Models of Integrated Patient Care Through OTPs and DATA 2000 Practices

Essential Elements of Vermont's "Hub and Spoke" Health Homes Model

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Integration of Health Homes in Rhode Island OTPs

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Integration of Health Homes in Maryland OTPs

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Introduction

This is the first of three policy papers in a series that the American Association for the Treatment of Opioid Dependence (AATOD) has developed for the Substance Abuse and Mental Health Services Administration (SAMHSA) in the U.S. Department of Health and Human Services (HHS). The papers provide a blueprint for more innovative and integrated service delivery, focusing on opioid treatment programs (OTPs) as comprehensive treatment hubs in the treatment of opioid addiction.

In 2010, the Affordable Care Act established the Medicaid health home option, which enabled states to reimburse agencies for providing care coordination and health promotion services. This paper describes how three states—Vermont, Rhode Island, and Maryland—have implemented OTP health homes.

Essential Elements of Vermont's "Hub and Spoke" Health Homes Model

In the first section of this paper, Dr. Karen Casper and Anthony Folland, of the Vermont Department of Health's Division of Alcohol and Drug Abuse Programs, describe the essential elements of Vermont's Hub and Spoke health home model. This model provides an elegant method of integrating previously isolated service delivery systems. As the authors point out, the Hub and Spoke model established:

> … a comprehensive, regional system of treatment for opioid addiction in Vermont by building on the infrastructure of existing provider configurations—namely, (1) the specialty OTPs established initially to provide highly regulated methadone treatment, (2) the authorized physicians prescribing buprenorphine in OBOT settings, and (3) Vermont's patient-centered medical homes (PCMHs) supported by community health teams (CHTs)—that is grounded in Vermont's Blueprint for Health framework for health reform and the health home concept in the federal Affordable Care Act.

Drs. Casper and Folland describe integrated care in the Vermont model this way:

> The Hub and Spoke model is characterized by a limited number of specialized, regional addictions treatment centers working in meaningful clinical collaboration with general medical practices. Specializing in the treatment of complex addiction, the regional centers (Hubs) provide intensive treatment to patients and consultation support to medical providers (Spokes) treating patients in the general practice community. This framework efficiently deploys addictions expertise and helps expand access to care for Vermonters.

What is implicit in the success of the Hub and Spoke model is political and administrative support from the top down—including support from the governor and the state agency for alcohol and drug use disorders, collaboration among different service providers, and legislative

support for payment reform for shared contributions by all payers—as well as a realistic reimbursement model to support service integration.

The Vermont model is clearly designed to break down the silo effect among OTPs, Drug Addiction Treatment Act of 2000 (DATA 2000) practices, and other systems of behavioral and primary care. The models implemented in Rhode Island and Maryland are designed to do so as well.

Integration of Health Homes with OTP Services in Rhode Island

In the second section of this paper, Dr. Susan Storti describes the integration of health homes with OTPs in the state of Rhode Island. Dr. Storti underscores the need for collaboration, trust, and a mutual understanding of the desire to provide integrated service to patients who are opioid addicted:

> One such opportunity afforded under the Affordable Care Act is for states to receive funding for "Coordinated Care through a health home for Individuals with Chronic Conditions," also referred to as health home services. This provision presents an opportunity to build a patient-centered system of care that provides health care for beneficiaries of the state Medicaid program. Its service delivery approach facilitates access to an interdisciplinary array of medical care, behavioral health care, and community based social services and supports for both children and adults with chronic conditions.

Health Home Integration in Maryland

In the third and final section of this paper, Vickie Walters and Angela Fulmer describe Maryland's successfully integrated model of health homes with OTPs. They make an important point, which reflects the experiences in Vermont and Rhode Island:

> Many OTPs have embraced holistic models of care to coordinate across disparate health and social service systems to improve the factors, also known as social determinants, that impact a patient's overall health and treatment outcomes, which include access to medical care, safe neighborhoods, education, housing, and vocational opportunities.

This section also focuses on the need for collaboration, in addition to the appropriate administrative and reimbursement support, to create ongoing success for such service integration.

The Service Integration Challenge

All three sections of this paper focus on the need to increase access to care and stress the importance of coordinated and integrated care. OTPs and DATA 2000 practices can effectively collaborate when the OTPs serve as hubs of this care and the DATA 2000 practices serve as "spokes," connected to the OTPs as health service delivery models. Patients can be referred between the two entities in a long-term collaborative model which benefits the patients.

The three policy papers in this series describe the tremendous opportunity for expanding coordinated, integrated care and the roles OTPs can play in this effort. The papers present models for providing the care and ways to address the systemic challenges to service integration with drug courts, correctional facilities, probation and parole offices, and family courts with Child Protective Services.

Comprehensive service integration will require broad-based administrative support from the federal government—with collaborative work among the White House Office of National Drug Control Policy, the Department of Justice, and HHS—as well as funding and other support from states and counties with jurisdictional authority over these various systems. It will also require broad-based and long-term educational support to break down the myths about why medications are used to treat opioid addiction and to promote understanding of the long-term value of having patients utilize the federally approved medications to treat opioid addiction. It will take work to achieve comprehensive service integration, but the benefits it promises to patients and society make it well worth the effort.

Essential Elements of Vermont's "Hub and Spoke" Health Homes Model

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Introduction

The use of heroin and the misuse of other opioids (e.g., prescription pain relievers) have been identified as major public health challenges in Vermont, with far reaching health, social, and economic consequences. Medication-assisted treatment (MAT), the use of medications in combination with counseling and behavioral therapies[1] to provide a whole-patient approach to the treatment, has long been recognized as a highly effective treatment approach to opioid addiction. The medications suppress the craving for opioids and thus work better to reduce relapse than other approaches (e.g., relying on detoxification followed by abstinence-oriented treatment).

MAT is considered a long-term treatment for opioid dependence, diagnosed as a chronic, relapsing illness. This means that individuals may remain on medications indefinitely, allowing them to lead normal lives, akin to insulin used among people with diabetes.[2] The two primary medications used in conjunction with counseling and support services to treat opioid dependence in Vermont are methadone and buprenorphine, although naltrexone is also being used in some instances. Effective MAT programs also provide services such as mental and physical health care, case management, life skills training, employment, and self-help. The length of the course of treatment is individually determined according to patient need and criteria. MAT services are cost effective over time because they help stabilize patients' health, increase their rate of employment, and decrease their involvement in the criminal justice system.

By combining high cost structure with high cost medication, Vermont's "Hub and Spoke" health home initiative to provide MAT for individuals with opioid addictions aims, paradoxically, to achieve improved patient care at reduced costs for the state's health system. The success of the strategy relies on three key elements: (1) the significant expansion of the use of buprenorphine in both "Hubs" and "Spokes"; (2) a system sufficiently fluid to allow patient transfers to and from opioid treatment programs (OTPs) and office-based opioid treatment (OBOT) programs, as clinically indicated; and (3) creative health home payment methodologies to support "enhancements" to hold the Hub and Spoke system together.

While growing demand resulting from the opioid crisis still outweighs system expansions, early results show increased access to care, improved quality of care, and first-layer indications of

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[1] As defined by the Substance Abuse and Mental Health Services Administration, http://www.samhsa.gov/medication-assisted-treatment
[2] *Vermont Health Homes for Opioid Addiction; Hub & Spoke, Program Overview*, April, 2014, p. 1. http://www2.leg.state.vt.us/CommitteeDocs/2014/Senate%20Health%20and%20Welfare/Substance%20Abuse%20Treatment/W~Beth%20Tanzman~Vermont%20Health%20Homes%20for%20Opioid%20Addiction%C2%A6%20Hub%20and%20Spoke~4-23-2014.pdf

greater cost effectiveness. Additional cost efficiencies are likely to be realized as the system continues to reduce other unnecessary and even higher-cost health care expenditures, including medically unnecessary emergency room and hospital visits, as well as social consequences and legal costs often associated with opioid addiction.

Opioid Treatment Programs, Precursors to Hubs

In Vermont, as in many states, the federal regulations governing the use of the MAT medications have resulted in distinct provider types. Methadone treatment for opioid addiction is highly regulated and can only be provided through specialty OTPs. OTPs must adhere to specific requirements for providing comprehensive methadone treatment services as promulgated by the Substance Abuse and Mental Health Services Administration (SAMHSA). Medications must be dispensed and accounted for in a highly controlled manner. Any decreases in treatment structure are to be determined by factors including behavioral stability, treatment engagement/compliance and response, and required time in treatment. The storage, security, safe handling, and record keeping requirements are all highly regulated and reviewed by the Drug Enforcement Administration (DEA) to ensure compliance with its requirements.

Prior to October 2002, outpatient MAT was not available in Vermont, and therefore individuals requiring methadone maintenance treatment were treated out of state. Vermont opened its first specialty OTP in 2002 with limited state funding to support 100 patient slots for MAT administering methadone treatment.

Office-Based Opioid Treatment Programs, Precursors to Spokes

In 2000, the Drug Addiction Treatment Act of 2000 (DATA 2000), under section 3502 of the Children's Health Act of 2000 (HR 4365), significantly changed medical treatment for opioid addiction by allowing physicians to prescribe buprenorphine for MAT in a general medical office (OBOT). Prior to that, MAT could only be provided in the specialty OTPs.

Buprenorphine was approved for OBOT use in Vermont in 2003, with promulgation of state regulatory guidelines to assist providers in the care of opioid dependent patients. For a rural, decentralized state, with only a handful of OTPs (given their high cost and complex regulatory constraints), buprenorphine provided a suitable supplement for addressing the growing demands and gaps for opioid treatment services.

In 2009, following positive research results on OBOT outcomes emerging out of the University of Vermont, the Vermont Department of Health's Division of Alcohol and Drug Abuse Programs (ADAP) began supporting training for physicians and district health offices on obtaining DATA 2000 waivers,[3] as well as supporting the use of Medicaid dollars to cover costs of buprenorphine treatment for qualifying individuals. Furthermore, growing waitlists for treatment at OTPs continued to drive expansion of OBOT with physicians prescribing buprenorphine. It was not

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[3] A physician must complete a required 8-hour online course, obtain an X-DEA license by demonstrating qualifications as defined in the DATA 2000 (Public Law 106-310, Title XXXV, Sections 3501 and 3502), and obtain a waiver from SAMHSA in order to provide MAT for opioid addiction in an OBOT. DATA 2000 enables office-based physicians to treat patients for opioid addiction with Schedules III, IV and V narcotic controlled substances specifically approved by the Food and Drug Administration for addiction treatment.

long before OBOT quickly surpassed methadone clinics, with patients receiving buprenorphine from various kinds of physicians in psychiatry, family practice, internal medicine, obstetrics and gynecology, pediatrics, orthopedics, and pain management.

Defining the Problem

Despite growing numbers of OTPs and OBOT programs (OBOTs), demands for opioid treatment continued to exceed services, with associated health, economic, social, and legal impacts for individuals, families, and the state threatening to skyrocket. Opioids are a highly addictive class of drugs that include pain relievers such as oxycodone, codeine, fentanyl, and morphine, and street drugs such as heroin, as well as methadone used to treat opioid addiction. The number of individuals identified at treatment admission using heroin/other opioids as well as other opioid/synthetics (e.g., prescription pain relievers) is higher than all other substances. Furthermore, the number of Vermonters treated for heroin addiction increased 365 percent between 2010 and 2014, showing an exponential growth pattern for heroin/other substances. See the Figure 1 below.

