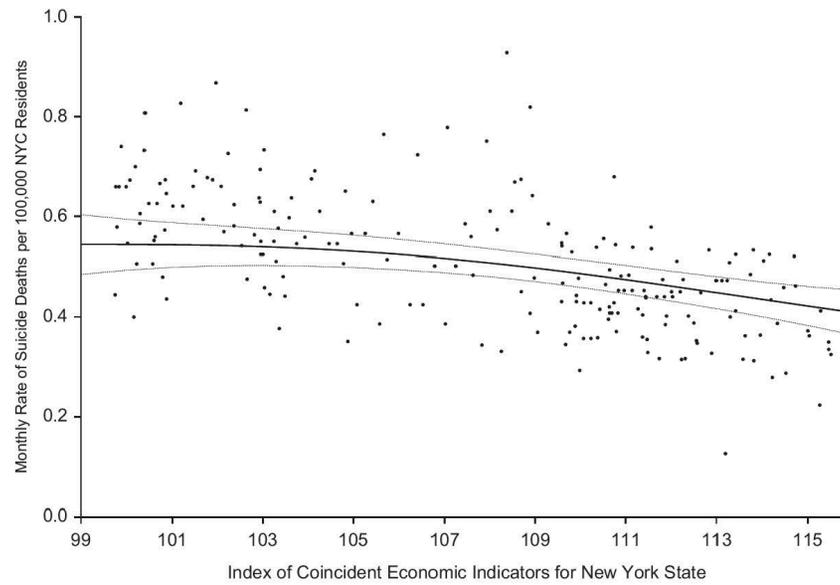
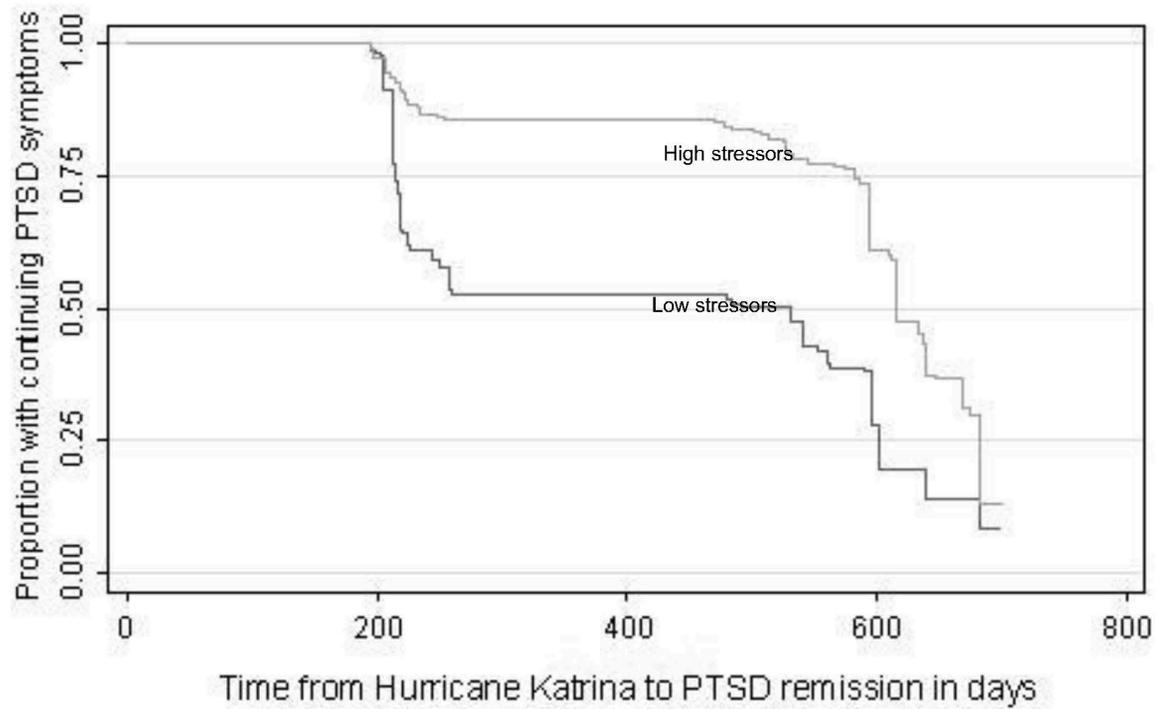


Figure 2. Generalized additive model showing the association between the Index of Coincident Economic Indicators and the predicted monthly rate of violent suicides per 100,000 New York City (NYC) residents after accounting for time trends, 1990–2006. The points indicate the actual monthly rates of suicide per 100,000 residents of New York City. The solid line represents predicted values, and dotted lines indicate 95% confidence intervals.

