Of Opioids and Interoperability:

How New Britain Emergency Medical Services and Its Referral Partners Evolved Communication Across the Care Continuum

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INTRODUCTION: Passion is a Strong Start. But Solutions Demand Data.

As CEO of Beyond Lucid Technologies—a software firm that has pioneered innovations serving Mobile Medicine (including EMS, non-emergency medical transport, Fire, Critical Care, and Community Paramedicine), with special focus on data sharing and longitudinal ("over time") care—I am frequently asked why addressing substance abuse and mental wellness is so important to me. Some assume that I have experienced addiction's bite.

Thankfully, I have not. But the source of our passion is simple and rooted in "a special kind of empathy" (to borrow the words of David Wolpe, one of America's most influential rabbis): *It can happen to anyone*. Substance use disorder is a chronic disease. It is not recreational drug use. It is pain atop pain. Honest portrayals of addiction in media often involve some variation of "I wish I had never started." Too often, though, that start came innocently—an on-duty injury, like falling debris or twisting while lifting a bariatric patient—which led to a prescription for painkillers. The whirlpool beyond the bend went unseen until it was too late. BLT is committed to using data to address challenges that persistently haunt Responders, no matter the patch color. Supporting them strengthens communities.

It is reasonable to ask "*How can zeros and ones keep a community safe?*" The collateral damage of COVID-19 includes a drastic rise in the incidence of overdose as individuals facing a range of physical and mental health challenges were shut in for extended periods, cut off from social and in-person medical support, surrounded by a range of stressors including the constant din of bad news in media, and accompanied by the cash flows from stimulus chicks. Who was compelled to face the reality of unmentionable death, from America's Heartland to great cities on both coasts? Medics, firefighters, and police run to all patients where they are, even in shadowed hallways and alleys. Without empathy for the real health-and-safety pressures that Responders face in their daily work, we risk missing the root causes of the gore of the underlying crisis, and ultimately making it worse.

Consider the hot potato known as "safe injection sites," the ultimate "NIMBY" solution ("Not In My Back Yard"). Favored by harm reduction advocates who understand the reality of addiction and seek to downshift the risk of a tragic end, the concept is simple: People with substance use disorders will seek to use, just like people with diabetes will have high blood sugar and people with asthma will struggle to breathe. It is the nature of the disease.

The right tools, however, can help to control the disease. Starting with empathy, one can see how changing the context in which the crisis occurs can lower the risk of an adjacent, unintended, and potentially runaway public health emergency: swapping used syringes for clean ones lowers the compound risk of injecting oneself or others with communicable ailments like HIV and hepatitis, which it turn will also lower downstream alleviation costs.

However, when asked about the utility of safe injection sites to address substance use disorders in his community, **Bruce Baxter, Chief of New Britain Emergency Medical Services in Connecticut,** responded that the answer depends on the nature on the substances being used. If the community has an injectable problem, then a safe injection site can help. But if most overdoses in the area involve pills, smoking, or snorting, then safe injection sites "could be giving people another way to get high." A more nuanced approach to the crisis demands deference to the data, ensuring that each proposed solution fits its need—and goes the distance toward alleviating the root cause versus just papering over it. The latter is such a common and ineffectual approach that it has earned a bevy of illustrative nicknames, like "lipstick on a pig" and "Band-Aid on a bullet wound."

NEED: Cross-Community Effort to Reduce Substance Use &Homelessness

New Britain EMS's community risk assessment identified three painful areas worth addressing first: opioids abuse, homelessness—and perhaps most poignantly, both of these among young people. But disrupting a vicious cycle requires a collective effort to:

1. **identify** who is at risk;

2. **connect**—not just physically (especially among the homeless, who may move around the community) but in an intellectual, emotional, and deeply *empathetic* manner; then

3. **communicate** the risks that people impose on themselves and that *better is possible* (a core BLT tagline). New Britain EMS intended to accomplish the latter by providing "public education around behavioral health, substance abuse/ misuse, and prevention methods," according to a September 2021 outcomes report to the City of New Britain.