Figure 1.

Number of people treated in Vermont by substance
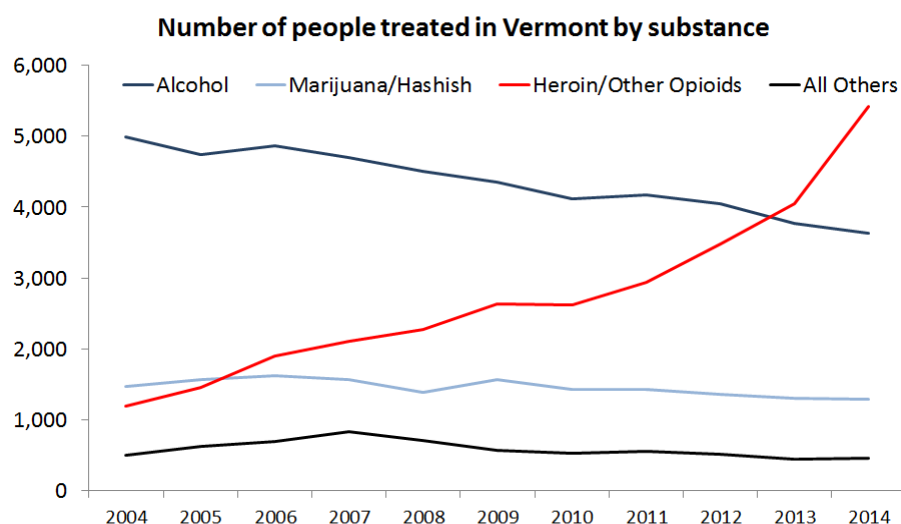
Source: Alcohol and Drug Abuse Treatment Programs

According to the Treatment Episode Data Set (TEDS), over the past 2 years admissions for heroin have increased 242 percent, while those for other opioids have increased only 15 percent.[4] See Table 1 below.

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[4] These increases are driven in part by increased funding and capacity for MAT.

Table 1. Vermont Treatment Admissions by Substance – Source: TEDS

Measure	1992	2011	2013	Change (%) 1992 to 2013	Change (%) 2011 to 2013
Total admissions	5485	8200	9710	77%	18%
Alcohol only	2951	2009	2022	-31%	1%
Alcohol with drug	1805	1601	1404	-22%	-12%
Heroin	37	636	2178	5,786%	242%
Other opioids	22	2240	2574	11,600%	15%
Marijuana	368	1179	1089	196%	-8%

Deadly heroin overdoses have been rising significantly in Vermont over the past 5 years.[5] Fortunately, fatalities involving prescription opioids that did not include heroin have remained relatively stable, but are still too high. See Figure 2 below.

Figure 2.

Total number of drug-related fatalities involving an opioid
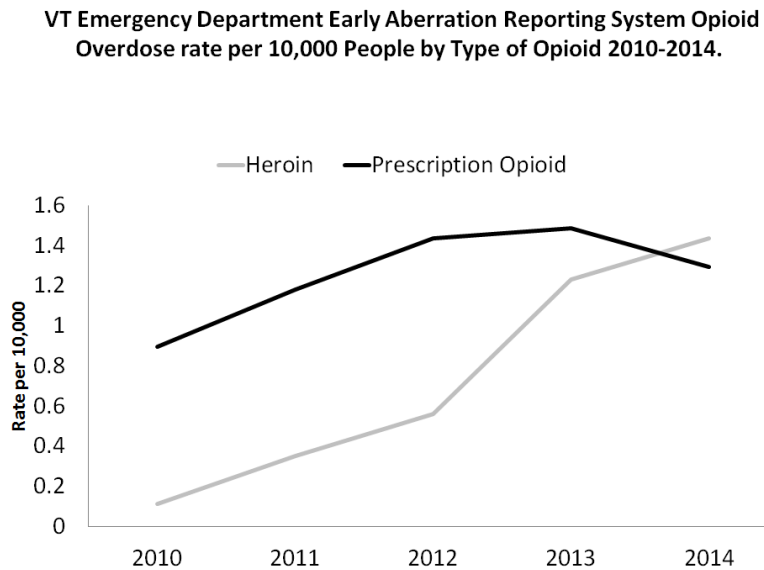January 1, 2004 through December 31, 2014
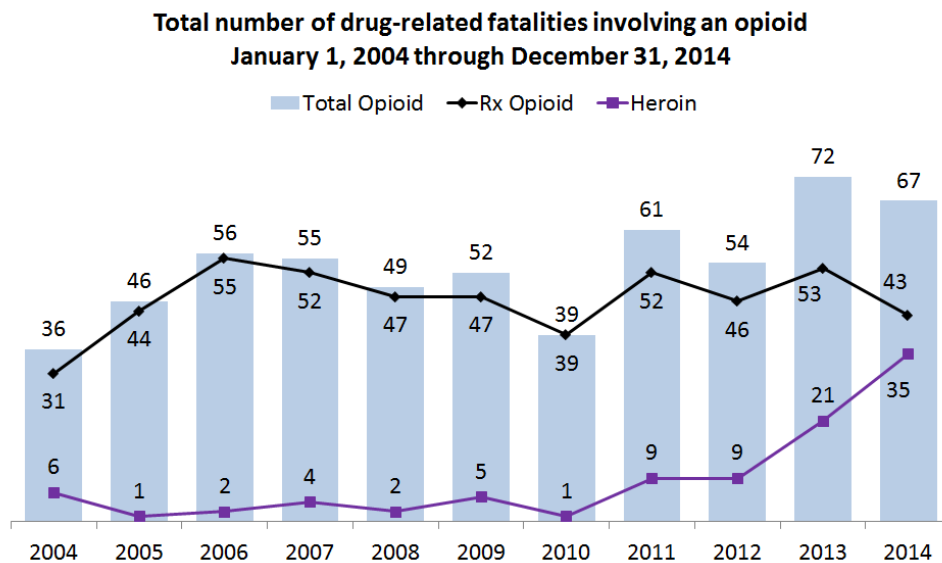
Source: Vermont Office of the Chief Medical Examiner

There has also been a sharp increase in heroin-related visits to emergency departments in the past 3 years. Perhaps as a result of recent improvements in the Vermont Prescription Monitoring System (VPMS), physician education, and regulatory changes requiring VPMS use prescription

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[5] To save lives, the Vermont Department of Health, through community-based partners, is distributing overdose rescue kits with nasal naloxone (Narcan®), a medication that can reverse an opioid overdose. Each overdose rescue kit contains two doses of naloxone. For more information, see
http://healthvermont.gov/adap/dashboard/opioids.aspx

drug-related visits have shown some leveling and a possible decline in trend since 2012. See Figure 3 below.

Figure 3.

VT Emergency Department Early Aberration Reporting System Opioid Overdose rate per 10,000 People by Type of Opioid 2010-2014.
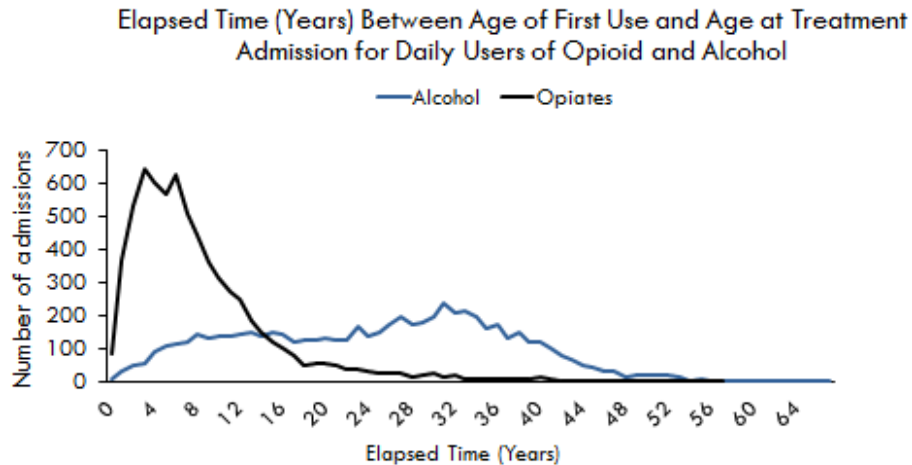

Source: Vermont Early Aberration Reporting System

Finally, the difference between the age of first use and the age at which a person seeks treatment is much shorter for opiates (8 years, plus or minus 7 years) than for alcohol (nearly 25 years, plus or minus 12 years). In other words, the relative impact of opioid use on individuals is very harsh, and consequently people who use opiates end up in the treatment system much sooner than those using alcohol. This alone is one key reason the system has so quickly experienced strains with opioids surpassing other substances being misused. See Figure 4 below.

Figure 4.

Elapsed Time (Years) Between Age of First Use and Age at Treatment Admission for Daily Users of Opioid and Alcohol

—Alcohol —Opiates

	Opioids	Alcohol
Average Elapsed Time	8.2 +/- 7 years	24.8 +/- 12 years
Number of Admissions	6776	6207

Source: Alcohol and Drug Abuse Treatment Programs, admissions data 2005–2011

In order to address the growing opioid crisis, therefore, Vermont needed to find a sufficiently robust and efficacious approach that would (1) significantly increase access to care; (2) improve quality of care particularly for the high risk, complex population generally of focus; and (3) achieve greater cost effectiveness.

Solution

In 2013, the Care Alliance for Opioid Addiction was formalized in response to a 2013 legislative mandate to "strengthen Vermont's response to opioid addiction."[6] The vision of the Care Alliance is to expand Vermont's health home initiative to enhance the provision of MAT for the treatment of opioid addictions within a broader framework of integrated, managed care through a health home approach. The Care Alliance is a joint initiative of the Vermont Blueprint for Health, the Clinical Operations unit of the Department of Vermont Health Access (DVHA), and ADAP, and works in collaboration with local health, addictions, and mental health providers.

The solution pursued was to establish a comprehensive, regional system of treatment for opioid addiction in Vermont by building on the infrastructure of existing provider configurations— namely, (1) the specialty OTPs established initially to provide highly regulated methadone treatment, (2) the authorized physicians prescribing buprenorphine in OBOT settings, and (3) Vermont's patient-centered medical homes (PCMHs) supported by community health teams (CHTs)—that is grounded in Vermont's Blueprint for Health[7] framework for health reform and

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[6] Vermont Act 75, an act relating to strengthening Vermont's response to opioid addiction.

[7] The Blueprint for Health (Blueprint) is Vermont's state-led, nationally recognized initiative transforming the way primary care and comprehensive health services are delivered and paid for. Originally established through Vermont statute in 2006, the Blueprint was codified in 2010 with Act 128 (amending 18 V.S. A. Chapter 13) defining it as a "program for integrating a system of health care for patients, improving the health of the overall population, and improving control over health care costs by promoting heath maintenance, prevention, and care

the health home concept in the federal Affordable Care Act. New creative payment methodologies were also built on the existing infrastructure of their service provider configurations. At the center of the Care Alliance approach is the implementation of what has become known as the Vermont's Hub and Spoke health home model to ensure that each person's care is effective, coordinated and supported.