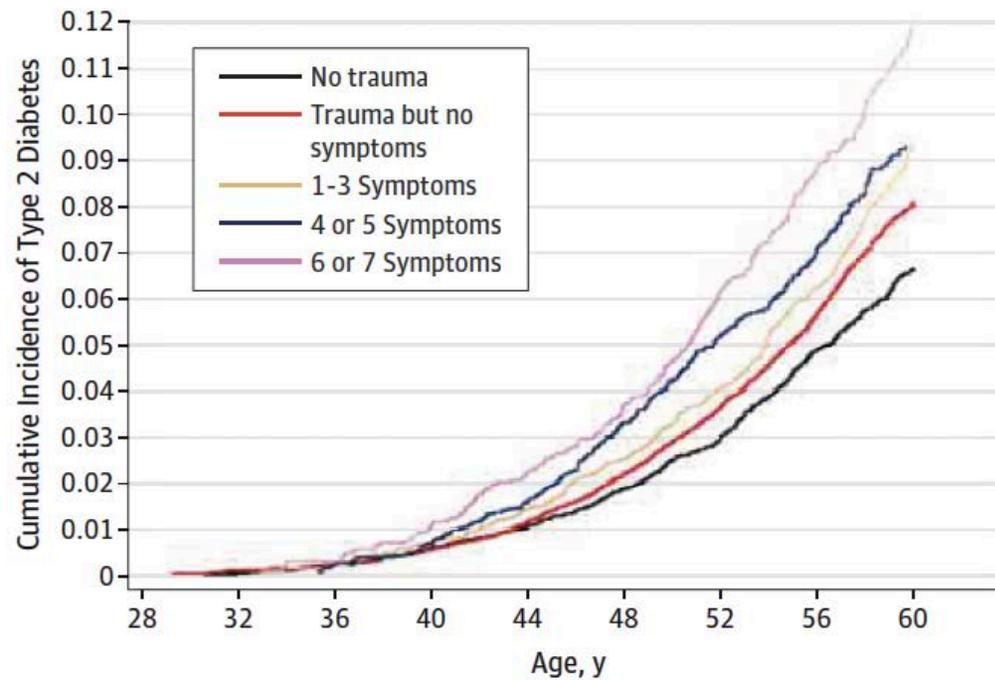
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Galea S, Tracy M, Norris F, Coffey S. Financial and social circumstances and the incidence and course of PTSD in Mississippi during the first two years after Hurricane Katrina. *Journal of Traumatic Stress*. 2008; 21(4):357-68. PMID: 18720399. URL: <http://hdl.handle.net/2027.42/60922>

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Figure. Cumulative Incidence of Type 2 Diabetes, Stratified by Number of Posttraumatic Stress Disorder Symptoms (Nurses' Health Study II, 1989-2011)



Roberts AL, Agnew-Blais J, Spiegelman D, Mason SM, Galea S, Hu F, Rich-Edwards JW, Koenen KC. Posttraumatic stress disorder and type 2 diabetes incidence in women: A 22-year longitudinal study. *JAMA Psychiatry*. 2015;72(3):203-10. PMID: 25565410. <https://doi.org/10.1001/jamapsychiatry.2014.2632>