A persistent challenge that plagues the Mobile Medical industry—as identified during the Office of the National Coordinator Health Information Exchange summit in January 2020, as the COVID-19 pandemic was starting—is a tendency to inculcate "islands of success."

Innovative initiatives often produce noteworthy local results but without cross-pollination, their results fail to become industrywide Best Practices. At the start of the pandemic, a grassroots think tank called the **Congress of Mobile Medical Professionals** percolated the idea of transforming islands of success into "archipelagoes" that share wisdom to reduce redundancy, celebrate what works and avoid what doesn't. Similarly outstretched arms were baked into the design of New Britain EMS's program committed to "align[ing] and promot[ing] integrated support systems"—leveraging technology to collective benefit.

NB Recovers adopted a uniquely *humble* approach to solution development: it convened more than a dozen Rapid Referral Network partners across its region of Connecticut, with focus on results-oriented longitudinal ("over time") case management. All stakeholders were connected through technology (a "prehospital pipe") in a way that had never been done before in Mobile Medicine in the U.S., but that has since spread to several states with nascent Community Health Worker (CHW) and mental and behavioral health efforts.

INNOVATION: "Drop a Net Over the City" to Prove Impact Over Time

Glober et al. (2020), found that "EMS providers frequently encounter individuals at high risk for repeat overdose and individuals who are likely to witness an overdose."[1] Yet among Mobile Medical agencies, not only is the instinct to react rather than prevent, but there is a general lack of knowledge about *what is possible*, such as using technology to enable real-time syndromic surveillance. Just 9% of California's EMS regulators "oversee a naloxone distribution program." Just 64% know about "public health outreach or harm reduction programs within their jurisdictions…This demonstrates the disconnect between awareness and action and shows a potential growth area…for stakeholders seeking to exploit this previously missed opportunity to intervene at the site of an overdose."

Chief Baxter is known among friends and colleagues as one who does not suffer the idea that structural limits will prevent his teams from doing all they can in the interest of their community. Case in point: He identified that—too often—a lack of communication among partners presents a surmountable a barrier to collective effort in service of the residents he serves. So Chief Baxter built those bridges. Over the course of 2020, **New Britain Recovers** ("NBR") became an exemplar of the federal C.D.C.'s Overdose Data to Action program that "supports jurisdictions in collecting high quality, comprehensive, and timely data on nonfatal and fatal overdoses and in using those data to inform prevention and response efforts."

Chief Baxter installed a Care Navigator team at NBEMS to manage relationships that cut across mental and behavioral health, addiction treatment and advanced rehabilitation, the city's opioid task force, and more. Evidence is essential to proving impact (and therefore inspiring follow-on investment), so NBR deployed a data-driven approach since Day One of its launch on February 1, 2021—a sensitive time when two epidemics, COVID-19 and the less-obvious overdose crisis, were spiraling and in dire need of proactive solutions. Despite expecting 7-10 monthly enrollees (about 100 per year), within its first operating *month,* NBR cared for 231 overdose patients and 313 internal referrals from the 9-1-1 service. Of these, 186 patients enrolled in NBR, and 96 patients (51%) entered treatment.

NBR leveraged an interoperability scaffolding from Beyond Lucid Technologies, a Mobile Medical innovations firm known for connecting the continuum of care in real-time and over time, whose software became a "single source of truth," according to William Kinch, NBR's program lead. NBR deployed **MEDVIEW T.R.I.O.,** a unique longitudinal record system whose acronym summarizes its goal: **"Tracking Readmissions, Interventions and Opiates."** NBR further benefited from project management and analytic guidance by **Techserv Corporation**, a longtime B.L.T. collaborator and certified minority- and woman-owned small business. This joint approach ensured that the many project stakeholders were able to gather data they needed to prove the successful achievement of core KPIs.