The Hub and Spoke Health Home Model

The Hub and Spoke model is characterized by a limited number of specialized, regional addictions treatment centers working in meaningful clinical collaboration with general medical practices. Specializing in the treatment of complex addiction, the regional centers (Hubs) provide intensive treatment to patients and consultation support to medical providers (Spokes) treating patients in the general practice community. This framework efficiently deploys addictions expertise and helps expand access to care for Vermonters.

In the Hub and Spoke health home approach, each patient undergoing MAT has an established physician-led medical home, a single MAT prescriber, a pharmacy home, access to existing Blueprint CHTs, and access to Hub or Spoke nurses and clinicians as needed. Depending on initial determination of complexity and appropriate treatment method, patients are referred to either a Hub or a Spoke for assessment and development of an integrated plan of care. Enhanced self-management and informed decision making are firmly embedded in multiple forms in the Hub and Spoke model. All individuals receiving MAT services have access to a peer recovery network with recovery support services, including coaching and self-help support, provided through one of 12 regional Recovery Centers. Health home team members maintain awareness of and engage the local recovery and self-help community to assist with providing self-help and family support services to individuals receiving MAT services.

The Hub and Spoke model has been developed with elements added as needed, building around key regional centers to serve substance misusing populations with histories of multiple complex issues that require a system-coordinated response to achieve positive outcomes. New clinical staff are added to both the Hubs and the Spokes to ensure provision of the six health home services.

Hubs

A Hub is a specialty treatment center responsible for coordinating the care of individuals with complex opioid addictions and co-occurring opioid substance misuse and mental health conditions across the health and substance use disorder (SUD) treatment systems of care. Hubs provide comprehensive assessments and treatment protocols. All methadone treatment is provided in Hubs. For a subset of buprenorphine patients with clinically complex needs, Hubs may serve as the MAT induction point and provide care during initial stabilization. Hubs

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coordination and management." Subsequently, the Blueprint set out a system under the Vermont Chronic Care Initiative whereby the highest-risk and highest-cost Medicaid beneficiaries are referred for care management. The Blueprint operates under the Department of Vermont Health Access, the publically funded state health insurance program. "Substance abuse," including opioid addiction, was defined as a chronic condition, and brought under the Blueprint's Chronic Care Initiative, allowing for more creative funding to test various treatment system modalities.

coordinate referrals and provide support for ongoing care and prevention and treatment of relapse, and they provide specialty addictions consultation. Hubs also may provide support for tapering off MAT.

Hubs are expected to maintain continuous and long-term relationships with selected clients. They also must proactively assure that clients leaving their services have clinically appropriate referrals (e.g., to other Hubs, MAT prescribers, health care, housing, recovery and human services), that such referrals are completed to the extent that there are entities to accept such referrals, and that clients are not lost to contact.

In addition to comprehensive MAT addictions treatment, Hubs provide clinically appropriate services in support of the SUD treatment plan, health home services, and rehabilitation services. The model client may have both substance dependence and co-occurring mental health conditions; therefore, Hub services need to be capable of treating co-occurring addictions and mental health conditions in an integrated manner. In addition, the clients served in Hubs are expected to need a broad spectrum of health, social welfare, housing, and recovery services, requiring that Hubs be capable of systematic and close coordination of care across a number of health and human services providers. Thus, proposed Hub providers must demonstrate the capacity to either provide directly or to organize comprehensive care.

Hubs are certified as OTPs, and they must meet specific federal and state requirements in order to receive approval to operate.[8] In addition to meeting DEA and SAMHSA requirements, they must also be approved by the Vermont State Opioid Treatment Authority (SOTA) or ADAP and accredited by a national accreditation body such as the Joint Commission on Accreditation of Healthcare Organizations, the Commission on Accreditation of Rehabilitation Facilities (CARF), or the Council on Accreditation. Treatment requirements are prescribed by federal regulations, 42 CFR Sec. 8.3, as well as the Vermont Department of Health's Medication Assisted Therapy for Opioid Dependence Rules.

As specialized regional centers, Hubs (or Regional Comprehensive Addictions Treatment Centers) serve a defined geographic area to provide comprehensive addictions and co-occurring mental health treatment services to Vermonters with opioid dependence, including comprehensive assessment, care coordination, and MAT for clients. They must assure the provision of integrated health care, recovery supports, and rehabilitation services for their clients. Hubs also now support and provide consultation to primary care providers and physician teams providing buprenorphine treatment (the Spokes). These consultation services include:

- Consultation services, for example: psychiatry, addictions medicine, expertise in management co-occurring mental health conditions, and recovery supports.
- Comprehensive assessments and treatment recommendations, such as differential diagnosis, assessment of need for MAT versus other services, use of methadone or buprenorphine.
- Induction and stabilization services for initiation of buprenorphine, especially for complex clinical presentations.

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[8] Previously existing OTPs were qualified as Hubs. All new Hubs would follow this revised approach.

- Reassessment and treatment recommendations for individuals experiencing substance use relapse.
- Support for tapering off maintenance medication, including the referral for more intensive psychosocial supports.
- Support and consultation for recovery and rehabilitation services and assistance, with regard to the substance misuse treatment needs, in designing individualized recovery plans and coordination with human services, housing, employment, and other specialized services and supports.

Spokes

A "Spoke," or "designated provider," is the ongoing care system composed of a prescribing physician (prescribing buprenorphine) and collaborating health and addictions professionals who monitor adherence to treatment, coordinate access to recovery supports, and provide appropriate supportive counseling, contingency management, and case management services in support of MAT. Spokes are considered OBOTs. They also must meet state and federal requirements to provide medication-assisted therapy for opioid treatment in order to prescribe buprenorphine to patients, but these are not as complex. Spokes must have an appropriately credentialed physician and can be:
- Blueprint Advanced Practice Medical Homes.
- Outpatient SUD treatment providers.
- Primary care providers.
- Federally Qualified Health Centers.
- Independent psychiatrists.

The enhanced staffing model for Spokes requires one full-time employee nurse and one full-time licensed clinician case manager for every 100 MAT patients. These staff are hired or contracted by the Blueprint and are functionally and administratively part of the local CHT, and they are deployed directly into the OBOT physician practices (i.e., Spokes) to provide the six health home services (see below). As most OBOTs prescribe to fewer than 100 buprenorphine patients, these staff are shared across multiple practices in the same way other CHT staff are shared among participating PCMHs.

Hub (and Spoke) services are not necessarily time limited; they are designed to provide continuity of services over time to selected clients, similar to patient-centered medical homes. Designated providers within the Hub and Spoke system replace episodic care based exclusively on addictions illness with coordinated care for all acute, chronic, and preventative conditions in collaboration with primary care providers. Programming reflects the chronic and relapsing nature of addictions and is able to engage and re-engage clients in services.

Health Home Services

The Hub and Spoke program, as part of the Medicaid State Plan Amendment, now offers the six health home services authorized by the Affordable Care:

- Comprehensive Care Management: The activities undertaken to identify patients for MAT, conduct initial assessments, and formulate individual plans of care. In addition,

care management includes the activities related to managing and improving the care of the patient population across health, SUD and mental health treatment, and social service providers.

- Care Coordination: The implementation of individual plans of care (with active patient involvement) through appropriate linkages, referrals, and coordination and follow-up as needed with services and supports across treatment and human services settings and providers. The goal is to assure that all services are coordinated across provider settings, which may include medical, social, Department of Children and Families, mental health and substance use, corrections, educational, and vocational services.

- Health Promotion: The activities that promote patient activation and empowerment for shared decision making in treatment, support healthy behaviors, and support self-management of health, mental health, and substance abuse conditions. There is a strong emphasis on person-centered empowerment to promote self-management of chronic conditions.

- Comprehensive Transitional Care: Care coordination services focused on streamlining the movement of patients from one treatment setting to another, between levels of care, and between health and specialty mental health and SUD service providers. The goal is to reduce hospital readmissions and facilitate the timely development of referrals and transitions to other services.

- Individual and Family Support Services: A flexible, intensive-to-moderate service and support package that increases family capacity, wellness, and functioning. This initiative combines current programming and funding for more intensive services and supports into one program that provides early intervention in an effort to build skills and maximize families' strengths, keep families together, and reduce use of out-of-home placements, regardless of disability type.

- Referral to Community and Social Support Services: Assistance for clients to obtain and maintain eligibility for formal supports and entitlements (e.g., health care, income support, housing, legal services) and to participate in informal resources to promote community participation and well-being.

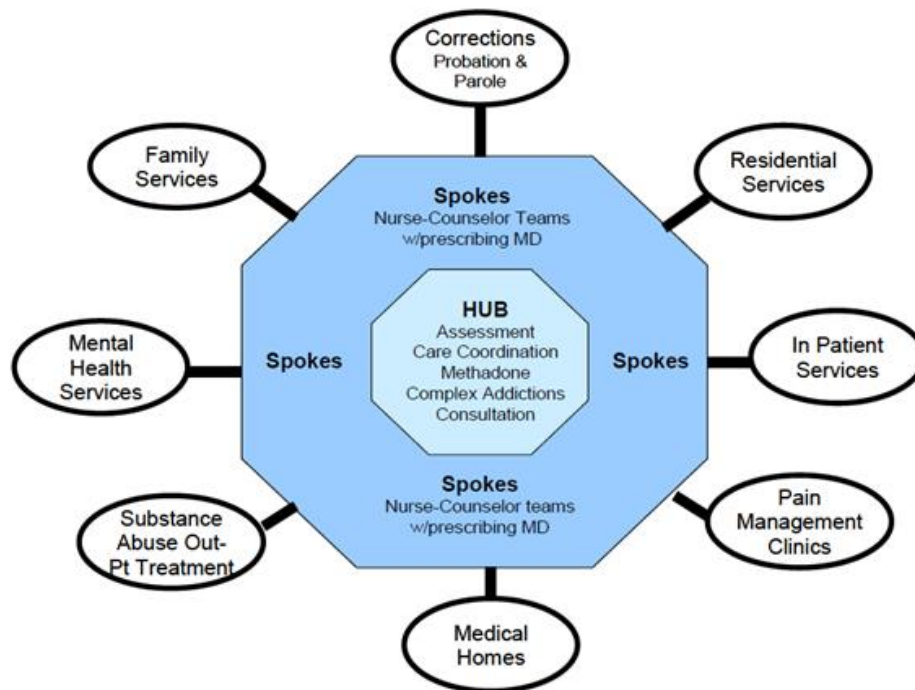**An Integrated Health System for Addictions Treatment**

Vermont's expanded health home initiative, achieved through the Care Alliance's Hub and Spoke model, reflects a comprehensive, integrated regional health system for opioid addictions treatment that is further integrated into the state's larger Integrated Health System for Addictions Treatment. This larger system represents a multifaceted approach to addressing opioid addiction that involves multiple community partners. Programs and services include regional prevention efforts, [9] including opioid-specific prevention initiatives; drug take-back programs; intervention services through the monitoring of opioid prescriptions with the VPMS; recovery services at

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[9] The best prevention is evidence based and comprehensive, with interventions at the state, community, school, family, and individual levels. The same dimensions of wellness and community environments that help to prevent substance use disorders also support recovery. Investing in prevention as early as possible can prevent and reduce the tremendous suffering that addiction causes for individuals, families, and communities. For every dollar invested in prevention efforts there is a $10–$18 savings of societal costs (health care costs, lost productivity, etc.).

eleven Recovery Centers; overdose death prevention through the distribution of naloxone rescue kits; and a full array of treatment modalities of varying intensities. All SUDs are addressed in this larger integrated system, and it encompasses the other treatment service modalities (e.g., outpatient and intensive outpatient services, residential services, mental health services) and other systems and institutional intersections, including corrections, family services, and pain management. See Figure 5 below.