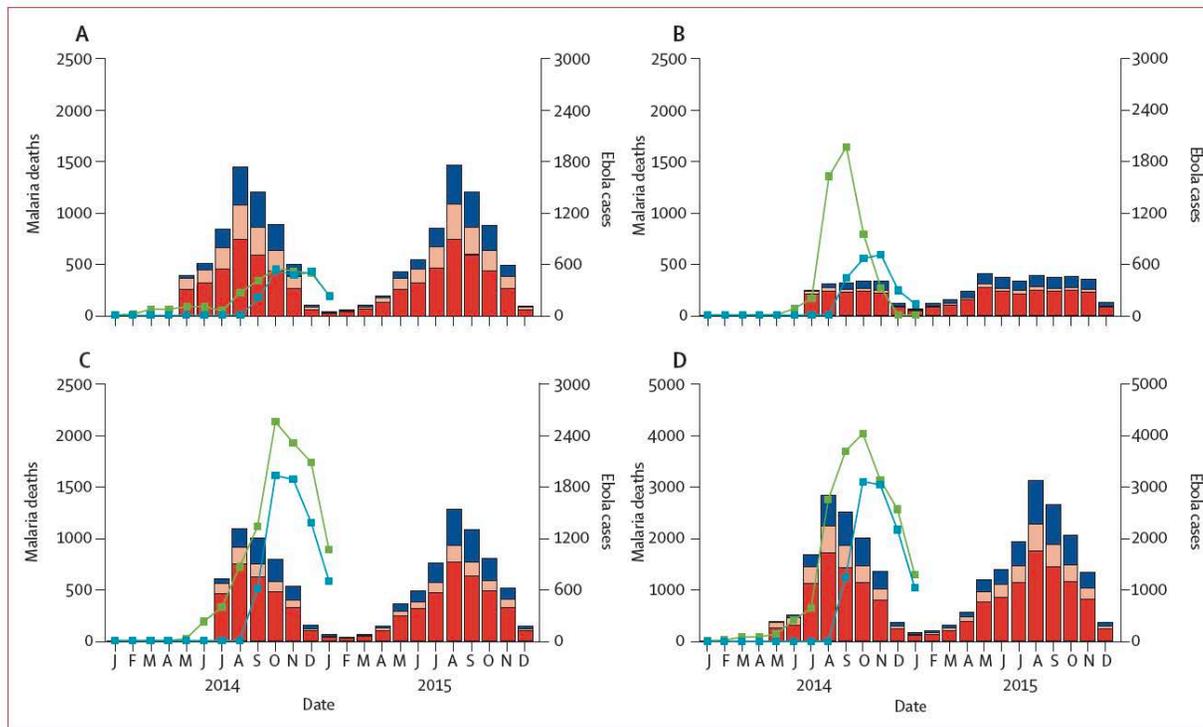
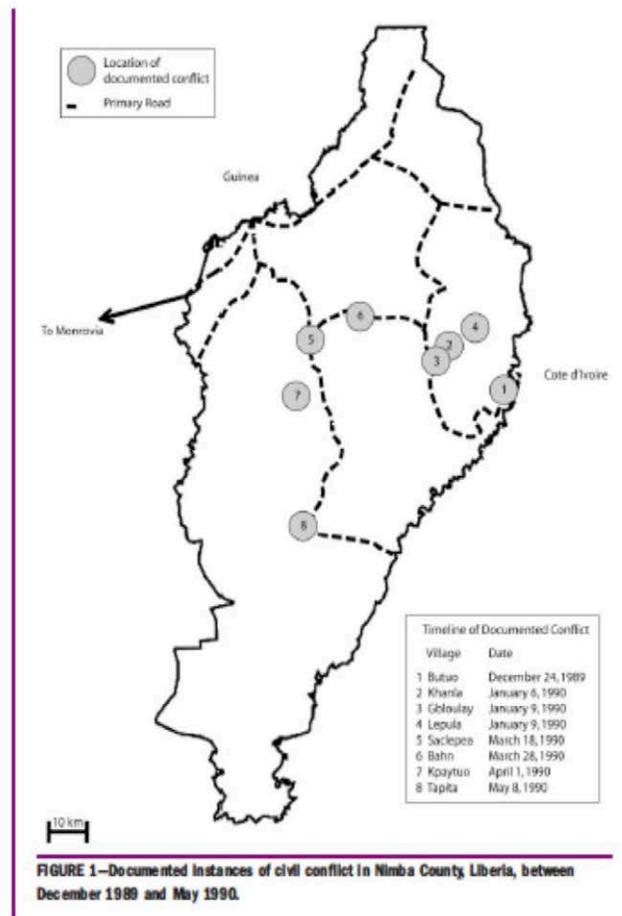


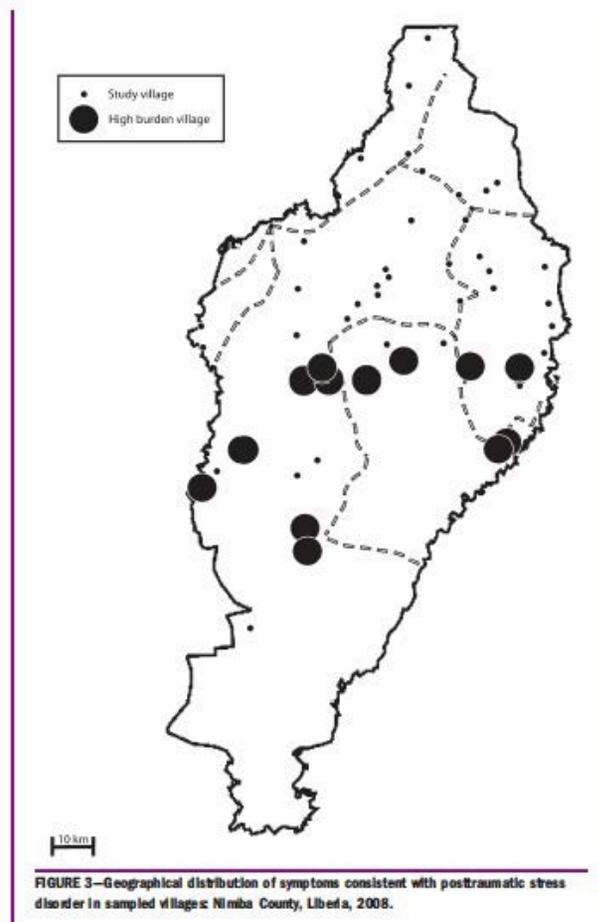
Figure 3: Effect of health-systems failure on malaria deaths

