Time to ACT: launching an Addiction Care Team (ACT) in an urban safety-net health system

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ABSTRACT

Across the USA, morbidity and mortality from substance use are rising as reflected by increases in acute care hospitalisations for substance use complications and substance-related deaths. Patients with substance use disorders (SUD) have long and costly hospitalisations and higher readmission rates compared to those without SUD. Hospitalisation presents an opportunity to diagnose and treat individuals with SUD and connect them to ongoing care. However, SUD care often remains unaddressed by hospital providers due to lack of a systems approach and addiction medicine knowledge, and is compounded by stigma. We present a blueprint to launching an interprofessional inpatient addiction care team embedded in the hospital medicine division of an urban, safety-net integrated health system. We describe key factors for successful implementation including: (1) demonstrating the scope and impact of SUD in our health system via a needs assessment; (2) aligning improvement areas with health system leadership priorities; (3) involving executive leadership to create goal and initiative alignment; and (4) obtaining seed funding for a pilot programme from our Medicaid health plan partner. We also present challenges and lessons learnt.

INTRODUCTION

In 2018, 20.3 million people in the USA had an active alcohol or drug use disorder.1 Opioid overdose deaths have reached epidemic proportions, with alcohol and stimulant-related deaths also rising.2 3 Simultaneously, between 2009 and 2014 hospitalisations for people with substance use disorders (SUD) nearly doubled.4 These hospitalisations are long, costly and associated with high rates of readmission and self-discharge (discharge against medical advice).5 6

Hospitalisation is an opportunity to offer SUD care to patients and connect them to ongoing services, since many are motivated to reduce substance use during hospitalisation.7 Offering and initiating addiction treatment is associated with decreased substance use and readmission rates, and increased linkage to postdischarge care and retention in SUD treatment.8 9 10 Providing addiction treatment to inpatients also improves patient and provider experiences.11

In this landscape, a variety of acute care SUD models have been developed, including addiction medicine consult services (AMCS). However, funding them is challenging and only a few AMCS are embedded in safety-net health systems.12 We present our approach to launching the Addiction Care Team (ACT), an interprofessional AMCS, in an urban, integrated safety-net health system. We share key factors for successful implementation, the current state of addiction care in our hospital, and ongoing challenges.

SETTING

San Francisco General Hospital (SFGH) is a public hospital and the only Level 1 Trauma Centre in City and County of San Francisco and northern San Mateo County. There are about 75 000 emergency department (ED) visits and 16 500 hospitalisations annually. SFGH has 284 inpatient beds, 58 ED beds and 24 hour psychiatric emergency services. The hospitalised population is 27% Latinx, 26% White, 22% African American/Black, 18% Asian or Pacific Islander and 7% other.

SFGH is part of the San Francisco Department of Public Health (DPH) within the San Francisco Health Network, the city’s integrated health system, which includes primary care, jail health, behavioural health and a skilled nursing facility.

DEVELOPING A PLAN

Preintervention addiction care

Several SUD resources existed prior to the ACT. These included hospital guidelines for alcohol and opioid withdrawal monitoring and management, naloxone coprescribing for overdose prevention, and protocols to initiate medications for addiction treatment (MAT), including naltrexone, methadone.
and buprenorphine. However, these practices were vari-
ably implemented and largely underutilised by providers.

One physician voluntarily staffed a pager to assist teams
in initiating buprenorphine. The only funded programme
was comprised of three DPH licensed vocational nurses
(LVNs) who counselled hospitalised patients with tobacco
or unhealthy alcohol use. LVNs offered nicotine replace-
ment therapy and referral to the California Smokers’
Hotline and assessed those with unhealthy alcohol use for
alcohol use disorder and naltrexone candidacy.

Because most efforts were unfunded, siloed and
uncoordinated, many care gaps remained. These were
especially apparent in care transitions (ie, psychosocial
treatment referral and follow-up), MAT initiation and
harm reduction counselling. These gaps contributed to
high readmission rates among patients with SUD.

Identifying shared priorities
In September 2017, we launched a taskforce composed of
stakeholders dedicated to improving health system addic-
tion care. This workgroup included nurses, pharmacist,
social workers, physicians and SUD community-based
organisation representatives. Importantly, we also invited
executive leadership from our integrated health network
and the San Francisco Health Plan, a Medicaid managed
care plan and the major Medicaid insurer for our health
network patients.

