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Delaware Treatment and Referral Network

A FIRST-YEAR REVIEW DEMONSTRATING INCREASES IN REFERRALS AND EXPANDED ACCESS TO BEHAVIORAL HEALTH TREATMENT

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INITIAL REVIEW DEMONSTRATES INCREASED REFERRALS AND ACCESS TO TREATMENT

The State of Delaware has less than one million people and ranks just 45th in population. The opioid epidemic, however, has hit Delaware just as hard—if not harder—than its more populous neighboring states.

According to the latest data, Delaware has the nation's second-highest drug overdose mortality rate at **43.8 per 100,000 people, accounting for 401 deaths in 2018** (CDC National Center for Health Statistics, 2020). With an opioid prescribing rate significantly higher than the national average—**60.6 prescriptions for every 100 persons compared to 51.4**—it is no surprise that opioids were the cause of 355 of those 401 deaths (National Institute on Drug Abuse, 2020).

Because substance use disorder and mental health issues are inextricably linked, Delaware's Division of Substance Abuse and Mental Health needed a referral system that encompassed the entire continuum of behavioral health services. In the shadow of Delaware's opioid epidemic, the Division's efforts coalesced around a goal of finding the most effective process for connecting individuals with appropriate services as quickly as possible. To accomplish this goal, the Division would first need to overcome long-standing barriers.

The Division built DTRN using OpenBeds, a cloud-based application that identifies, unifies, and tracks behavioral health resources to create a single, shared network.
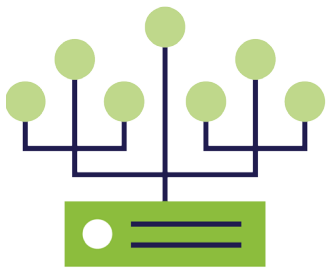
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COMMONLY CITED BARRIERS

- Determining the appropriate type of treatment and setting, and whether a patient meets a particular treatment provider's admission criteria;

- Determining a treatment provider's capacity and availability requiring multiple attempts to contact providers and delaying referrals by hours and sometimes days; and,

- Communication difficulties between the referring entity and the treatment provider, causing increased wait times and decreasing a patient's likelihood of successful admission to a treatment program.

To mitigate these barriers, the Division partnered with healthcare technology consulting firm HEALTHe Insights to launch a digital referral system known as the Delaware Treatment and Referral Network or DTRN in 2018. The Division designed the DTRN to expedite client referral and admission to behavioral health programs by eliminating the manual processes that had previously caused delays.

The Division and HEALTHe Insights Consulting chose OpenBeds to power DTRN. The OpenBeds application facilitates rapid digital referrals and fosters collaboration among mental health, substance use disorder, and medical providers. Frustrated by the inefficient manual processes required to refer patients to appropriate specialized treatment programs, Nishi Rawat, M.D., a critical care physician, created OpenBeds.

The DTRN's automated system, powered by OpenBeds, provides a continuously-available online inventory of services to help clinicians deliver patients with needed services. With the available services identified, a referring care team can easily match a patient with a program offering an appropriate level of care. The DTRN's electronic referral process allows both sending and receiving care teams to triage a patient's needs before their transfer occurs. The DTRN meets a patient's need for prior authorization or peer support before the patient's transfer, creating the smoothest transition experience possible.

A team of data scientists with Bamboo Health (formerly Appriss Health), the parent company of OpenBeds, reviewed data from the DTRN's first year of operation, including network utilization, referral patterns, and patient referral attributes. **The data points to a statewide increase in referrals to treatment and reduced referral times.**