Figure 5.

Integrated Health System for Addictions Treatment

The effectiveness of Vermont's Integrated Health System for Opioid Addictions Treatment depends heavily on the ability of patients, families, communities, providers, and the state to intervene early—before higher levels of care such as inpatient detoxification, residential, and long-term MAT are needed—in order to avoid negative consequences that can accrue individually as well as the societal costs associated with long-term opioid addiction.

Solution Details

The success of Vermont's Hub and Spoke health home solution relies on three key factors.

1. The significant expansion and use of buprenorphine in the OTPs (Hubs)

Previously, OTPs were exclusively specialty *methadone* treatment clinics. Now, OTPs as Hubs are also authorized to prescribe buprenorphine as are OBOTs (as well as naltrexone). This has significantly expanded the use of buprenorphine (as shown in the figure below), and indeed no other state uses buprenorphine more than Vermont.[10] However, buprenorphine is far more expensive than methadone. This means that Vermont has combined a high cost structure with high cost medication, with the paradoxical aim of achieving improved patient care at reduced costs for the state's health system.

Figure 6.

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[10] The State Opioid Treatment Authority and Manager of Clinical Services, Anthony Folland, Vermont Department of Health, Division of Alcohol And Drug Abuse Programs.

Figure: Current Trend - Medicaid Medication Assisted Treatment Clients
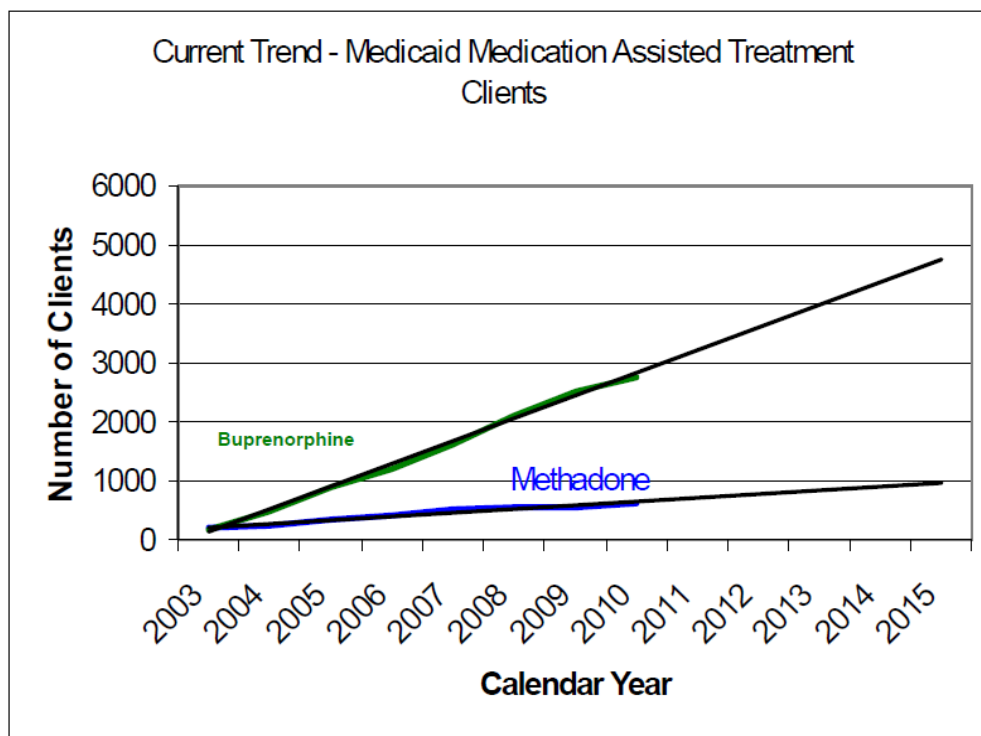
As shown in Figure 6, above, the number of MAT patients receiving buprenorphine in a Hub or as prescribed by a physician in a medical office has far exceeded the number of MAT patients receiving methadone, the highly regulated treatment provided in specialty clinics.

By expanding the use of buprenorphine in the Hubs, the Hub physician can for the first time determine dosing structure separate from the choice of medication, instead of automatically having to place the patient on methadone.[11] Patients treated in Hubs with buprenorphine who are

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[11] Hub buprenorphine details:
- Buprenorphine could now be prescribed just like methadone within the Hubs
- More flexibility with take-homes
- Offered every-other-day or every-third-day dosing
- Introduced the use of Med-O-Wheels for securing take-homes of buprenorphine tablets
- Required all patients to FULLY DISSOLVE and ABSORB sublingually both forms of buprenorphine—films and tablets—in a 5-minute observation period
- Prior authorization process put in place by Medicaid for mono-buprenorphine and all doses over 16 mg
- Required checking of VT Prescription Monitoring System (VPMS) at intake (to eliminate the risk of OBOT treatment overlaps)
- Recommended checking VPMS every 3 months and for cause (presence of unexpected drug screen result or absence of substance prescribed or not
- Essential Hub services: Intake/ physical exams; screening for sexually-transmitted diseases, tuberculosis, human immunodeficiency virus (HIV), and hepatitis A,B,C, and education and referral; onsite urine screening and breathalyzer; medical and psychological evaluation and screening; pregnancy screening and birth control information; vaccines for hepatitis A/B, tetanus–diphtheria–pertussis(TDAP), Pneumovax®, influenza; daily medication dosing and management and tapers; drug and alcohol counseling (group and individual); case management services; orientation to treatment and recovery; gender-specific issues of misuse, supportive

sufficiently stabilized now have the opportunity to be transferred as patients to OBOTs (now Spokes) for continued buprenorphine treatment, as clinically indicated, by a qualified physician in their local community. The hope is that patient outcomes will further improve as they move out to Spokes into office-based care, while reducing the high costs associated with Hub treatment over time. Additional cost savings are also expected to be realized from reduction in other unnecessary and even higher-cost health care expenditures (e.g., medically unnecessary emergency room visits and hospital visits), as well as social and legal costs associated with opioid addictions ,simply by virtue of having a system alternative to absorb these individuals.

At present, approximately one-third of all patients on a statewide basis move out of Hubs after stabilization with buprenorphine into Spoke (office-based) care, representing both wide scale and a frequency of transfers previously unseen in Vermont.

2. *Ensuring the fluidity of transfer between Hubs and Spokes via referrals*

While this factor may be ancillary to the primary factor of success above, the challenge to the Care Alliance of establishing a smooth, efficient, and reliable means of transferring patients between care modalities across the Hub and Spoke health home system cannot be overstated. First, this involved developing a "referral culture" to replace the "capacity culture" based on a fee-for-services billing model. This was facilitated in a number of ways, including establishing discharge planning and referral as a core service; reimbursement criteria that included one "health home" encounter with referrals alongside one standard clinical practice and that provided incentive rates for the provision of "enhanced services," including the six health home services as well as establishing and maintaining linkages between Spokes and Hubs; and being involved in a "learning collaborative" to together address some of the emerging challenges.

Second, Vermont also developed and employs a treatment need questionnaire (TNQ)[12] that scores patients on criteria selected to predict outcomes and the likelihood a patient would be an excellent candidate for a particular level of opioid treatment, e.g., Spoke treatment—a more tightly structured and supervised dosing in a Spoke or possibly a Hub setting—or Hub treatment. This tool helps facilitate a more direct placement of patients into the most appropriate level of care.[13]

Lastly, the optimum model is for a clinically qualifying Hub patient to stabilize on buprenorphine products within the Hub and, as appropriate, be transferred to the less medication-controlled Spoke environment in an office-based physician practice. Should the patient destabilize, the patient may be referred back to the Hub for restabilization. This requires a

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services, pregnancy, parenthood; discharge planning and referral; and care coordination and consultation with primary and specialty and hospital services

[12] Developed by Vermont physician John Brooklyn, M.D., and Stacey C. Sigmon, Ph.D., of Vermont's Center on Behavior and Health, the tool was based on the Addiction Severity Index topics—including legal status, employment, social issues, psychological, medical and drug use histories—and comprises a 21-item checklist which scores up to 26. Lower scores predict good Spoke outcomes and likelihood that the patient would be an excellent candidate for OBOT; medium scores indicate a more tightly structured and supervised dosing in an OBOT or possibly a Hub; and scores 16–26 indicate the need for Hub treatment.

[13] All patients at intake also receive a biopsychosocial assessment as well as a complete a Self-Sufficiency Matrix to further rate a patient's status to determine the most appropriate level and types of care needed.

sophisticated referral process and protocols for bidirectional movement between the Hubs and Spokes. With the launch of the first regional learning collaborative, the main objective was to operationalize the Hub to Spoke transfer process within Blueprint's hospital service area (HSA).[14]

3. Adopting a creative payment methodology that allows the use of health home moneys to expand capacity within Hubs to support service enhancements while building staffing infrastructure within the Spokes

The Hub service enhancements augment programming to include health home services to link with the primary care and community services, provide buprenorphine for clinically complex patients, and provide consultation support to primary care and specialists prescribing buprenorphine. The methodology also supports corresponding Spoke infrastructure that embeds new clinical staff (a nurse and a Master's-prepared, licensed clinician) in physician practices that prescribe buprenorphine (Spokes) through the Blueprint CHTs to provide health home services, including clinical and care coordination supports to individuals receiving buprenorphine. To date, approximately 40 full-time nurses and addictions counselors have been hired and deployed in over 60 different practices.[15]

Payment Methodology

Vermont's managed care model is designed to provide significant flexibility with regard to the financing and delivery of health care to promote better access, improve quality, and control program costs. The majority of Vermont's Medicaid program operates under the Global Commitment to Health Demonstration Waiver which is administered under this flexible managed care model. Creative new uses of Vermont's Medicaid resources include new payment mechanisms (e.g., case rates, capitation, combined funding streams, capacity-based payments) rather than fee-for-service, the ability to pay for services not traditionally reimbursable through Medicaid (e.g., pediatric psychiatric consultation), and investments in programmatic innovations for Medicaid beneficiaries (e.g., the Vermont Blueprint for Health).

Under the terms of the Affordable Care Act Section 2703 State Plan Amendment, Vermont will collect 90–10 matching funds only for the Hub and Spoke costs directly linked to providing the health home services. The remaining services are matched at the current state match rate. As stated previously, payment methodologies have been built on the existing infrastructure of their service provider configurations, so that there is one methodology and payment stream for Hubs and one methodology and payment stream for Spokes.

Hub Health Home Staffing and Cost Model

The methodology to develop costs for the Hub health home enhancements is based on the costs to employ key health professionals (salary and fringe benefits) who provide the health home services. The staffing enhancements for health homes were developed in collaboration with current methadone providers (traditional OTP) and are based on a model of 400 MAT patients

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[14] For the learning collaboratives, each entity had specifics measures to report on at each session to measure progress toward goals such as waiting list reductions, retention in treatment, responses to drug using behaviors, psychological assessments, reducing diversion, assessing dose adequacy, and care coordination.

