The Effect of COVID-19 on the Detection and Prevalence of Suicidality in Adolescents

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Shayla Sullivant

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The Effect of COVID-19 on Suicide Risk in Adolescents

John D. Lantos, Hung-Wen Yeh, Fajar Raza, Mark Connelly, Shayla Sullivant

Children’s Mercy Kansas City
Kansas City, Missouri
Background

• Suicide is 2\textsuperscript{nd} leading cause of death in teens in the US
  • According to the Centers for Disease Control and Prevention (CDC), >48,000 youths (ages 10-24) took their own lives in 2018.
  • Anecdotal reports – and some studies – suggest that teen suicide rates have increased during the COVID pandemic.
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<tr>
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<tr>
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Children's Mercy screening program

- In 2018, after a five-year planning process, our hospital began a screening program for all teens.
- Followed Joint Commission recommendation.
- Included inpatient, outpatient, and ED
- At each visit (but no more than once/month) teens were asked to answer four questions on the ASQ suicide screen.
ASQ (yes/no) questions

• In the past few weeks, have you wished you were dead?
• In the past few weeks, have you felt that you or your family would be better off if you were dead?
• In the past week, have you been having thoughts about killing yourself?
• Have you ever tried to kill yourself?
  If yes, how? When?

If the patient answers yes to any of the above, ask the following question:

• Are you having thoughts of killing yourself right now? Yes No
  If yes, please describe:
Screening built into EHR and RedCap
Responses

• Considered positive if answered "yes" to any of the questions
• All patients who screened positive were evaluated by SW
• Possible responses
  • Counseling about means restriction at home
  • Referral for outpatient psychotherapy or medication
  • Inpatient admission
First year: 2019

- 138,598 screens.
- Positivity rate 8.9%
Then COVID happened
Changes as a result of COVID

• Many outpatient clinics curtailed services
• Rapid rise in telemedicine
• Schools closed to in-person education -> isolation
• Effects on suicidality?
Study questions

• Did more teens think about suicide during the first months of the pandemic than before the pandemic?
• Did screening work when used as part of telemedicine?
  • Did rates of screening go down?
  • Did rates of positive screens go up?
• We compared April-June results in 2019 and 2020
Statistical analysis

• Generalized linear mixed-effects models (GLMM) with the fixed-effect coefficient marginalized.
April-June 2019 vs 2020

• 2019:
  • 24,860 patients had 38,455 visits
  • 15 (0.04%) visits were by telemedicine.

• 2020:
  • 16,359 patients had 24,073 visits
  • 3,372 (26.7%) visits were by telemedicine.
Fewer eligible patients were screened

- **2019:**
  - 66.4% of eligible patients screened

- **2020:**
  - 55.8% of eligible patients screened
  - $z = -26.1$, $p < 0.001$. 
Fewer screenings in telemedicine

• Eligible patients screened during 2020
  • Telemedicine visits: 39%
  • In-person visits: 65%
  \[ z = -39.2, \ p < 0.001. \]
Positivity rates

• Among all completed screens:
  • 10.7% positive in 2019
  • 12.1% positive in 2020
    OR 1.15, 95% CI: 1.09, 1.20; z = 5.5, p < 0.001.
Positivity rates

• Positives lower in telemedicine than in-person visits
  • 10.8% in telemedicine
  • 12.8% in in-person
    • OR 0.82, 95% CI: 0.74, 0.92; z = -3.4, p<0.001.
### Multivariate GLMM analysis

Main-effects GLMM: marginalized coeff.

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Rates of positive screens…

• …Lower in males than females (OR: 0.44, z= -15, p<0.001)
• …Lower in Blacks than all others (OR: 0.85, z = -3.3, p=0.001)
• …Higher with each year of age (OR 1.06, z = 9.0, p <0.001)
• …Higher for public insurance than private  (OR: 1.8, z=14.8, p<0.001)
Conclusions

• In the early months of the COVID-19 pandemic
  • Fewer overall visits
  • Fewer eligible patients screened during visits
  • 10% increase positive suicide screens
    • Higher in girls, older teens, and those with public insurance
    • Lower in Blacks
• Screening by telemedicine was difficult to implement.
Caveats

• Higher positive suicide screen rates could indicate
  • Higher risk patients more likely to keep appointments,
  • More stressed patients chose to keep appointments.
  • Suicide risk among teens increased
I Don’t Want Another Family to Lose a Child the Way We Did

The thought of suicide is terrifying, but we have to make talking about it a part of everyday life.
Thanks