NETWORK GROWTH AND UTILIZATION

Before the launch of the DTRN, a referral to a behavioral health treatment program involved phone calls, faxes, and emails. This confusing and time-intensive process resulted in patients falling through the cracks. Leading up to the DTRN launch in October of 2018, the Division made extensive outreach efforts to providers to encourage their participation in the DTRN. The Division's efforts included offering technical assistance to service providers throughout the onboarding process. These efforts resulted in the successful and widespread early adoption of the DTRN. Just hours after launch, thirteen service providers were using the DTRN to connect patients to appropriate care. **In its first week, DTRN facilitated 95 patient/client referrals. Within a year, DTRN had facilitated 20,924 treatment referrals through the OpenBeds system.**
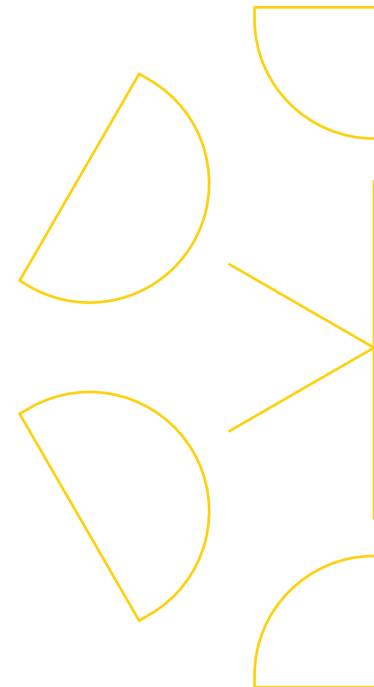
NUMBER OF REFERRALS REQUESTED BY SERVICE TYPE AND ORGANIZATION TYPE

	Criminal Justice	Inpatient	Outpatient	Other*	Total
Refers patients only	2,152	7,096	549	212	**10,009**
Both refers and receives patients	–	8,563	2,348	4	**10,915**
Total	**2,152**	**15,659**	**2,897**	**216**	**20,924**

As shown in the table below, **nearly 75% of all requested referrals involved inpatient services, with 15,569 inpatient referrals requested in the first year.** During the first year, inpatient service providers received an average of 602 referrals each.

NUMBER OF ACTIVE ORGANIZATIONS BY SERVICE TYPE

	Criminal Justice	Inpatient	Outpatient	Other*	Total
Refers patients only	6	17	4	2	**29**
Both refers and receives patients	0	8	14	1	**23**
Receives patients only	0	5	5	8	**18**
Total	**6**	**30**	**23**	**11**	**70**

Other refers to the following service types: group homes, behavioral health assessment centers, peer support, and recovery organizations. Some organizations offer multiple services.
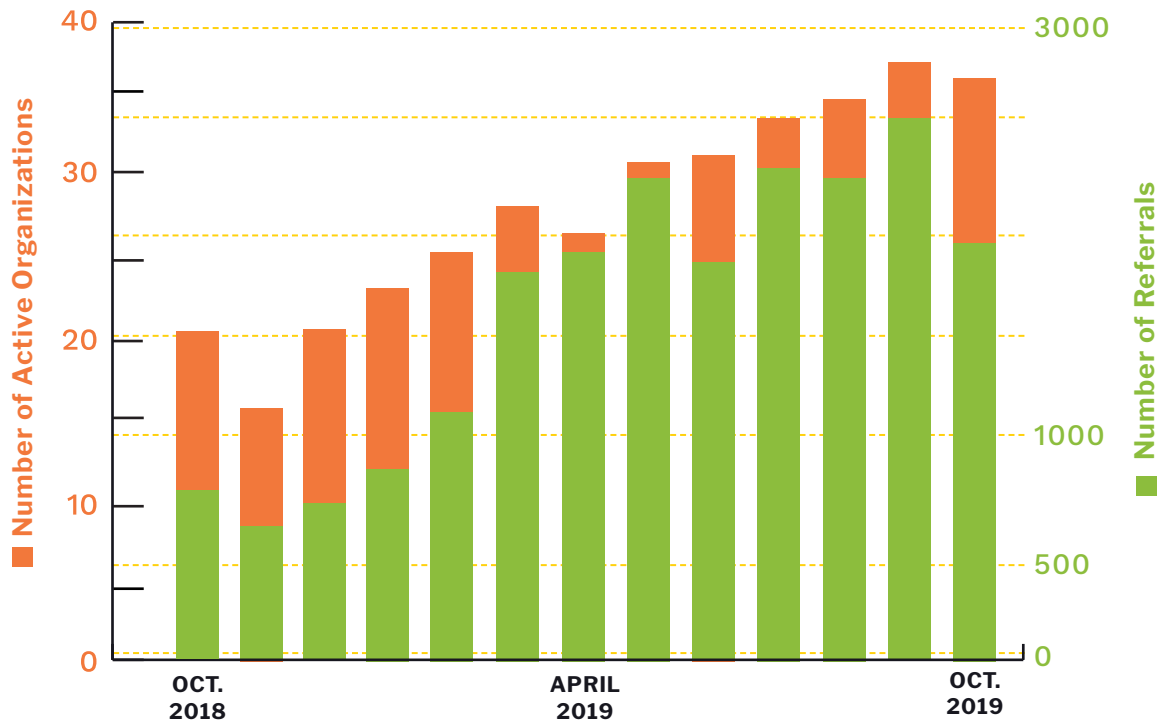
264%