BLT's "prehospital pipe" differentiates itself from other regional syndromic surveillance tools because its data are not tied to transports specifically—and because the platform is both HIPAA and SAMHSA compliant. It *retains the patient's identity* and ensures a right of revocation in line with federal law (42 CFR Part 2), instead of anonymizing the patient as a mere number with the risk of losing track of him or her amid many challenging cases. Observing care for patients over time and in real-time is key in light of its implications for the health and safety of responders themselves, and the communities in which they serve: Technology that links hospitals and public health agencies nationwide can do more than highlight "hot spots" of **infectious disease**, **tainted narcotics**, and **Social Determinants of Health** in real-time. It also facilitates patient- and community- centric interactions, from honoring care planning orders like **POLST**, to **family reunification** and **contact tracing**.

SAMHSA: Understand the Key to Sharing Data Between EMS & Hospitals

Across the U.S., Mobile Medical agencies and their hospital partners are now convinced of the value of "bidirectional" data sharing, i.e., sending data to the hospital and receiving in exchange actionable insights like clinical outcomes, plus demographics and insurance that were unavailable at handoff. The latter is crucial during the COVID-19 pandemic, because infection status is a precursor to contact tracing and exposure risk management.

Much ado has been made of the question of whether HIPAA permits sharing between Mobile Medical agencies and their hospital partners. The answer is clear: it does. What then was pioneering about the way in which NBR and BLT "dropped a net over the city"?

The barrier to sharing of data in Mobile Medicine *does not* derive from HIPAA, but rather, from **Substance Abuse and Mental Health Services Administration (SAMHSA)** rules that lock down mental health and substance use data except where specific permission has been given to share it. But EHRs that comply with federal Meaningful Use mandates have lacked a mechanism to isolate mental health and substance use from the rest of the chart. To meet SAMHSA's rules, therefore, hospitals erred on the side of limiting access:

> *"Once a patient has revoked a Part 2 consent with respect to one or more parties, that revocation should be immediately communicated to the HIO [health information organization] by the entity obtaining the patient's revocation so that it implements the revocation decision and no longer transmits the Part 2 program's protected patient information to those one or more parties."*[2]

The historical failure to share data has not been about excluding Mobile Medicine, but rather, about complying with SAMHSA's rules that are designed to protect the vulnerable. If one's mental health- or substance abuse-related details were exposed, how would they affect the patient beyond the current clinical encounter? Could the details in the health record prevent the patient from getting a job, or lead to her or him being thrown out of housing? We have seen that HIV status alone can lead to housing discrimination; a history of mental health issues or substance use disorder can lead to prejudice that limits prospects of employment. Is transparency of information to Mobile Medical providers in the field worth the risk? Are our practices sufficiently secure to guarantee no breach?

Given that few clinicians on either side of the patient care handoff are versed in the range of relevant laws, "HIPAA" has become a shorthand—and our overlapping industries are left to wonder why we cannot seem to exchange data, given that we are allowed to do so.

The trend is changing quickly, and the partnership between NBR and BLT is part of that evolution. SAMHSA, 42 CFR Part 2, and the novel healthcare coding framework called **F.H.I.R.** (pronounced "fire") combine in the **21st Century CURES Act.**[3] Under the Ryan White Act, "need to know" provisions do not apply to infection status (such as COVID-19), in order to protect care providers.[4] Still, caution explains why sharing data is often more comfortable through cumbersome means like phone calls and secure emails, as opposed to the electronic return of a digital chart. But NBR's deployment of BLT's permission-limited "prehospital pipes" sets the stage for our industry to adopt true interoperability, including the return of data from hospitals *and* non-hospitals, in real-time and over time.

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[1] Glober NK, Hern G, McBride O, Mercer MP. "Variations in the California Emergency Medical Services Response to Opioid Use Disorder." *West J Emerg Med*. 2020;21(3):671-676. Published 2020 Apr 16. doi:10.5811/westjem.2019.12.45189

[2] https://www.samhsa.gov/about-us/who-we-are/laws-regulations/confidentiality-regulations-faqs

[3] https://blog.hl7.org/cms-interoperability-patient-access-rule-impact-and-opportunities

MEDIVIEW T.R.I.O.

Tracking Readmissions, Interventions & Opiates

Mobile Medical (Fire & EMS) agencies can finally disrupt the "chronically acute" cycle of substance abuse disorder.

