The Health Care Improvement Foundation
2019 Delaware Valley Patient Safety and Quality Award
Entry Form

1. Hospital Name

   Penn Presbyterian Medical Center – Penn Medicine

2. Title Of Initiative

   Center for Emergency Engagement: The evolution of a peer-led model

3. Abstract (Please limit this description to 250 words.)

   Emergency departments (EDs) in Pennsylvania are increasingly seeing patients for overdose and other opioid use disorder (OUD)-related visits. Medications like buprenorphine or methadone are the gold standard treatment for OUD, and there is evidence that initiating buprenorphine in the ED substantially increases treatment engagement. However, there are barriers to implementing this practice in real-world settings, including patient identification, access to physicians certified to prescribe buprenorphine (X-waiver), patient interest in treatment, and linkage to ongoing care. The Organization's Center for Emergency Engagement, in partnership with the Organization's Innovation Team, set out to improve care in each of these areas and truly meet patients where they are.

   Our model leverages certified recovery specialists (CRSs) for patient engagement, care coordination, treatment linkage, and follow-up after the ED to improve retention. We have developed a novel system to automatically notify CRSs of patients with likely OUD based on real-time data in the electronic health record and have implemented posters allowing patients to self-identify directly to CRS for treatment or harm reduction-oriented support. We developed pathways (see appendix 1) and workflows to standardize treatment from the ED. Coupled with health system efforts to increase X-waivered ED providers, CRSs support patients and assist providers with engagement and linkage to care, resulting in significantly increased buprenorphine initiation, reduced 30-day ED revisits, and reduced 30-day readmissions among patient admitted to the hospital. Currently, over 2/3 of patients seen in the ED by a CRS and started on buprenorphine remain engaged at 30 days.

4. What were the goals of your initiative?

   There were three primary objectives:

   - Early and accurate identification of OUD patients presenting to the ED
   - Increased use of buprenorphine/naloxone (Suboxone) initiated in the ED or prescribed to patient from the ED
   - Timely and consistent alerts to Certified Recovery Specialists when OUD patients are in the ED so they can rapidly engage the patient and provide a facilitated referral, known as a warm handoff, to next level of care

5. What were the baseline data and the results of your initiative?

Patients starting on buprenorphine in the ED has increased three-fold. Certified recovery specialist involvement has increased 12x, and patients consulted by a CRS were significantly less likely to come back to the ED within 30 days of discharge. Finally, when we started, very few patients were engaged in treatment 30 days after their ED visit. But now, when patients receive a CRS consult and are started on buprenorphine, 68% are engaged in treatment at 30 days. Conservatively, we estimate that this work will prevent 187 overdoses each year.

- Increase eligible patients starting on buprenorphine in the ED
  - Baseline 20%
  - 6/19 68%
- ED visits with CRS involvement
  - Baseline: 4 visits/month
  - 6/19: 60 visits/month
- Patients returning to ED within 30 days of discharge
  - Baseline: 35% returned to ED within 30 days
  - 6/19: 22% returned to ED within 30 days
- Patients in remaining engaged in treatment 30 days after ED visit
  - Baseline: 5%
  - 6/19: when patients received a CRS consult and are started on buprenorphine, 68% are still in treatment at 30 days

6. Describe the interventions that were instrumental in achieving the results for your initiative.

We have developed a novel system to automatically notify CRSs of patients with likely OUD based on real-time data in the electronic health record and implemented posters to allow patients to self-identify directly to a CRS for treatment or harm reduction-oriented support. When we started, ED buprenorphine use was a new concept to many, and few doctors had completed their X-waiver training. Our team led a campaign which used financial incentives to increase X-waivered ED faculty from 5% to over 85%, increasing both knowledge of this treatment modality and capacity to initiate treatment and provide buprenorphine on discharge from the ED. Our model leverages CRSs for patient engagement, care coordination, treatment linkage, and follow-up after the ED to improve retention.

7. Describe the key steps required to successfully replicate this initiative throughout the region. (Please limit this description to 100 words.)

Our intervention was designed with scalability in mind and has already been implemented in three large urban EDs with a large impact. The initiative requires relatively few resources, with only two full-time CRSs completing over 60 consults a month. Leveraging technology, by way of the automatic alerts of OUD patients, helping patients self-identify, and shifting the providers' attitudes about using buprenorphine to treat OUD, has allowed for the results seen with little necessary manpower. The Center's model of treatment that has CRSs as the foundation makes this an easily replicated model that requires few additional resources.

8. Explain how the initiative demonstrates innovation (Please limit this description to 100 words.)

We hypothesized an automated system would address key barriers to patient identification. We used an innovation method called "fake back end" to mimic the proposed automated system using manual effort and then used rapid cycle pilots to refine identification using available chart elements. We then translated our learnings into an automated tool. Using technology called Agent, we built a system that monitors the EHR 24/7 and automatically notifies our team via secure text when a patient meets criteria for OUD. We have progressively refined these criteria, and are in the process of incorporating algorithmic language processing to improve accuracy.

9. How does this initiative demonstrate collaboration with other providers within the continuum of care? (Please limit this description to 100 words.)

This project hinged on the team's ability to shift the culture about OUD patients in the ED. First, it was imperative to secure buy-in from ED providers and have them complete X-waiver training to write prescriptions for patients initiating buprenorphine. Second, it was necessary to improve collaboration with the ED providers, social workers, and outpatient treatment providers to ensure a smooth warm handoff from ED to long-term treatment. Multiple communication strategies and in-person rounding served to promote excellent working relationships. Now, social work teams and providers include CRSs in treatment team meetings and reach out for support and guidance

10. Explain ways in which senior leadership exhibited commitment to the initiative (Please limit this description to 100 words.)

Senior leadership has supported our efforts on multiple levels. They have provided financial incentives to ED providers to obtain their X-waiver and strong messaging has come from the Chief Medical Officer of the organization encouraging providers to embrace the use of buprenorphine in EDs. The organization has also provided time and administrative resources to help carry out the project as well as innovation design strategists and interns to help develop pilots, track and trend data, and implement novel approaches to treatment.

11. Appendices (i.e., tables and graphs)