The DTRN increased active, distinct users 264% from Oct. 2018 to Sept. 2019.

6.03

The average number of distinct users per referring organization was 6.03 over the study period.

NUMBER OF REFERRALS MADE BY REFERRING ORGANIZATIONS BY MONTH

The graphic above demonstrates steady growth in the number of referrals made by referring organizations each month. **The average referrals per organization ranged from 35.3 to 71.5, and the month-to-month growth rate was 2.8%,** calculated as a compound monthly growth rate.

Organizational and user referral patterns revealed considerable increases over 12 months.

Additionally, data suggests the DTRN improved response rates to referral requests. **Receiving organizations acknowledging a referral within 30 minutes or less increased over time ranging from 40% to 65%.** The number of distinct services offered among all active receiving organizations grew from 40 in October 2018 to 109 by October 2019, representing a **173% increase**. The number of services provided by receiving organizations ranged from one to twelve, which moderately correlated with the number of referrals received.

14%   **59%**
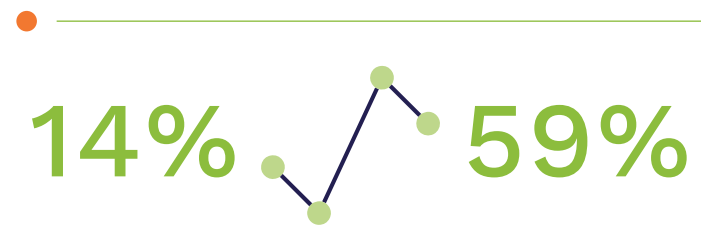
The percentage of referring organizations requesting referrals increased from 14% to 59% over a 12-month period, and 60% of all referring organizations made at least 1 referral request each week.

PATIENT REFERRAL ATTRIBUTES

PATIENTS' AGE

Attribute		Service Type				Total
		Criminal Justice	Inpatient	Outpatient	Other*	
Adult Only	Freq.	2,146	14,781	2,855	209	19,991
	Pct	10%	71%	14%	1%	96%
Children 12 & Under Only	Freq.	0	95	0	1	96
	Pct	0%	0%	0%	0%	–
Multiple Options Selected	Freq.	4	34	15	0	53
	Pct	0%	0%	0%	0%	–
Youth 13 to 17 Only	Freq.	2	749	27	6	784
	Pct	0%	4%	0%	0%	4%
Total	Freq.	2,152	15,659	2,897	216	20,924
	Pct	10%	75%	14%	1%	100%

Adult
96%

Demographic data of patients in need of treatment indicates that 96% of referrals were for adult patients...