Overdose Data • Longitudinal Data • Real-Time Data to Hospitals
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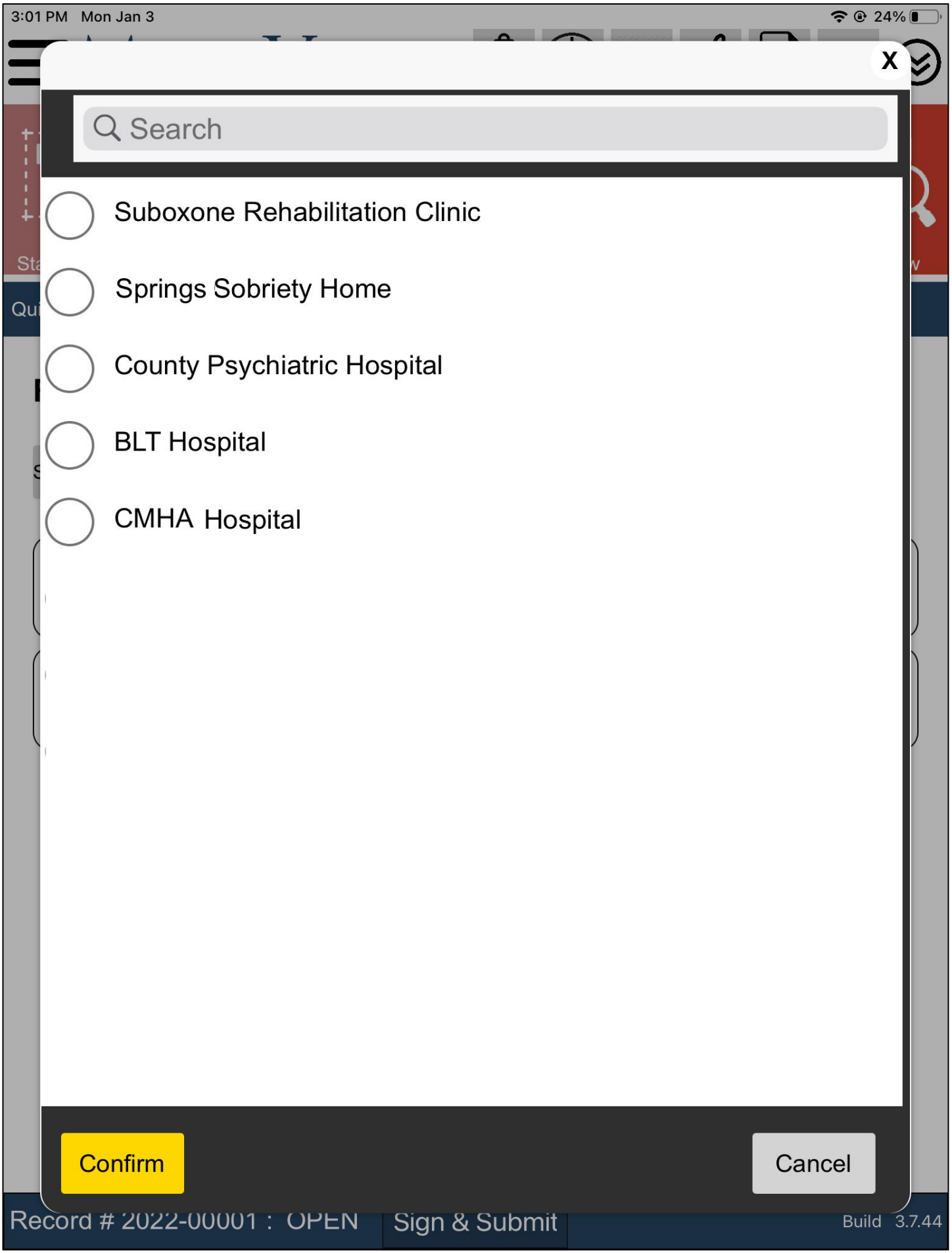