Meeting monthly, the taskforce conducted a two-
pronged needs assessment. First, we emailed an anonym-
mised survey (online supplemental appendix 1) to
hospital trainee, nurse, attending physician and social
worker listservs. Using a Likert scale, we inquired about
staff and provider satisfaction with inpatient SUD care,
comfort delivering addiction care, and what features
would be most important in an AMCS.

Second, we extracted electronic health record (EHR)
data of hospitalisations between 1 January 2016 and 31
December 2016. To identify substance use-related hospi-
talisations, we categorised hospitalisations into those with
SUD International Classification of Disease (ICD) 10
code(s) and those without one. We also compared demo-
graphic and psychosocial factors, and acute care utilisa-
tion between these groups.

The taskforce then matched SUD improvement areas
with our health network’s priorities of equity, safety,
quality, care experience, developing staff and providers,
and financial stewardship. We also reviewed AMCS litera-
ture and interviewed existing service directors about the
funding and composition of their consultation teams.2–912

Needs assessment results
Survey
Of the 128 respondents, 79% thought SFGH probably or
definitely needed to transform its approach to SUD care
and 89% thought an AMCS would be very or extremely
useful for staff, providers and patients. Respondents
thought it would be very important for an AMCS to
provide assistance with: (1) SUD discharge planning and
care transitions (84%); (2) cooccurring mental health
disorder management (72%); (3) motivational inter-
viewing and counselling services (69%); (4) MAT advice
(62%); (5) staff and provider addiction education (56%);
and (6) withdrawal management (52%).

EHR data
Among 12 580 adult acute care hospitalisations, 28% had
SUD ICD 10 code(s) in the top 10 discharge diagnoses.
Alcohol-, amphetamine-, opioid- and cocaine-related
diagnoses were found in 54%, 27%, 26% and 23% of
SUD-related hospitalisations, respectively (not mutually
exclusive).

Primary insurance for SUD-related hospitalisations was
73% Medicaid, 16% Medicare, 5% private, 2% Medicare–
Medicaid and 4% other and 43% were unassigned to
primary care. Compared with those without SUD-related
hospitalisations, those with were more likely to experience
homelessness (42% vs 9%), mental illness (30% vs 17%),
30-day readmissions (16% vs 11%) and self-discharges
(11% vs 2%).

EXECUTING THE PLAN
Obtaining executive sponsorship and funding
We presented needs assessment results and taskforce
recommendations in a Lean A3 format, our health
system’s preferred problem-solving process, to hospital,
health network and health plan leadership in May 2018.2,13
The higher readmission rates among those with SUD-
related hospitalisations alarmed executive leadership.
In addition, the disproportionate rates of people expe-
riencing homelessness and mental illness, as well as over-
representation of people of colour (data not shown)
highlighted inequities in our health system and tied to
health system priorities of reducing inequities. Because
our proposed AMCS aimed to improve care linkages and
potentially reduce readmissions, and because meeting
California’s Medicaid incentive programme metric of
reducing 30-day readmissions as well as reducing ineq-
uieties were organisational priorities, supporting an AMCS
became a funding priority for executive leadership.

Our efforts coincided with the health plan’s Quality
Improvement Programme to advance clinical quality and
patient safety for people with SUD. As part of its response
to the opioid overdose epidemic, the health plan sought
to support local health systems to increase their capacity
to initiate MAT. Using strategic reserve funds, the health
plan awarded our health network a 3-year US$900 000
grant to pilot the ACT at SFGH.

IMPLEMENTATION
We designed the ACT based on available funding, needs
assessment results and existing AMCS models. The ACT
was rolled out in January 2019 in a stepwise fashion to
pilot and improve workflows, build capacity, and develop
collaborations with hospital services. The team consisted
of a half-time attending, full-time patient navigator and


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a rotating addiction medicine fellow. The three alcohol and tobacco focused DPH LVNs were integrated into the ACT and onsite 7 days a week. All other ACT providers are onsite Monday–Friday. Fellows provide telephone support afterhours on weekdays and attendings cover weekends.

ACT attendings include addiction medicine board-certified and board-eligible providers. Providers were recruited from family medicine, internal medicine, toxicology, obstetrics and gynaecology, addiction psychiatry and adolescent medicine based on having addiction medicine board-certification or committing to obtaining it. Table 1 details ACT roles and responsibilities.