PATIENTS' GENDER

Attribute		Service Type				Total
		Criminal Justice	Inpatient	Outpatient	Other*	
Male Only	Freq.	1,479	9,210	1,803	112	12,604
	Pct	7%	44%	9%	1%	61%
Female Only	Freq.	669	6,320	1,079	103	8,171
	Pct	3%	30%	5%	0%	39%
Multiple Options Selected	Freq.	4	34	15	0	53
	Pct	0%	0%	0%	0%	–
No Option Selected	Freq.	0	95	0	1	96
	Pct	0%	0%	0%	0%	–
Total	Freq.	2,152	15,659	2,897	216	20,924
	Pct	10%	75%	14%	1%	100%

Male
61%

...and more than 61% of referrals were for males requiring inpatient treatment.

Alcohol, opioids, and cannabis were the most prevalent substances used by patients in referrals citing substance use. Most referrals cited the use of five or more substances.

48%

48% of referrals citing substance use did not indicate a specific substance.

SUBSTANCES USED

Attribute		Service Type				Total
		Criminal Justice	Inpatient	Outpatient	Other*	
Not Disclosed	Freq.	409	8,784	594	120	**9,907**
	Pct	2%	42%	3%	1%	**48%**
More Than One Substance Listed	Freq.	887	2,032	626	27	**3,572**
	Pct	4%	10%	3%	0%	**17%**
Alcohol	Freq.	152	2,073	678	21	**2,924**
	Pct	1%	10%	3%	0%	**14%**
Opioid-Related	Freq.	398	1,509	727	24	**2,658**
	Pct	1%	7%	3%	0%	**11%**
Cannabis	Freq.	127	573	146	10	**856**
	Pct.	1%	3%	1%	0%	**5%**
Cocaine	Freq.	136	412	86	7	**641**
	Pct	1%	2%	0%	0%	**3%**
Benzodiazepines	Freq.	4	75	9	0	**88**
	Pct	0%	0%	0%	0%	**–**
Methamphetamines	Freq.	21	45	11	0	**77**
	Pct	0%	0%	0%	0%	**–**
PCP	Freq.	11	42	15	0	**68**
	Pct	0%	0%	0%	0%	**–**
Tobacco	Freq.	4	32	2	5	**43**
	Pct	0%	0%	0%	0%	**–**
Hallucinogens	Freq.	0	27	3	0	**30**
	Pct	0%	0%	0%	0%	**–**
Stimulants	Freq.	1	28	0	1	**30**
	Pct	0%	0%	0%	0%	**–**
Inhalants	Freq.	2	26	0	0	**28**
	Pct	0%	0%	0%	0%	**–**
Dextromethorohan	Freq.	0	1	0	1	**2**
	Pct	0%	0%	0%	0%	**–**
Total	Freq.	2,152	15,659	2,897	216	**20,924**
	Pct	**10%**	**75%**	**14%**	**1%**	**100%**

DEMOGRAPHICS: DISTRIBUTION OF DIFFICULT TO TREAT MEDICAL CONDITIONS AND VOLUNTARY VS. NON-VOLUNTARY REFERRALS

DIFFICULT TO PLACE MEDICAL CONDITIONS

Attribute		Criminal Justice	Inpatient	Outpatient	Other*	Total
		Service Type				
Not Reported	Freq.	1,883	13,615	2,718	153	**18,369**
	Pct	9%	65%	13%	1%	**88%**
Active Psychosis	Freq.	119	1,215	87	42	**1,463**
	Pct	1%	6%	0%	0%	**7%**
Complex Medical Condition(s)	Freq.	99	519	85	11	**714**
	Pct	0%	3%	0%	0%	**3%**
Intellectual/ Developmental Disability	Freq.	33	222	7	9	**271**
	Pct	0%	1%	0%	0%	**1%**
More Than One Condition Listed	Freq.	18	88	0	1	**107**
	Pct	0%	0%	0%	0%	**1%**
Total	Freq.	2,152	15,659	2,897	216	**20,924**
	Pct	**10%**	**75%**	**14%**	**1%**	**100%**