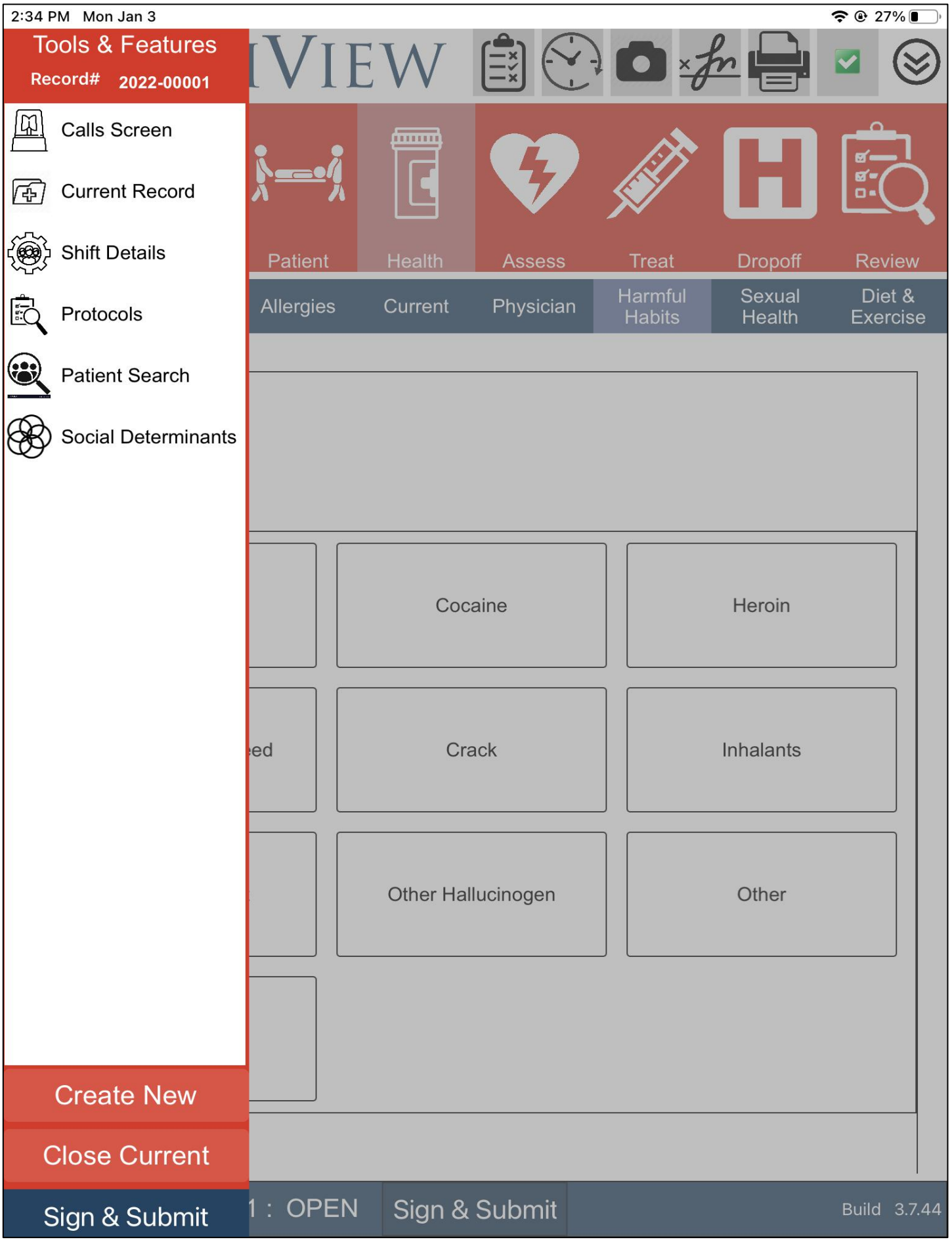

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MEDIVIEW

Social Determinants of Care

Health Care | Social Services | Environmental | Housing | Transportation | Economics

Care Providers

Primary Care Physician	Clinic	Dentist
Emergency Department	EMS Agency	Specialist
Social Worker	Urgent Clinic	Cardiac Rehab
Pulmonary Rehab	Other	