[15] http://legislature.vermont.gov/assets/Legislative-Reports/Opioid-system-effectiveness-1.14.15.pdf, p.7.

served at a regional treatment center. The resulting health home enhanced staffing model represents, on average, a 43-percent increase from Vermont's current statewide average rate for methadone treatment as usual.

Hub Health Home Payments

The Hub payment is a monthly, bundled rate per patient. The Hub provider initiates a claim for the monthly rate, using the existing procedure code for current addictions treatment and a modifier for the health home services. The provider may make a monthly claim using the modifier on behalf of a patient for whom the provider can document the following two services in that month:

- One face-to-face typical treatment service encounter (e.g., nursing or physician assessment, individual or group counseling, observed dosing), and
- One health home service (comprehensive care management, care coordination, health promotion, transitions of care, individual and family support, referral to community services).

If the provider did not provide a health home service in the month, then the provider may only bill the existing procedure code without the health home modifier at a lower rate.

Under the terms of the Affordable Care Act Section 2703 State Plan Amendment, Vermont will seek 90–10 matching funds for only the health home enhancements, or 30 percent of the total Hub costs per Medicaid patient.

Spoke Health Home Staffing and Cost Model

Payment for Spoke health home services will be based on the costs to deploy one full-time registered nurse and one full-time, licensed clinician case manager for every 100 patients across multiple providers within an HSA. Embedding the staff directly in the prescribing practices allows for more direct access to mental health and addiction services, promotes continuity of care, and supports the provision of multidisciplinary team care. As with the Blueprint CHTs, Spoke staff (nurse and clinician case manager) are provided free of cost to patients receiving MAT, essentially as a "utility" to the practices and patients.

Spoke Health Home Payments

Spoke payments are based on the average monthly number of unique patients in each HSA for whom Medicaid paid a buprenorphine pharmacy claim during the most recent 3-month period, in increments of 25 patients. Building on the existing CHT infrastructure, new Spoke staff are supported through Capacity Payments. For administrative efficiency, Spoke payments will be made to the lead administrative agent in each Blueprint HSA as part of the existing Medicaid CHT payment. Buprenorphine pharmacy claims are not affected, and Spoke physicians will continue to bill fee-for-service for all typical treatment services currently reimbursed by the DVHA.

Third Party Payers

While the majority of MAT is funded by the state through Medicaid payments, CHT staff, and financial support for uninsured patients in Hubs, some patients have third party insurance

through Blue Cross Blue Shield, MVP, Cigna, and TRICARE. Medicare does not pay for MAT provided by specialty treatment providers such as the Hubs, but it will pay for services provided in physician's offices (Spokes). Insurers have consistently paid for direct medical care through the Spokes as well as for buprenorphine dispensed in pharmacies. Third party payers also contribute funds for the Blueprint CHTs, but third party payment methodologies did not originally fully support the Care Alliance Hub level of care. Hub providers have made significant progress in negotiating payments for the full range of Hub services for patients with private insurance.

Results

The Care Alliance has been fully implemented only recently. The Blueprint for Health, along with the Vermont Department of Health, is in the process of designing an evaluation for the Care Alliance system to assess empirically the impact of MAT in Vermont. The primary source of data for this study will be the Vermont All-Payer Claims Database known as the Vermont Healthcare Claims Uniform Reporting and Evaluation System (VHCURES). At this time, the evaluation is expected to include a review of the impact of MAT on health care utilization patterns and overall patient cost. Because outcomes for this population transcend the medical system, this evaluation will also investigate the relationship between MAT and incarceration. It is anticipated that the evaluation report will be available in early 2016. In the meantime, the best available data are provided below.

From the start, the critical criteria for determining whether Vermont's Hub and Spoke health home initiative through the Care Alliance was a sufficiently robust and efficacious approach to address the growing opioid addictions crisis were considered to be the following:

1. The system design needed to significantly increase access to care.

Vermont now has five Hubs, with eight sites, for treating people with opioid addiction in each region of the state. Spokes have increased to over 150 OBOT) practices of various specializations— primary care, pediatrics, obstetrics and gynecology, orthopedics, and psychiatry, often serving small numbers. This reflects increase in access by geographical proximity, variety of service specialty, and total points of service.

The total number of people receiving MAT services through the Hub and Spoke system since the program's inception has increased by more than 50 percent. The Hub system has significantly increased caseload from 650 patients in 2012 to 2,723 in 2015, a 76-percent increase. The Spokes have not grown as fast as the Hubs, seeing a caseload increase of only 21 percent during this period. See Table 2 below.
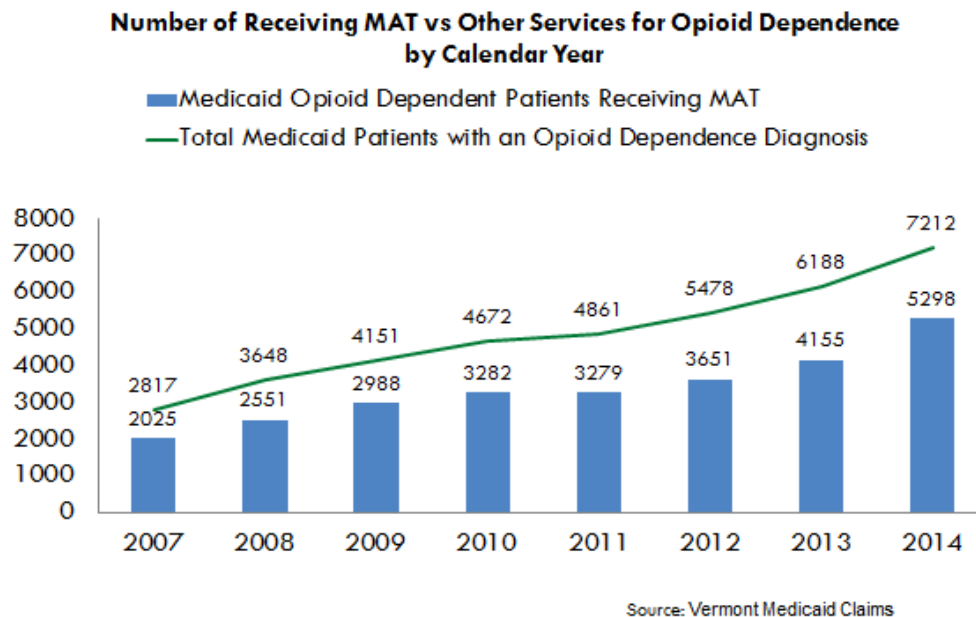
Table 2. Caseloads in Hubs and Spokes, 2012 and 2015

TREATMENT MODALITY	# OF PATIENTS (2012)	# OF PATIENTS (2015)	% CHANGE
Hubs	650	2723	76%
Spokes	1700	2143	21%
TOTAL	2350	4866	52%

Note: Physicians generally report 0–35% of OBOT caseloads outside of the Medicaid population, with significant variance by region of the state. Data reported in April 2012 and then in 2015 at the AATOD national conferences.

By 2014, the total number of Medicaid patients with an opioid dependence diagnosis treated in Vermont's larger Integrated Treatment System for Addictions Treatment was 7,212, with 5,298 individuals receiving MAT in the Hub and Spoke system. That is, approximately 73 percent of all Medicaid patients with an opioid dependence diagnosis are relying on the Hub and Spoke system for services. This reflects a significant increase in access to services. See Figure 7 below.

Figure 7.

Number of Receiving MAT vs Other Services for Opioid Dependence by Calendar Year

■ Medicaid Opioid Dependent Patients Receiving MAT
— Total Medicaid Patients with an Opioid Dependence Diagnosis

Source: Vermont Medicaid Claims

The Vermont Department of Health's performance dashboard includes "access to MAT" as a key performance measure of SUD treatment programming. Specifically, data are gathered to determine, "Are adults that seek help for opioid addiction receiving treatment?" This is measured as the number of people receiving MAT per 10,000 Vermonters aged 18–64. The goal is 100 per 10,000 Vermonters. Progress on this measure as of the third quarter of 2014 shows 91 per 10,000 Vermonters received MAT treatment, with consistent increases in "access to MAT" achieved since the implementation of the Care Alliance for Opioid Addiction. See Figure 8 below.

Figure 8. Number Receiving MAT per 10,000 Adult Vermonters, 2013–2014
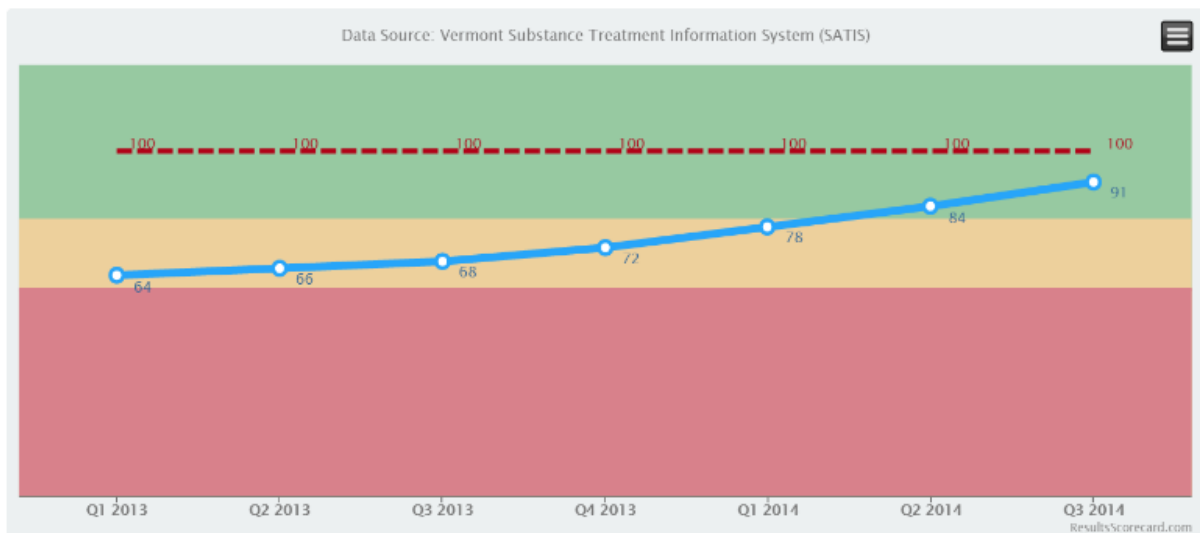
All the above data show that significantly increased access to care has indeed occurred since the inception of Vermont's Hub and Spoke health home initiative. Furthermore, data show a shift from a 30–70-percent to a 50–50-percent ratio of patients in treated in Hubs versus Spokes. Continued waitlists at all elements in the system show that the Hub and Spoke system is still facing unmet need. Eventually, it is expected that the initial ratios will return, once Spokes are brought up to full capacity. There are also still significant regional differences, with the greatest need for additional expanded capacity occurring in the northwest of the state. Expansion efforts continue in both the Hub and Spokes segments of the system.[16]

2. The system design needed to improve quality of care.

As mentioned previously, MAT, when delivered in conjunction with appropriate supportive counseling and behavioral therapies, has long been recognized as a highly effective, evidence-based treatment approach to opioid addiction. The Hub and Spoke model is built around evidence-based treatment approach as fundamental to improved quality and effectiveness of care.

