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Patient Safety Tip of the Week

August 11, 2020

Above-Door Alarms to Prevent Suicides

In our September 3, 2019 Patient Safety Tip of the Week "Lessons from an Inpatient Suicide" we discussed an unfortunate suicide in which a patient used as an anchor the top of a corridor door to hang himself (OIG 2019), We noted that case was particularly ironic, because it occurred at a VA hospital. The VA system has produced so many valuable resources on suicide prevention that we now use in hospitals world-wide.

We summarized lessons learned from that case:

- Use a tool like the VA Mental Health Environment of Care Checklist (MHEOCC) to guide your environment of care rounds on your behavioral health units.
- Make sure all relevant staff are appropriately trained on the MHEOCC.
- **Strongly consider use of over-the-door alarms on your corridor doors on behavioral health units**.
- Make sure your responsible staff understand their role in your 15-minute (or other designated interval) observations and that they are not multi-tasking during those responsibilities. Audit compliance with these protocols.
- When your security cameras malfunction for any reason, make sure the reasons for such malfunctions are promptly addressed and corrected.
- Your leadership needs to take an active role in oversight of your inpatient behavioral health units.

Subsequently, VA researchers undertook a study of all VA medical centers having behavioral health units. Mills et al. (Mills 2020) searched VHA databases for reports of suicide deaths and attempts on inpatient mental health units from January 2008 (when VHA began using over-the-door alarms) to June 2019.

Of 389 suicide attempt and suicide death events, 179 (46.0%) were due to hanging, including 6 deaths. Of those 179 reports of hanging, 127 (71.0%) used doors as the anchor point, including 4 of the deaths.

Of the 127 RCA and safety reports of hanging on a door, 44 (34.6%) cases involved an over-the-door alarm. And **in every case involving an over-the-door alarm, the patient**

did not die. In 2 cases the patients were contemplating hanging but did not because they were aware of the over-the-door alarms. In 2 other cases the alarm did not go off.

The authors conclude that, though the association is not proof, the findings suggest that **many deaths were likely averted by over-the-door alarms**.

Perhaps just as importantly, there were lessons learned from those alarms that failed to go off. They illustrate the **importance of testing and checking the alarms on a regular basis**, and of continuing regular rounds and checks on the unit even with the alarms. Note that some over-the-door alarms apparently are capable of triggering an alert when the alarm needs maintenance. We'd still recommend manually checking those alarms regularly.

The data reviewed by Mills and colleagues also included information about the materials used as lanyards/nooses for the attempted hangings. Sheets as the lanyard material to form the noose in 69.3% of the reports and clothing or pajamas in 19.6%. The authors admit it would be difficult to eliminate all the lanyard material on a mental health unit as patients will have some type of bedding and pajamas or other clothes. But they do describe anti-ligature bedding that uses a one-piece bed cover that is too thick to use as a lanyard for hanging. They suggest that, coupled with the use of over-the-door alarms help to mitigate the risk of a suicide death by hanging.

Two of the root causes identified in the RCA's of all the cases were:

- access to anchor points
- lack of visibility of patients in private areas.

The authors note that over-the-door alarm technology helps eliminate these hazards by removing a reliable anchor point, and alerting staff to patient attempts when out of view.

Environmental hazards are root causes or contributing factors in most suicide attempts. You'll, of course, recognize the lead author Peter Mills as the architect of the widely used VA **Mental Health Environment of Care Checklist (MHEOCC)** that we've discussed in many of our columns. That checklist is available online on the VA Patient Safety website, as is an excellent video narrated by Peter Mills, MD. In our February 14, 2017 Patient Safety Tip of the Week "Yet More Jumps from Hospital Windows" we mentioned 2 publications (Watts 2016, Mills 2016) showing sustained results from implementation of the Mental Health Environment of Care Checklist (MHEOCC). The checklist and program became mandated at all VA hospitals in 2007. Inpatient suicide rates in VA hospitals dropped from 4.2 per 100,000 admissions to 0.74 per 100,000 admissions from 2000 to 2015. The reduction in suicides coincided with introduction of the MHEOCC and has been sustained since implementation in 2007. The authors stress that the physical changes brought about by the MHEOCC likely have a bigger impact on inpatient suicide reduction than the numerous other interventions used.

While you probably should install over-the-door alarms on all doors in your behavioral health units, keep in mind there are other situations in which that is not practical:

- the suicidal patient who must be housed on a non-behavioral health unit because of concomitant medical problems
- the behavioral health patient who is on an intrahospital transport (for example, to radiology)

We've certainly seen attempted suicides by hanging on general med/surg units or in bathrooms in the Radiology suite. In fact, most of our columns on hospital suicides address suicides in those non-behavioral health parts of hospitals.

We don't know if any of the over-the-door alarms are "portable" and might be moved to non-behavioral health units as needed. But we have previously recommended that general hospitals which often have to house potentially suicidal patients on their non-behavioral health units consider dedicating one or two rooms to have special design similar to rooms on behavioral health units. That could easily include ligature-resistant doors and over-the-door alarms.

Some of our prior columns on preventing hospital suicides:

- January 6, 2009 "Preventing Inpatient Suicides"
- February 9, 2010 "More on Preventing Inpatient Suicides"
- March 16, 2010 "A Patient Safety Scavenger Hunt"
- December 2010 "Joint Commission Sentinel Event Alert on Suicide Risk Outside Psych Units"
- September 27, 2011 "The Canadian Suicide Risk Assessment Guide"
- December 2011 "Columbia Suicide Severity Rating Scale"
- July 2012 "VA Checklist Reduces Suicide Risk"
- August 2013 "Suicide Attempts on Med/Surg Units"
- August 25, 2015 "Checklist for Intrahospital Transport"
- October 6, 2015 "Suicide and Other Violent Inpatient Deaths"
- March 2016 "TJC Sentinel Event Alert on Preventing Suicide"
- April 12, 2016 "Falls from Hospital Windows"
- February 14, 2017 "Yet More Jumps from Hospital Windows"
- August 29, 2017 "Suicide in the Bathroom"
- December 12, 2017 "Joint Commission on Suicide Prevention"
- July 10, 2018 "Another Jump from a Hospital Window"
- September 18, 2018 "More on Hospital Suicides"
- January 22, 2019 "Wandering Patients"
- January 29, 2019 "National Patient Safety Goal for Suicide Prevention"
- July 30, 2019 "Lessons from Hospital Suicide Attempts"
- September 3, 2019 "Lessons from an Inpatient Suicide"

References:

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Mental Health Environment of Care Checklist (VA)
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video
http://www.patientsafety.va.gov/professionals/onthejob/mentalhealth.asp

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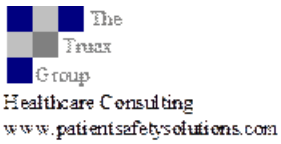

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