# Ecological Momentary Assessment of suicidal ideation and behavior in trials

Evan M. Kleiman, Ph.D.

Rutgers, The State University of New Jersey

kleimanlab.org

# Disclosures

- My research is funded by the NIH and AFSP
- No other corporate or other funding

# The Core Issue

- EMA captures suicidal thoughts and behaviors as they unfold in a way that is not possible with other methods
- Allows us to better understand mechanisms + real-time context + within-person dynamics

- But, EMA data collection adds burden and cost
- Most relevant: also adds a layer of complexity regarding risk monitoring

Glenn C.G. & **Kleiman, E.M.** (2025). Real-time monitoring research has the potential to inform evidence-based practice for youth with self-injurious thoughts and behaviors. *Psychiatric Annals*, 55, 12, e1-e6.

# My goal today is to answer these questions:

Why should we use EMA to study our constructs of interest, especially suicidal thinking?

How can we responsibly, ethically, and feasibly include suicidal people and suicide-related constructs in EMA?

# Suicidal thinking is dynamic

- Suicidal thoughts shift over minutes,  hours, days
- Traditional trial assessments (baseline/weekly) miss:
  - spikes
  - rapid transitions
  - context
- Retrospective reports are systematically biased
- Takeaway: if we want to understand (and treat) suicidal thoughts and behaviors, we need real-time measurement.

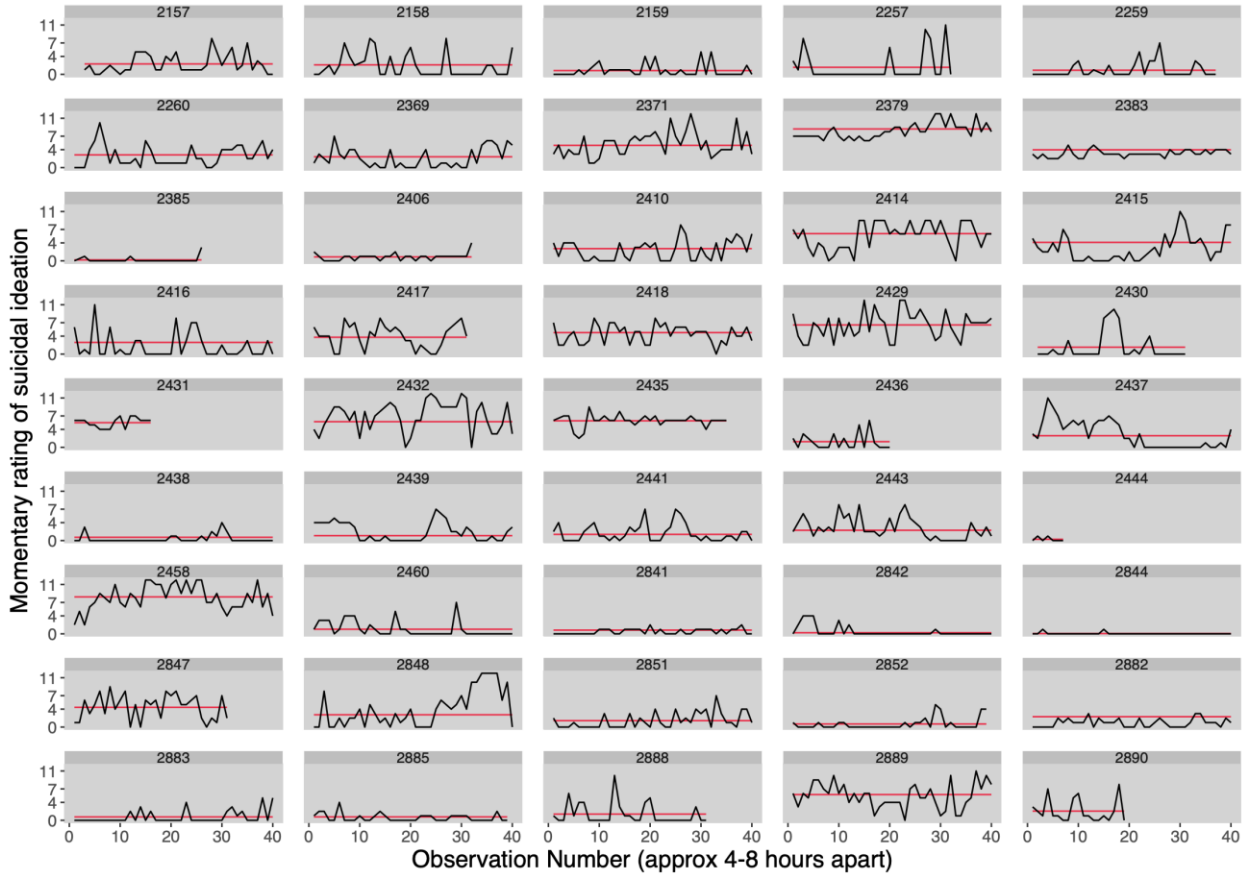
Kleiman, E.M., Turner, B.J., Fedor, S., Beale, E.E., Huffman, J.C., & Nock, M.K. (2017). Examination of real-time fluctuations in suicidal ideation and its risk factors: Results from two ecological momentary assessment studies. Journal of Abnormal Psychology, 126, 726-738.