NATURE OF TREATMENT REFERRAL

Attribute		Criminal Justice	Inpatient	Outpatient	Other*	Total
		Service Type				
Voluntary	Freq.	1,506	7,941	2,405	162	**12,014**
	Pct	7%	38%	12%	1%	**57%**
Non-Voluntary	Freq.	646	7,718	492	54	**8,910**
	Pct	3%	37%	2%	0%	**43%**
Total	Freq.	2,152	15,659	2,897	216	**20,924**
	Pct	**10%**	**75%**	**14%**	**1%**	**100%**

Active psychosis was the most prevalent 'difficult to place' patient condition cited by providers.

The DTRN, utilizing the platform provided by OpenBeds, helps the Division and its service providers identify service gaps, target funding, evaluate programs, and provide essential services to Delawareans.

METHOD OF PAYMENT

Attribute		Service Type				Total
		Criminal Justice	Inpatient	Outpatient	Other*	
Medicaid	Freq.	1,521	6,531	1,657	82	**9,791**
	Pct	7%	31%	8%	0%	**47%**
No Insurance	Freq.	404	3,689	450	33	**4,576**
	Pct	2%	18%	2%	0%	**22%**
Medicare	Freq.	32	2,093	185	26	**2,336**
	Pct	0%	10%	1%	0%	**11%**
Private Health Insurance	Freq.	55	1,614	191	34	**1,894**
	Pct	0%	8%	1%	0%	**9%**
More Than One **MOP Listed**	Freq.	120	596	323	2	**1,401**
	Pct.	1%	5%	2%	0%	**7%**
Self-Pay	Freq.	13	598	80	38	**729**
	Pct	0%	3%	0%	0%	**3%**
Federal Military Insurance	Freq.	1	96	3	0	**100**
	Pct	0%	0%	0%	0%	–
Sliding-Fee Scale	Freq.	6	82	8	1	**97**
	Pct	0%	0%	0%	0%	–
Total	Freq.	2,152	15,659	2,897	216	**20,924**
	Pct	**10%**	**75%**	**14%**	**1%**	**100%**

Data also indicated Medicaid as the most common payor among patients across all service types.

Medicaid.gov - Keeping America Healthy

NUMBER OF PAYMENT METHODS ASSOCIATED WITH REFERRAL

Attribute		Service Type				Total
		Criminal Justice	Inpatient	Outpatient	Other*	
1	Freq.	2,032	14,703	2,574	214	**19,523**
	Pct	10%	70%	12%	1%	**93%**
2	Freq.	40	496	35	2	**573**
	Pct	0%	2%	0%	0%	**3%**
3	Freq.	13	2	1	0	**15**
	Pct	0%	0%	0%	0%	**–**
4	Freq.	2	0	0	0	**2**
	Pct	0%	0%	0%	0%	**–**
5 or more	Freq.	65	459	287	0	**811**
	Pct	0%	2%	1%	0%	**4%**
Total	Freq.	2,152	15,659	2,897	216	**20,924**
	Pct	**10%**	**75%**	**14%**	**1%**	**100%**

FUTURE CONSIDERATIONS

For clinical staff, social workers, administrators, peers, and countless others who serve individuals with behavioral health conditions, DTRN has alleviated a significant administrative burden that takes time away from patients. DTRN is constantly evolving, and the lessons learned over the first year have proved invaluable in refining, enhancing, and improving this vital tool in Delaware's battle against the opioid epidemic.

Ongoing enhancements to the DTRN include deeper integrations with electronic medical records; integration with the NarxCare prescription drug monitoring program to increase the number of practitioners who can quickly identify and navigate patients to treatment; the launch of a public-facing portal; refinement of communication processes with the introduction of a care coordination referral platform; implementation of a closed-loop function for providers to locate and refer no-show patients back to treatment; improvement in the quality of treatment referrals; and enrollment of additional providers.

Under the guidance of HEALTHe Insights, the Division created a steering committee to help guide usage and further development of the DTRN.

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