LETTERS

Editor:

In his recent letter to the editor,[1] Dr. Vitiello raises a familiar objection to the call to action I made in "Ethics Implications of the Use of Artificial Intelligence in Violence Risk Assessment."[2] In his words, I erred by focusing on the "sexy aspects of deep learning" while neglecting to consider where he believes our immediate focus should lie, "on available data contained within electronic medical records." He goes on to dismiss, *ipse dixit*, my concern about the use of social media data in deep learning powered risk assessments as a "futuristic imaginative possibilit[y]."[1]

While I share Dr. Vitiello's interest in properly curating the data available to AI algorithms, his assertion that the use of predictive algorithms relying on social media data are as fantastical as a J.J. Abrams film is contradicted by recent published reports. Deep learning algorithms are already outperforming traditional risk assessment batteries while relying only on social media data. One study relying solely on Facebook posts predicted suicide risk significantly more accurately than most existing assessment tools,[3] with an AUC of .72 after 12 months of follow-up. Another study, which relied on multiple social media sources as well as limited biometric data collected from smart devices, predicted increased suicide risk with an AUC of greater than .9 at every measured time point during 6 months of follow-up.[4] To place these data in context, a contemporaneous study evaluating the Columbia Suicide Severity Rating Scale in an emergency setting found an AUC of .69 at 1 month and .62 at 1 year of follow up.[5]

It is increasingly clear that deep learning, when applied to social media, is competitive with if not superior to existing tools, even before having access to any clinical data. Predictive power will only improve as algorithms become more sophisticated and as they are exposed to more data. In the previously cited example,[4] predictive power improved dramatically simply by considering multiple social media sources and some limited biometric data. Inevitably, algorithms will be developed to synthesize social media posts, electronic medical records, biometric data, and genetic information, thereby becoming superior to their already high-performing predecessors and far superior to traditional risk assessment methods.

Narrowing our focus to the electronic medical records, as Dr. Vitiello suggests we do, while dismissing these other concerns as "imaginative possibilities" may be comfortable in the present moment. But such an attitude will leave forensic psychiatrists completely unprepared for the rapid paradigm shift AI may bring to our field. In times of rapid technological change, unpreparedness leads to irrelevancy. We should not willingly consign ourselves to irrelevancy.

References

1. Vitiello E. Letter. J Am Acad Psychiatry Law. 2021; 49(12):147
2. Cockerill RG. Ethics implications of the use of artificial intelligence in violence risk assessment. J Am Acad Psychiatry Law. 2020; 48 (3):345–9
3. Ophir Y, Tikochinski R, Asterhan CSC, *et al*. Deep neural networks detect suicide risk from textual Facebook posts. Sci Rep. 2020; 10(1):16685
4. Coppersmith G, Leary R, Crutchley P, *et al*. Natural Language processing of social media as screening for suicide risk. Biomed Inform Insights. 2018; 10:1178222618792860
5. Bjureberg J, Dahlin M, Carlborg A, *et al*. Columbia-suicide severity rating scale screen version: Initial screening for suicide risk in a psychiatric emergency department. Psychol Med. 2021;1–9

Richard G. Cockerill, MD, MBE
Evanston, IL