Care Provider Comments

Medical Situation Review

Record # 2022-00001 : OPEN | Sign & Submit | Build 3.7.44

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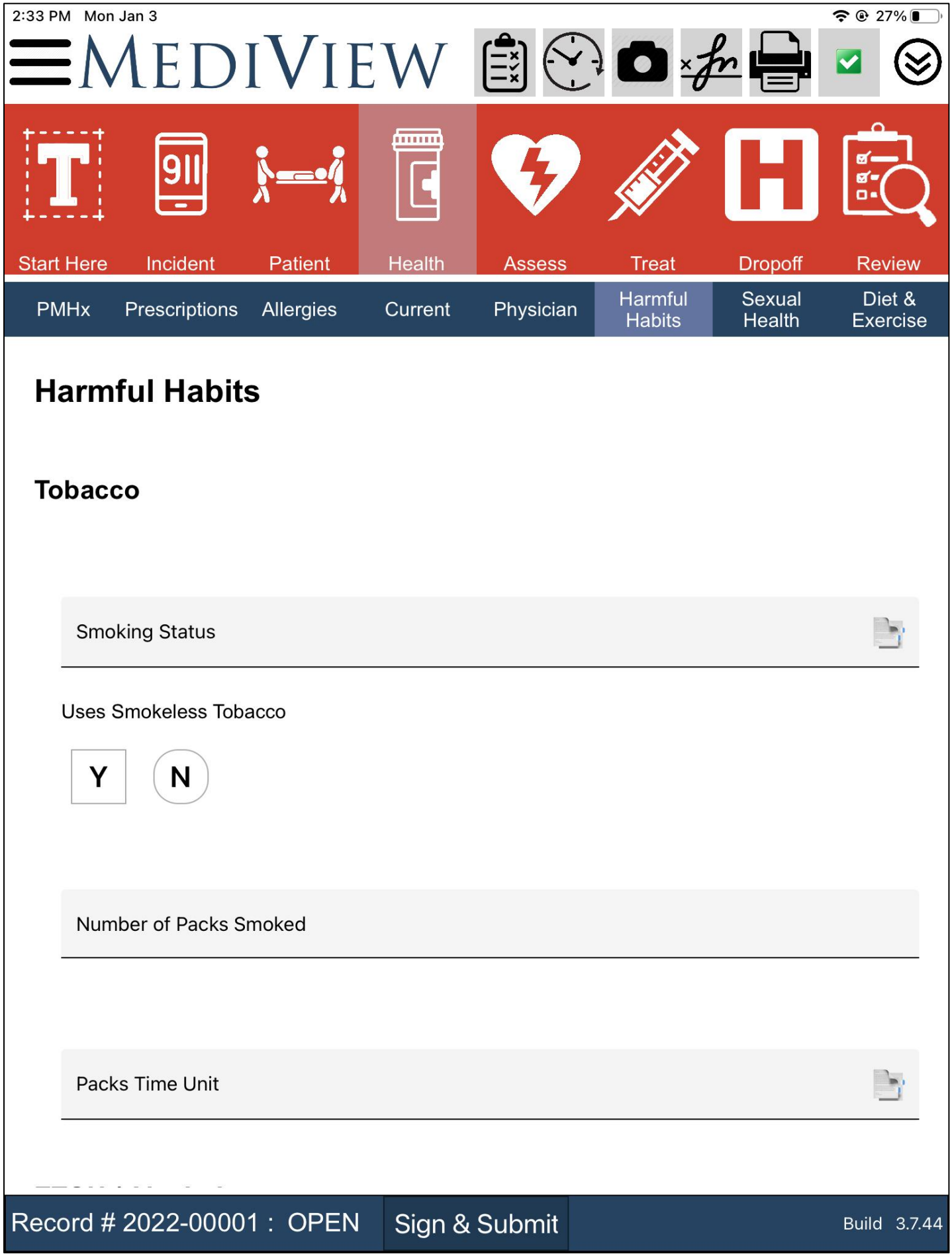