Vermont promulgated new Medication Assisted Therapy for Opioid Dependence Rules that bring all MAT programs under the authority of the Department of Health and subject to review for compliance by ADAP. The scope of the standards and criteria include, but are not limited to, facility and clinical management, risk management, quality improvement, medical and behavioral health standards, and the care and treatment of special populations.

The Vermont Department of Health ADAP also published updated and revised service standards and guidelines for all providers, including specialty standards of care. The guidelines require all

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[16] *Substance Abuse Treatment Services, Objectives and Performance Measures Progress: First Annual Report, In Accordance with Act 179* (2014), Sec.E.306.2(a)(1), Report to the Vermont Legislature. http://legislature.vermont.gov/assets/Legislative-Reports/SA-system-performance-first-annual-report-5.1.15-final-.pdf

providers to have in place written nondiscrimination policies and procedures, a code of ethics governing behavior of staff and business practice, plans relating to cultural competence and supervisory practices, and criteria for prioritizing need and high-risk populations.

Despite system expansions, there are still people waiting for MAT services in Hubs, further demonstrating that additional capacity is needed. At this time, further expansions have begun to slow, principally due to workforce challenges, including staffing limitations and resistance among some physicians to treat opioid addiction in their practices. However, the waitlist continues to remain level despite growth in the number of those with opioid dependence. See Figure 9 below.

Figure 9. Hub Patients and Waiting List Over Time
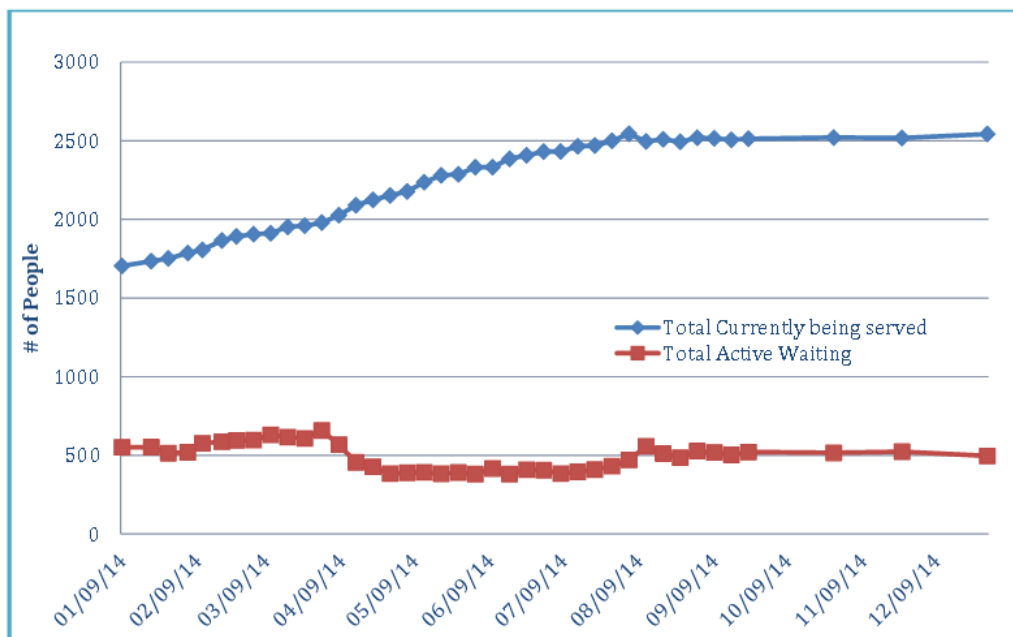
Source: ADAP Hub Waitlist and Census.

Vermont recently was awarded a SAMHSA grant that aims to develop a free national mentoring network that will provide clinical support (e.g., clinical updates, consultations, evidence-based outcomes, and training) to physicians, dentists, and other medical professionals in the appropriate use of opioids for the treatment of chronic pain and opioid-related addiction. Specifically, Vermont is using the grant to do four things:

- Organize a multidisciplinary community-based team within each patient-centered medical home/neighborhood.
- Offer the option of naltrexone intramuscular (IM) gluteal injection in the Hubs and Spokes.
- Implement evidence-based integrated psychosocial treatments in the specialty addiction treatment agencies.
- Build recovery capital by engaging peer recovery support guides at the outset of treatment.

These all represent *efforts to improve quality of care by supporting creative new ways to reach the highest risk populations*, namely, (1) those who are involved in the criminal justice system and who are in the community; (2) those who are parents and who are involved in the child welfare system; and (3) those who are motivated for MAT but, due to limited capacity, are put on waitlists.[i] Key features include "Pathway Guides," MAT coordinators, and new medication delivery testing including use of naltrexone (Vivitrol®) and take-home Med-O-Wheels (pill dispensers).

Under the Blueprint for Health, Vermont's primary care practices, some of which are Spokes, are supported to meet the National Committee for Quality Assurance (NCQA) PCMH Standards. These standards support higher quality care and improve patient and provider experiences of care. The Blueprint for Health is also supporting the Hubs to meet the NCQA Specialty Practice Standards. The specialty standards focus on quality improvement and increasing coordination of care between primary health care and specialty services. This is one of the first uses of the NCQA specialist standards for addictions treatment in the nation. The goal is for all five Hubs to complete a baseline measure against the standards by July 2015. All five Hubs have begun the process, with one successfully receiving certification.

Per-patient-per-month (PPPM) payments are made to providers based on the scoring level achieved by the primary care practice in NCQA PCMH recognition standards. This payment incentivizes practices to improve quality against national standards. It promotes access, communication, guideline-based care, well-coordinated preventive health services, use of electronic tracking systems, and population management. All insurers share the cost for core CHT—and as such, it is a payment for capacity. The shared funding for CHT is provided at the rate of $70,000 (about one full-time equivalent) per 4000 patients, which amounts to about $1.50 per patient per month. This capacity payment reform establishes a community-based care support infrastructure available to primary care practices and the general populations they serve. The CHT is supported 6 months prior to a practice's NCQA score date, further underscoring the Blueprint partners' commitment to the spread of quality improvement. This payment is routed to an administrative entity in each HSA to support community health team operations.[17]

With faculty leadership from the Dartmouth Health System's Addiction Medicine, monthly in-person and phone webinars bring program staff together for program improvement. The goal is to improve care in each practice setting and to standardize care across the statewide system. These networks provide a practical and efficient mechanism to drive improvements in the standard of care and to ensure coordination between providers statewide.[18]

To support the Hub and Spoke practice reforms, the Blueprint (in collaboration with ADAP) convened six regional learning collaboratives focused on MAT for opiate addiction in 2013 and 2014. More than 35 Spoke practices and all Hub programs have sent or are sending teams with physicians, nurses, medical assistants, and office managers to the opioid treatment collaboratives, with 29 physician leaders attending most sessions with teams. The second-year

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[17] http://legislature.vermont.gov/assets/Legislative-Reports/VTBlueprintforHealthAnnualReport2014-Final.2015.01.26.pdf, p. 99.
[18] http://legislature.vermont.gov/assets/Legislative-Reports/VTBlueprintforHealthAnnualReport2014-Final.2015.01.26.pdf, p. 83.

curriculum includes the following topics: pregnancy and buprenorphine, chronic pain and management of pain for individuals with addiction, treating anxiety in patients addicted to opioids, managing other substances of abuse (alcohol, THC, etc.) in patients with opioid addiction, and supporting recovery.

The collaboratives take place over 10 months and consist of four to five half-day, in-person sessions and five 1-hour webinars. The content includes didactic lectures, case examples, and presentations about how best practice is implemented in clinical care.

In addition, each practice reports on common measures important to evidence-based care. The opioid addiction treatment collaborative included measures for use of the VPMS; monthly urine analysis; treatment retention; and rates of patients receiving above the recommended dose, or more than 16 mg of buprenorphine daily (a risk for diversion). The current collaboratives are also measuring travel time to care and use of benzodiazepines (contraindicated when buprenorphine is prescribed). Throughout the collaborative, practices work to improve their performance on these measures and other aspects of care. These collaboratives prove to be a powerful tool to improve the standard of care for opioid addiction rapidly.

Finally, in 2014, the percent of Hub patients reported satisfaction exceeded 80 percent across all "customer satisfaction" questions. See Figure 10 below.

Figure 10.
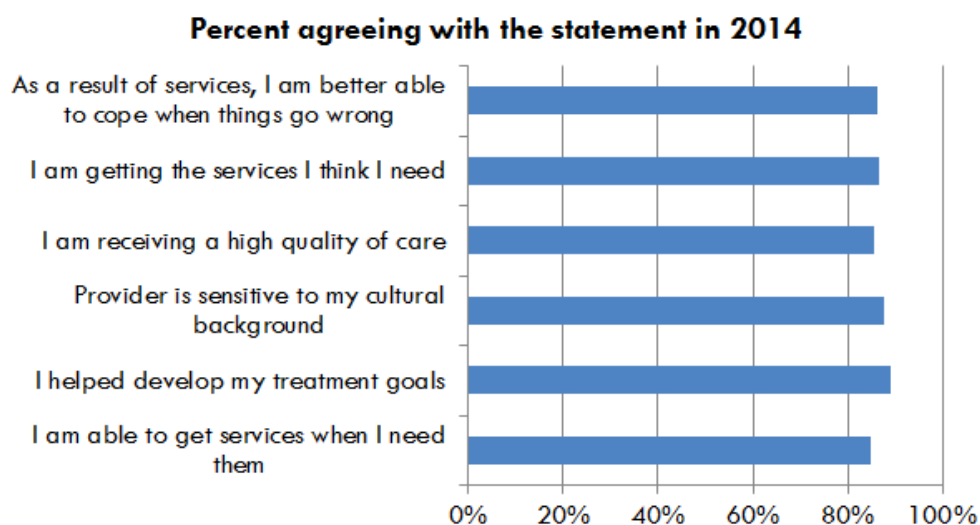
Source: Alcohol and Drug Abuse Programs, Hub Customer Satisfaction Survey

3. The system design needed to achieve greater cost effectiveness.

The Care Alliance Hub and Spoke health home model was built on existing infrastructure. The planned expansions and enhancements were designed to achieve greater cost effectiveness. Preliminary evaluation results from 2007–2013 Vermont Medicaid data indicate:
- Individuals with an opioid dependent diagnosis receiving MAT have lower medical costs than those who have an opioid dependent diagnosis and are receiving non-MAT SUD treatment.

- Longer MAT corresponds to lower non-treatment- related medical care costs.[19]

Furthermore, "DVHA has projected that for the 2,164 patients estimated to be served statewide, the savings will be $6.7 million."[20] These savings are cost modeled to derive from the following:
- Decreases in unnecessary and even higher-cost health care expenditures (e.g. medically unnecessary emergency room visits and hospital visits; pharmacy; inpatient; lab; and residential treatment);
- Decreases in societal impacts and savings anticipated in areas such as corrections, employment, and children in custody;[21]
- Decreases due to increased productivity, given that because the health home framework has enabled more comprehensive services, individuals are being retained in treatment longer—an evidence-based factor showing overall improved functioning compared to status at admission.

Conclusion/Recommendations

This paper has set out the details of the three essential elements of Vermont's Hub and Spoke health home initiative. Furthermore, it has presented some of the initial evidence to determine if Vermont's model is sufficiently robust and efficacious to effectively address the growing opioid crisis. While it is too early to demonstrate definitively, data are demonstrating significant positive results on two of three criteria of success, with early indication of positive results on the third.