For Guinea (A), Liberia (B), Sierra Leone (C), and the combined total (D). Red bars show additional deaths in individuals who would otherwise have been treated with an artemisinin-based combination therapy (ACT) and recovered, pink bars show additional deaths in individuals who would not have received ACT or failed to respond to ACT but would have otherwise recovered after hospital care, and blue bars show additional deaths caused by the additional malaria cases attributable to increased malaria transmission. Green lines show probable and confirmed Ebola cases from patient databases, blue lines show Ebola cases from WHO situation reports.

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1. Education
2. Surveillance
3. Stepped care approaches
4. Improving social and economic conditions

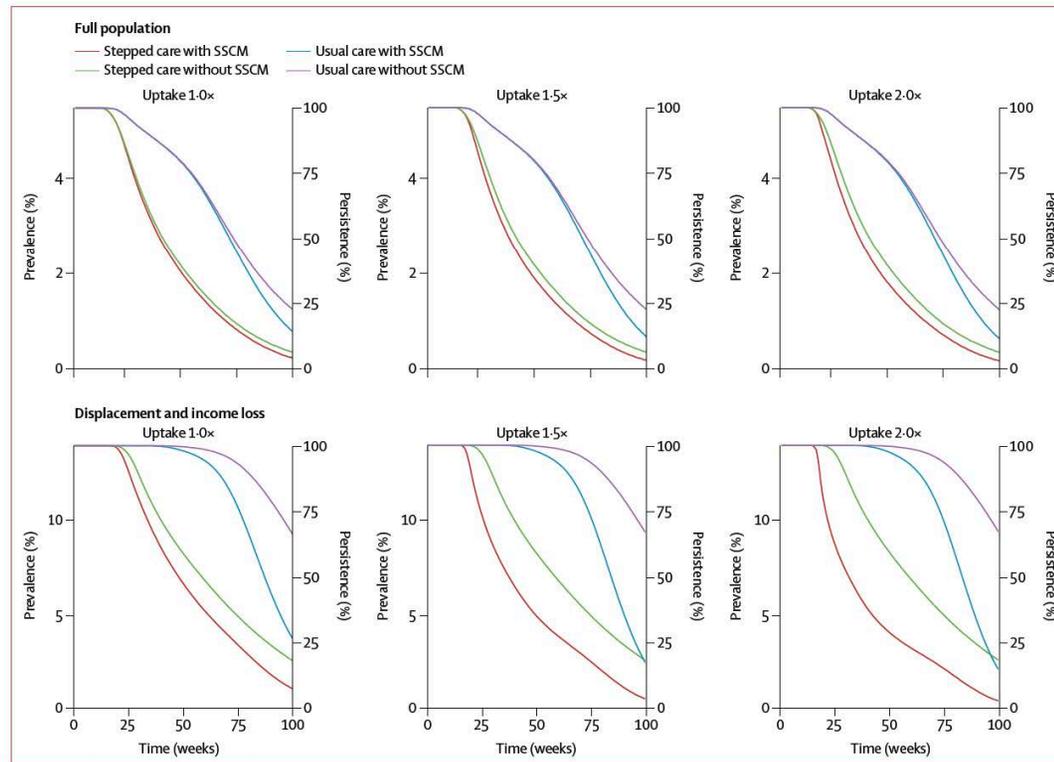


Figure 2: Prevalence and persistence of post-traumatic stress disorder among the full population and agents with displacement and income loss
SSCM=social services case management.

Cohen GH, Tamrakar S, Lowe S, Sampson L, Ettman CK, Kilpatrick D, Linas B, Ruggiero K, Galea S. Improved social services and the burden of post-traumatic stress disorder among economically vulnerable people after a natural disaster: a modelling study. *The Lancet Planetary Health*. 2019; 3(2):e93-e101. PMID: 30797416. [https://doi.org/10.1016/S2542-5196\(19\)30012-2](https://doi.org/10.1016/S2542-5196(19)30012-2)

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