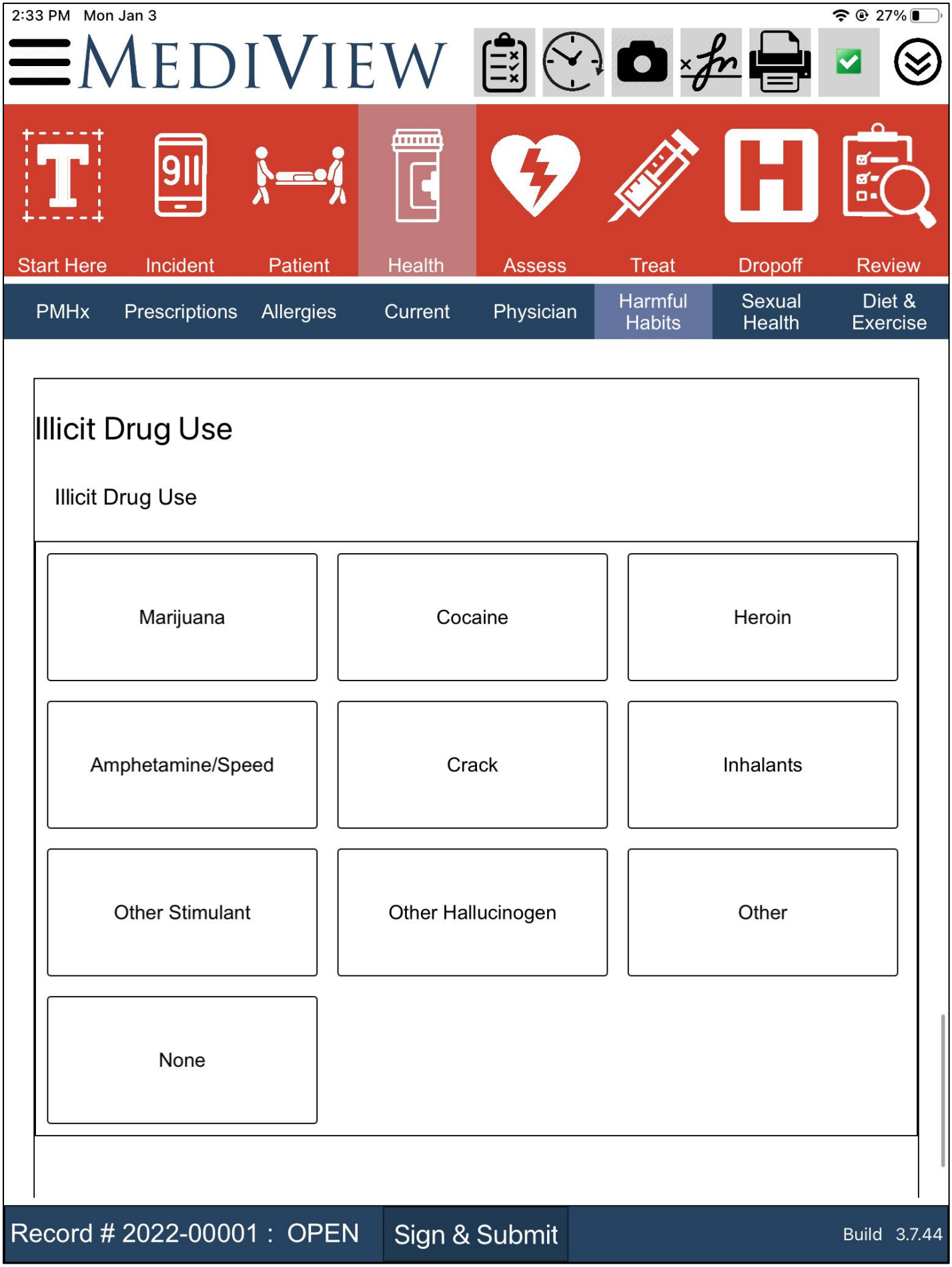

ETOH / Alcohol

Beer Drink Count

Beer Drinks Time Unit

Wine Drink Count

Wine Drinks Time Unit

Hard Liquor Drink Count