The ACT is unique in both responding to primary team consults and LVNs proactively seeing patients with unhealthy substance use. Like other AMCSs, our team has led system-wide addiction care improvements via interprofessional education, creating EHR SUD ordersets, and petitioning the hospital formulary committee to increase the availability of evidence-based addiction pharmacotherapies. In its first year of service, despite a staggered roll-out, the ACT

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<thead>
<tr>
<th>Table 1</th>
<th>ACT Members, Roles and Responsibilities</th>
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<tr>
<td><strong>Team member</strong></td>
<td><strong>Needs addressed</strong></td>
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<tr>
<td>LVN 2.9 FTE</td>
<td>► Assessment of unhealthy substance use</td>
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<td>► Motivational interviewing and counselling</td>
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<td>Patient navigator 1.0 FTE</td>
<td>► Discharge planning</td>
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<td>► Motivational interviewing and counselling</td>
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<td>► Coordination with social work to refer to mental health support</td>
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<td>Fellow 0.75 FTE</td>
<td>► SUD evaluation and diagnosis</td>
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<td></td>
<td>► Motivational interviewing and counselling</td>
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<td>► Treatment recommendations</td>
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<td>► Staff and provider education</td>
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<tr>
<td>Attending 0.5 FTE</td>
<td>► Supervision</td>
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<td>► Motivational interviewing</td>
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<td>► Treatment recommendations</td>
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<td>► Staff and provider education</td>
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<td>► Billing</td>
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ACT, Addiction Care Team; FTE, full-time equivalent; LVN, licensed vocational nurse; SUD, substance use disorder.
experienced a rapid uptake with 631 consultation requests (figure 1) and more than 20 direct discharges to residential treatment programmes.

**Billing**
The ACT bills using consultation codes under time-based or element-based documentation and recoups professional fees. As a county hospital in a Medicaid expansion state, most ACT patients are insured by a managed Medicaid plan and the hospital is reimbursed via capitated payments. Uninsured and undocumented patients may qualify for Healthy San Francisco, a programme for San Francisco residents financed by the city’s general fund which includes access to preventative, primary and hospital care within the city.

**Challenges**
In its first year, the ACT’s key challenge was expanding capacity to meet overwhelming service demand. More than a quarter of consults remained unstaffed, and we were unable to offer services to psychiatry and ED patients. We achieved our current capacity by augmenting health plan seed funding with additional time-limited grants and philanthropic support.

Although the service addresses core needs identified by our taskforce, financial sustainability remains uncertain. Billing revenue is severely inadequate to finance the ACT and this is an ongoing and growing concern in the context of the COVID-19 pandemic. While EDs and hospitals reported decreased patient volumes, the ACT’s consult requests increased by over 30% (data not shown) when shelter-in-place orders were implemented in San Francisco on 17 March 2020, and we expect volume to only increase with a worsening addiction epidemic.

Finally, also due to financial limitations, the ACT is currently unable to support a dedicated addiction medicine mental health provider. Per needs assessment results, 30% of patients with SUD-related hospitalisations have a co-occurring mental health disorder and this is the second highest need identified by survey respondents. While a psychiatric consultation service exists, its bandwidth is limited to psychiatric emergencies.

We are currently completing a 3-year ACT pilot and evaluating impact to secure sustainable funding and continue improving care for hospitalised patients with SUD.

**LESSONS LEARNED**
A SUD taskforce led to a unified, system-based approach to addressing SUD during hospitalisation via the ACT at SFGH. Key contributors to successfully launching the ACT were: (1) demonstrating the scope and impact of SUD in our health system through a needs assessment that incorporated EHR data and staff and provider perspectives; (2) aligning improvement areas identified by our needs assessment with health network priorities; (3) early involvement of executive leadership, which created goal and payer initiative alignment; and (4) obtaining seed funding from our health plan to support the ACT.

This perspective presents a blueprint for health systems to launch their own AMCS. As the SUD epidemic continues taking its toll on our society, exacerbating existing inequities, and the isolation and trauma caused by COVID-19 continues, complications of substance use rise. It is more important than ever for health systems to provide high-quality, equitable and evidence-based care for people with SUD by expanding the number of AMCS.

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