Firstly, the initiative has significantly increased access to care as measured by increases in the number of Hubs, number of Spokes, number of patients in both Hubs and Spokes, and number of patients receiving MAT per 10,000 Vermonters.

Secondly, Vermont has made widespread investments to ensure improved quality of care, including focusing on expanding the evidence-based practice, MAT for the treatment of opioid addictions. Other efforts to improve quality of care include adopting and establishing new and higher standards of care; supporting better collaboration and innovation for more effective medication delivery; and better care coordination to meet the needs of this very high risk, complex, and sometimes hard-to-reach population. Data show excellent results to date, demonstrating improvements in quality of care by earning very high satisfaction ratings among patients in Hubs and holding waitlists level despite growing numbers with opioid dependence.

Finally, while it is too early to demonstrate this definitively, there is strong indication that the system design will indeed produce greater cost-effectiveness. Significant cost savings are already being realized by averting unnecessary, higher-cost health care expenditures and social and legal impacts associated with opioid misuse and dependence and treatment strategies in the absence of the Hub and Spoke model.

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[19] http://legislature.vermont.gov/assets/Legislative-Reports/Opioid-system-effectiveness-1.14.15.pdf
[20] Testimony to Vermont legislature, March 20, 2014.
[21] *Integrated Treatment Continuum for Substance Use Dependence; "Hub/Spoke" Initiative—Phase 1: Opiate Dependence*, January 2012, Vermont Agency of Human Services briefing document.

One of the major challenges for the future is workforce development. First, many clinicians with specialized skills necessary to support the system, including Licensed Drug and Alcohol Counselors (LADCs), are nearing retirement, and the field is less attractive to people beginning their careers due to low salaries, the inability of private practitioner LADCs to bill Medicaid, and the challenging population being treated. This issue is not unique to Vermont; it's a problem nationwide.

Related to this problem is the challenge of further expanding Spoke capacity to match the array and functioning of the regional Hubs. The northwestern region of the state is particularly in need of increased capacity. The ability of Hubs to transfer stable patients allows the Hubs to focus on their target group of patients with greater needs and decrease Hub waiting lists. Similar resistance is sometimes also observed among potential physician practices to work with this population and provide OBOT. The model has built-in payment incentives that are working to some extent to increase the number of Spokes. Furthermore, there is work underway to determine if rate adjustments might be made to better defray costs of treatment services in both Hubs and Spokes, without adversely impacting the cost modeling.

Currently, the total number of patients a physician can prescribe to is capped by federal policy at 100 patients. SAMHSA is evaluating an increase in the cap of 100 patients an established physician can treat with buprenorphine. Because Vermont provides additional supports to physicians treating this population in the form of the Spoke staff, this would allow existing qualified physicians to treat more patients while maintaining high-quality care.

Despite the immediate challenges, it appears that Vermont is indeed successfully, and paradoxically, combining a high cost structure with high cost medication to achieve improved patient care (e.g., increased access and improved quality of care) at reduced costs for the state's health system (e.g., greater cost effectiveness).

Integration of Health Homes in Rhode Island OTPs
By Sue Storti, Ph.D., RN, NEA-BC, CARN-AP

Introduction

During the past decade, the United States has witnessed an unprecedented increase in morbidity and mortality associated with the misuse of and addiction to tobacco, alcohol, and illicit drugs. The combined cost related to crime, lost work productivity, and health care is more than $700 billion annually. Of particular concern is the increasing rate of opioid dependency and the rising number of opioid overdoses (Drug Enforcement Administration, 2014). It is estimated that there are at least 1.7 million individuals in the United States who are experiencing opioid drug dependence, costing approximately $21 billion per year, with drug treatment expenses and accounting for 5.7 percent of the total cost (Hersh, Little, & Gleghorn, 2011; Manchikanti et al., 2012; Stancliff et al., 2012). Additionally, the cost of prescription opioid medication misuse is estimated at $4.6 billion in the workplace, $2.6 billion in health care, and $1.4 billion to the criminal justice system (Birnbaum, 2006).

Creating and implementing effective recovery-oriented, person-centered treatment systems is an important investment for society and offers the treatment opioid dependent patients need. Medication-assisted treatment (MAT) in combination with counseling has long been recognized as the most effective treatment for opiate addiction.

Health Homes

The Patient Protection and Affordable Care Act (called the Affordable Care Act for short) takes significant strides toward transforming the health care delivery system from a system that rewards volume to a system that rewards quality and value (U.S. Congress, 2010). The programs and initiatives authorized by the Affordable Care Act hold the potential to reduce cost and improve the quality of care through more coordinated care and reimbursement methods that reward coordinated care.

One such opportunity afforded under the Affordable Care Act is for states to receive funding for "Coordinated Care through a health home for Individuals with Chronic Conditions," also re-ferred to as health home services (Substance Abuse and Mental Health Services Administration [SAMHSA]–Health Resources and Services Administration [HRSA] Center for Integrated Health Solutions [CHIS], 2013). This provision presents an opportunity to build a patient-centered system of care that provides health care for beneficiaries of the state Medicaid program. Its service delivery approach facilitates access to an interdisciplinary array of medical care, behavioral health care, and community based social services and supports for both children and adults with chronic conditions (Centers for Medicare & Medicaid Services [CMS], 2010a).

To be eligible to receive health home services, Medicaid beneficiaries must have at least two chronic conditions (e.g., mental health condition, substance use disorder [SUD], asthma, diabetes, heart disease, a body mass index [BMI] greater than 25); have one chronic condition and the risk of a second; or have one serious and persistent mental health condition. It is

designed as a strategy for improving patient-centeredness and improving quality and access to care while decreasing cost by coordinating comprehensive care across all care settings, including medical care, behavioral health care, and social services (CMS, 2010b).

As per the criteria set forth by CMS, health home providers must provide six core services. These include comprehensive care management; care coordination and health promotion; comprehensive transitional care from inpatient to other settings, including appropriate follow-up; individual and family support, which includes authorized representatives; referral to community and social support services, if relevant; and the use of health information technology to link services.

Each health home includes a team of physicians and other providers, including behavioral health care professionals. Under the Affordable Care Act, health home services may be provided by a "designated provider," which may be a physician, practice, clinic, or other entity or provider; a team of health professionals linked to a designated provider; or a community health team.

Health Homes Versus Patient-centered Medical Homes

While there are similarities between patient centered medical homes (PCMH) and health homes, there are also differences. The Medicaid health home option uses the patient-centered medical home as its foundation (CMS, 2010a). The PCMH was initially designed as a health care model for addressing the complex needs of children with multiple medical conditions. According to the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Osteopathic Association (2007), it was later adopted for use by the health care field to encourage individuals to use primary care practices as the basis for accessible, continuous, comprehensive, and integrated care. The PCMH is built on the framework of the chronic care model designed to improve the treatment of chronic health conditions in the primary care setting (Wagner, 1998; Wagner, Austin, & Von Korff, 1996). To that end, the PCMH is to provide a patient with a broad spectrum of care, both preventive and curative, over a period of time, and to coordinate all of the care the patient receives.

This model was further developed, leading to innovations supported through a collaborative process between the Office on Disability, the Department of Health and Human Services including SAMHSA, HRSA, and CMS. Today, many state Medicaid programs have developed medical home models, and states receive reimbursement for medical homes through a variety of authorities (CMS, 2010a).

Health homes expand the medical home model to build linkages to other community and social supports and to enhance coordination of medical and behavioral health care needed by an individual with chronic health care conditions. They are designed to enhance person-centered care, empowering individuals to manage and prevent chronic care conditions in order to improve health outcomes, while reducing avoidable hospital encounters.

Why Develop Substance Use Treatment Program or Opioid Treatment Program Health Homes?

One of the major results from the pressure to reduce costs of treating addiction has led to increased utilization of outpatient programs (Edmunds et al., 1996). A related effort toward

health care cost containment has been the reduction of social support services—such as housing referral, employment counseling, legal assistance, and parenting aid—that have traditionally been provided within addiction treatment programs, while at the same time the severity of addiction and social problems presented by admissions to treatment programs increased significantly (Etheridge, Craddock, Dunteman, & Hubbard, 1994).

Often, these individuals have high rates of co-occurring mental health and other health issues (Cherubin & Sapira, 1993; Center for Substance Abuse Treatment [CSAT], 2005; Gourevitch & Arnsten, 2005; Weisner, Mertens, Parthasarathy, Moore, & Lu, 2001) and are high users of emergency rooms (Billings & Raven, 2013; Capp et al., 2013; Dans et al., 1990; Grembowski et al., 2014; National Council for Community Behavioral Healthcare, 2010), pharmacy benefits, and other health care services (Fox et al., 1995; Laine et al., 2001; Stein et al., 1993). Research has shown that this group represents one of the highest rates of treat-and-release emergency department visits in general (Capp et al., 2013) and revisits within 30 days of hospitalization (Irmiter, Barry, Cohen, & Blow, 2009; Vashi et al., 2013).

Science has shown that addiction is a chronic, relapsing illness. As with any chronic illness, a comprehensive approach is essential to achieve positive patient outcomes (National Institute on Drug Abuse, 2012; Samet, Friedmann, & Saitz, 2001). Components of this approach include access to care, or being able to receive care in a timely manner from an appropriate provider (Berry, Seiders, & Wilder, 2003; Hendryx, Ahern, Lovrich, & McCurdy, 2002); coordination of care (Walley, Farrar, Cheng, Alford, & Samet, 2009); medication monitoring to promote adherence; and social support services, such as housing referral, employment counseling, legal assistance, and parenting aid (D'Aunno & Vaughn, 1995; Kraft, Rothbard, Hadley, McLellan, & Asch, 1997; McLellan, Arndt, Metzger, Woody, & O'Brien, 1993).

Research has demonstrated that care coordination in substance use treatment settings and opioid treatment are efficacious in increasing a patient's adherence to routine medical care, housing assistance, and other social services (Friedmann, D'Aunno, Jin, & Alexander, 2000; Masson et al., 2013; Saitz, Horton, Larson, Winter, & Samet, 2005; Umbricht-Schneiter , Ginn, Pabst, & Bigelow, 1994). When addiction is treated as other chronic illnesses, treatment is optimized, resulting in better long-term outcomes (McKay, 2005; McLellan, Lewis, O'Brien, & Kleber, 2000; Saitz, Larson, LaBelle, Richardson, & Samet, 2009).

Traditionally, SUD treatment services have been separate from and uncoordinated with the broader health care delivery system. For individuals with comorbid behavioral health and physical health conditions, this fragmentation compromises quality of care as well as clinical outcomes.

This is particularly true for patients receiving MAT in opioid treatment programs (OTPs). They are unlikely to use traditional medical services as many fear discriminatory or hostile behavior from the medical staff. The effect of negative attitudes associated with SUDs can lead to diminished self-esteem, lessens an individual's ability to participate in the management of their illness, weakens self-determination, and prevents individuals from gaining proper and timely medical care, resulting in suboptimal clinical outcomes (Christison, Haviland, & Riggs, 2002; Institute of Medicine [IOM], 2006; McLellan et al., 2000) and negatively affecting a patient's

likelihood of recovery (IOM, 2006; Jewell, Tomlinson, & Weaver, 2011; Saitz et al., 2002; Samet, Rollnick, & Barnes, 1996; Weaver, 2006; York & Freed, 2000). Patients who don't receive a positive, patient-centered approach are at risk for being less satisfied and less enabled, and they may have greater symptom burden and use more health service resources (Little et al., 2001).