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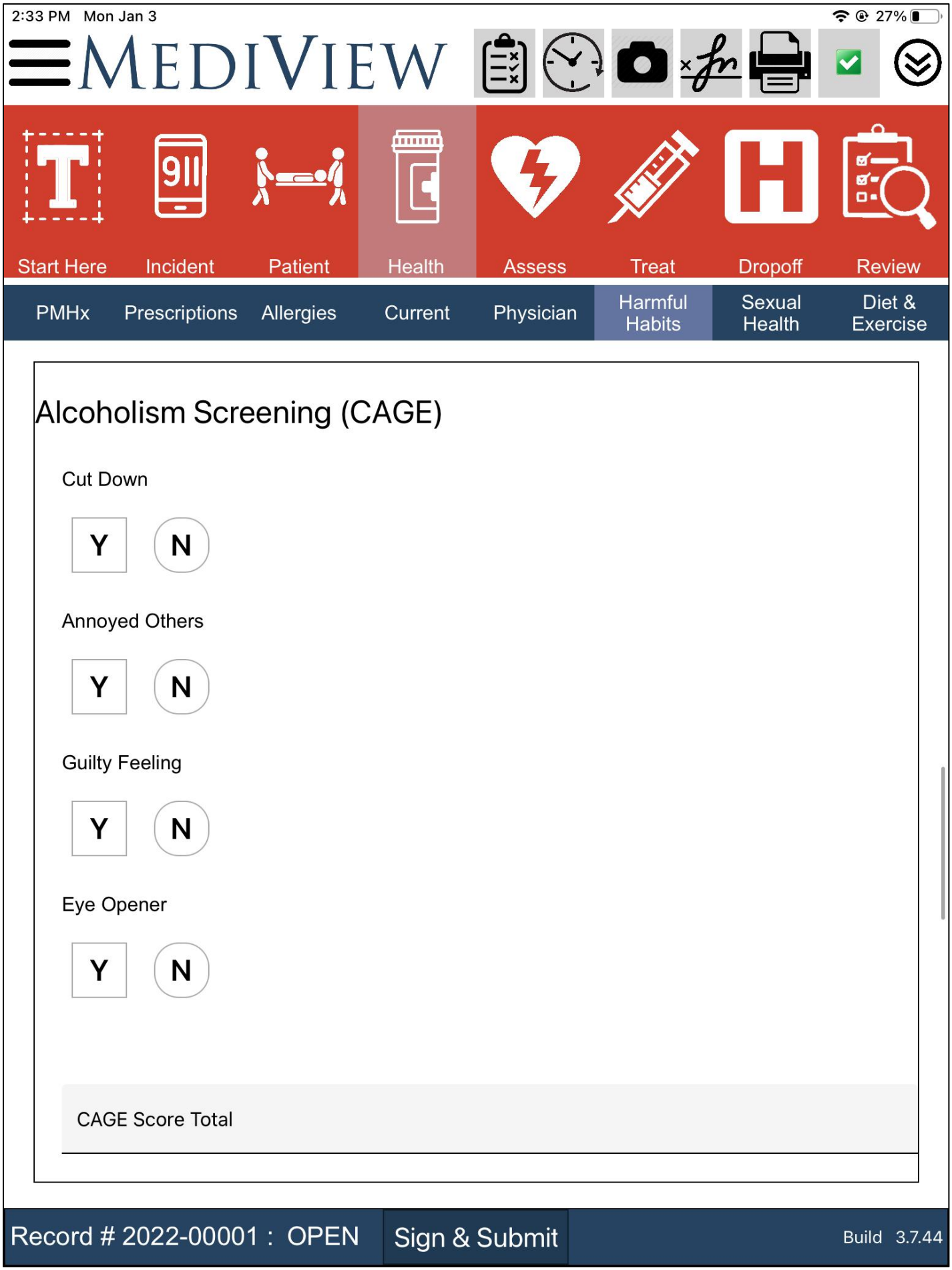

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