# Suicidal thinking is dynamic

About one third of all responses differed by 1 SD from the response from just 4-8 hours prior.

1 SD is probably a qualitatively very different state than the prior one.

- Y axis = severity of suicidal thinking
- X axis = responses throughout the study
- Each participant has their own box
- Red line = each participant's average score




Kleiman, E.M., Turner, B.J., Fedor, S., Beale, E.E., Huffman, J.C., & Nock, M.K. (2017). Examination of real-time fluctuations in suicidal ideation and its risk factors: Results from two ecological momentary assessment studies. Journal of Abnormal Psychology, 126, 726-738.

# Why do we exclude suicidal thinking?

- Briefly: I'm talking about including assessments of suicidal thinking via EMA

- Not only is it important to include suicidal people in clinical trials, but also important to measure suicidal thinking as well!

# Why do we not measure suicidal thinking in real-time?

**If we measure suicidal thinking in real time, we (in theory) know when someone is at imminent risk for suicide.**

- This raises the question of what do we do to protect patients.
- This feels very cumbersome and ethically tricky, but doesn't have to be.
- I'll cover this for the rest of the talk

**But not measuring suicidal thinking has costs:**

- reduced generalizability
- loss of mechanistic insight
- less clinically useful evidence

# Issues with risk monitoring in EMA studies

- **When do you intervene?**
- **What do you do when you intervene?**
- **What other decisions are important**

# When do you intervene?

## Immediately

The most conservative approach.

Interferes with treatment: does not allow people time to practice their skills.

Creates non-consensual "treatment study" that may confound your findings.

Could expose people to unnecessary and aversive treatment.

VERY resource intensive.

## At pre-defined intervals

Requires making informed decisions regarding how often to intervene.

For example: reviewing data 1-2x a day and intervening then or only intervening with 2+ high risk responses.

Allows time for patients to practice skills, etc.

Requires fewer resources.

Higher need for researcher comfort.

## With a passive system

Providing resources to all patients or prompting patients to use resources (e.g.. 988) in response to certain items.

Much lower burden on staff.

Can work with other systems (e.g., providing resources + active intervention)

Requires a clear informed consent process and ongoing reminders that data are not monitored.

# How do you intervene?

- **First step should always be a follow-up risk assessment.**
  - Unlikely that you're capturing enough info in your survey to make clinical decisions.

- **What you do from there depends on the study:**
  - Help patients practice skills, create or review a safety plan, encourage contact with providers or hospital
  - Have a plan for if/when and HOW you would go even further with intervention (e.g., calling emergency services). This should be your last resort.

Nock, M.K., Kleiman, E.M., Abraham, M, Bentley, K., Brent, D.A., Buonopane, R.J., Castro-Ramirez, F., Cha, C.B., Dempsey, W., Draper, J., Glenn, C.R., Hollander, M.R., Harkavy-Friedman, J., Huffman, J., Lee, H.I.S., Millner, A., Mou., D. Onnela, J.P., Picard, R., Quay, H.M., Rankin, O., Sewards, S., Torous, J., Wheelis, J., Whiteside, U., Siegel, G., Ordóñez, A., & Pearson, J.L. (2021). Consensus statement on ethical & safety practices for conducting digital monitoring studies with people at risk of suicide and related behaviors. Psychiatric Research and Clinical Practice. 3, 57-66.

# What else is important

- **Risk thresholds**
  - I've successfully dodged this topic today! (it's one of the hardest)
  - Should be informed based on your study design, prior experience, level of risk tolerance
  - You can also have a threshold to *review* but not *act,* and actions are based on review (this is what we do).

- **Consent**
  - Do as much as you need to do make sure participants understand what you will and won't do to protect them.

- **Contact** modality
  - You are (anecdotally) much more likely to get people to engage with you via text than call.

Bentley, K.H., Maimone, J.S., Kilbury, E.N., Tate, M.S., Wisniewski, H., Levine M.T., Roberg, R., Torous, J.B., Nock M.K., Kleiman, E.M.* (2021). Practices for monitoring and responding to incoming data on self-injurious thoughts and behaviors in intensive longitudinal studies: A systematic review. Clinical Psychology Review. 90, Article #102098.

# To summarize

- We should measure suicidal thinking via EMA because:
  - EMA captures the true nature of suicidal thinking (it varies quickly!)
  - Without it we lose clinical generalizability and mechanistic insight

- We need to consider ethical and practical risk management
  - This does not always mean intervening immediately
  - You need a plan that protects patients but does not interfere with their ability to get better
  - Consent language is very important

# Ecological Momentary Assessment of suicidal ideation and behavior in trials

Evan M. Kleiman, Ph.D.

Rutgers, The State University of New Jersey

kleimanlab.org