Substance use disorder treatment programs provide the opportunity for frequent contact with medical and/or clinical professionals who have developed ongoing therapeutic relationships with patients. This enables providers to use existing and enhanced resources to improve the health of patients and decrease inadequate and/or ineffective medical care through development of stronger formalized relationships between the treatment programs and community health care providers (McLellan et al., 2000). Provision of this service positively impacts the health and welfare of patients and reduces overall health care costs by focusing on relationships with primary and specialty care, versus emergency room care (Gerstein et al., 1994; Starfield & Shi, 2004; Starfield, Shi, & Macinko, 2005); wellness promotion and health literacy (Hibbard, Greene, & Overton, 2013; Robert Wood Johnson Foundation, 2013); routine and preventative health monitoring; and care management with recovery supports that promote self-care (Samet, Friedmann, & Saitz, 2001).

The health home also provides an opportunity for patients to experience positive relationships with health care providers. An extensive body of literature supports the notion that positive patient experience is associated with improved health outcomes and better medication adherence (Greenfield, Kaplan, & Ware, 1985; Heyworth et al., 2014; Hibbard et al., 2013; Sequist et al., 2008). Research has also shown that drug users' risk of hospitalization is reduced by having a regular source of medical care (Laine et al., 2001) and by participating in treatment.

Planning for Health Homes Within a Substance Abuse Treatment Program

Communication and active collaboration across systems are essential to ensure that patients with SUDs receive appropriate services in a timely manner. To meet complex needs, collaborative practice provides access to a wider array of resources than is traditionally available from an individual system.

Planning the design of a health home involves consideration of several key components.

1. To promote systems change, foster community, cultivate networks, and support health home providers to achieve culture change.

While system change can be incredibly complex, the concept is quite straightforward. To achieve systems change, leaders must cross boundaries and bring people addressing parts of the problem around the same table. Be sure to keep asking: "Who's being left out?" and "Who should be in the room?" Seize opportunities to develop new relationships with existing resources; take advantage of the system's capacity for generating creative solutions, link with ongoing initiatives, and nurture networks of connection and communication.

2. Establish communication mechanisms between partners.

Communication within and across providers is a fundamental component in achieving the health homes model's aims of care integration, management, and coordination. The extent to which new patterns of communication and new protocols are needed depends in part on how much of a change from the existing care system the health home program represents. Issues can arise when communication beyond the team or health home is necessary.

3. Use the flexibilities within the health home option to advance policy goals.

One of the major results from the pressure to reduce costs has been increased utilization of outpatient programs, along with a reduction of social support services. The statute provides flexibility such that states can utilize the enhanced federal match to establish new services that address gaps in care for individuals with complex chronic health needs, thus providing integrated care while achieving cost savings dictated by state policy (Moses & Ensslin, 2014).

4. Strategically identify health home target populations, define health home services, and select the health home option to achieve the greatest impact on outcomes.

Population selection is the basis for key design decisions, such as developing service definitions and provider qualifications, and is also directly related to outcomes, which are keys to sustainability. Completing a preliminary assessment to determine the acuity levels assists states to determine the specific condition to be targeted and the composition of the health home team, and enables provision of the right amount of care management at the right time (Moses & Ensslin, 2014). Under the Affordable Care Act, health home services may be provided by a designated provider, which may be a physician, practice, clinic, or other entity or provider; a team of health professionals linked to a designated provider; or a community health team. This provides states broad latitude to determine the providers or entities that can serve as health homes (CMS, 2010b). While some programs will hire health home staff, others will create health relationships with patients.

5. Design the payment method to drive policy goals

Health homes provide a vehicle to pay for services that have historically been difficult to reimburse. States have the flexibility to design the payment method that drives policy goals. While some states utilize a bundled rate approach (usually in the form of per-member-per-month payment), others have created tiered payment schedules, scaling either by level of member complexity or by the qualifications of the provider (Moses & Ensslin, 2014). However the states choose to move forward, designing a payment model that ensures delivery of high quality care.

6. Determine heath information technology requirements.

Real-time data is essential for care coordination and management. Given that states fall within a wide spectrum of health information technology adoption, determining what is and is not possible will be vital in determining how this will be proposed within the State Plan Amendment.

7. Define state specific health home goals and measures.

In addition to the eight health home core measures recommended by CMS to assess individual level and clinical outcomes and care processes, states are expected to define goals for their health

home services model and to identify quality measures that reflect accomplishment of the goal. These measures supplement the required core measures. These measures should be defined based on the selected target population and services to be provided.

Guide for Health Home Implementation

Following is a general outline to assist SUD treatment programs in the implementation of a health home. It is important to remember system change takes time, and thus consideration may be given to a phase-in implementation strategy. Anticipate that time will be needed for infrastructure development, including education and training for staff to adopt new practices or use new tools.

Goal 1: Develop an understanding of the health home's key clinical features and system-level infrastructure needs.

> Objective 1: Conduct an assessment of the substance abuse treatment program environment.

Goal 2: Create strategic integrated plan, including establishment of health home teams and the development of policies, procedures, and general guidelines.

> Objective 1: Establish health home care coordination teams.
> Objective 2: Develop standardized policies, procedures and general guidelines to assist substance abuse treatment programs in the implementation of health homes.
> Objective 3: Establish processes and documentation requirements for the provision of care coordination and disease management.
> Objective 4: Support the successful implementation of and fidelity to the health home model.
> Objective 5: Review and implement evidence-based treatment guidelines that establish clinical pathways to follow patients across risk levels or health conditions.

Goal 3: Identify and/or provide training to assist substance abuse treatment programs in the implementation of health homes.

> Objective 1: Identify and or conduct cross-training for identified training topics related to common and prevalent chronic medical and behavioral illnesses.

Goal 4: Establish communication guidelines to facilitate and support health home implementation and branding.

> Objective 1: Facilitate communication between and among all internal and external providers, patients, state and federal entities.
> Objective 2: Establish agreements that formalize the necessary partnerships with community partners

Goal 5: Demonstrate compliance with rules and regulations from the Rhode Island Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (BHDDH) as they apply to OTP health homes.

> Objective 1: Provide support to the OTP infrastructure in the delivery of health home services.

Goal 6: Establish a continuous quality improvement program and collect and report on data that permits an evaluation of increased coordination of care and chronic disease management.

  Objective 1: Establish a mechanism for information management.
  Objective 2: Create database or work with the State to access a database that can be accessed to inform health home performance and outcomes.
  Objective 3: Create health information technology linkages to document and monitor health home performance measures and outcomes.
  Objective 4: Track/trend outcome data utilizing health information technology to improve service delivery and coordination.

Ongoing Challenges and Lessons Learned

Since inception, states with approved State Plan Amendments to implement Medicaid health home models have shared their experiences. With each review and evaluation, ongoing challenges and lessons learned have been well documented (Moses & Enssin, 2014; Moses & Klebonis, 2015; Nardon & Paradise, 2014; Ormond, Richardson, Spillman, & Feder, 2013; SAMHSA–HRSA CHIS, 2013; Spillman, Ormond, & Richardson, 2012; Unützer, Harbin, Schoenbaum, & Druss, 2013). Following is a summary of these findings.

1. Managed care organizations (MCOs)

The management of care for high-need, high-cost enrollees logically could be thought of as the responsibility of MCOs. The development of a new entity for care management, paid according to a separate structure, can be seen as usurping the role of the MCO. The health home guidelines require that there not be duplication of payment for services, which requires careful specification of the different roles that health homes and MCOs take in care coordination. Development of protocols for care coordination will assist in clarifying roles and responsibilities.

2. Barriers to accessing data

Complete, timely, and accurate data are important both for health homes services—case management, care coordination, and care transitions—and for program evaluation. Yet, data from other payers, particularly Medicaid, typically are not available to health home providers, leaving a gap in their knowledge of enrollee utilization and needs.

Data on specific services of particular importance to the health home population also need special attention. This is particularly true for the regulations governing sharing of patient information on substance misuse, mental health, and human immunodeficiency virus (HIV) status require additional patient agreements. Getting the necessary consent forms in place has proved challenging. While some states are working to "centralize" permissions, this continues to be a challenge.

3. Infrastructure development and practice transformation

How successful implementation of the health home model becomes is dependent in part on where the organization started from, its existing strengths and weaknesses, and leadership at the practice level. In many cases programs have been challenged to put in place all of the needed

health home components and achieve the necessary culture change, feeling the need for an additional 6 or even 12 months to develop the program infrastructure.

As expected, the introduction of health homes precipitates change throughout the organization, but it is most acutely felt on the front lines, at the provider level. To transition to health homes, providers may need support in a variety of areas, including understanding program requirements, redesigning workflows, and training in new skills.

Patients also experience changes, from new staff being hired to linkages with new resources. To reduce resistance, patients should be encouraged to participate in the planning process. This may be done through patient advisory committees, surveys, or focus groups.

4. Identify and/or develop reporting systems needed for outcomes, payment and patient tracking

Use of information technology affects three important health home components: care coordination, use of community services and supports, and integration of behavioral and primary health care. Information technology requirements that health homes must meet vary, and electronic health records (EHRs) are not yet the norm nor are health information exchanges reliably in place to facilitate communication.

Some issues are specific to moving care outside the clinic walls. Saving data to a laptop while providing or supervising community services poses security issues. Often the services provided in the community are not easily documented on current EHRs and may be less adaptable to coding in an EHR. More generally, EHRs may need to be modified to incorporate health home services, especially the nonclinical community support services.

5. Prearrange core services

With the introduction of the Affordable Care Act, many patients entered into the health care system quickly. This resulted in waiting lists at most health care provider practices and Federally Qualified Health Centers. By developing memorandums of understanding, qualified service agreements, and the like with community agencies, hospitals, MCOs, and other providers, health homes can assure that needed services are available and accessible to patients when needed.

Looking Ahead—What Are the Essential Elements That Need To Be Employed in Addiction Treatment as Part of a Health Home Program?

1. Provider–state agreements

Collaboration, communication, and flexibility are needed on the part of the state and the provider when entering into a partnership to establish health homes. This applies to several areas, including, but not limited to:
- Identification or development of a reporting system needed for outcomes, payment, and patient tracking.
- Alignment of state SUD treatment program licensing regulations with CMS expectations in an effort to assure all health home criteria are met.
- Time provided for infrastructure development prior to full implementation of health homes.

- Development of standardized forms, guidelines, protocols, and other tools that meet state and CMS requirements.
- Consideration of a phase-in implementation plan to allow for review and revision prior to full implementation.
- Development of state-based communication mechanisms with health care systems, managed care organizations, community health centers, and others to facilitate understanding of health homes and the development of collaborative working relationships, for all involved.
- The flexibility to address the changing needs of the target population as they are identified.

2. Programmatic considerations

There are minimal conditions under which the health home program can be effective. First, begin infrastructure development prior to beginning implementation process. Second, there is a requirement for administrative support, continuous training, and a commitment to work in integration with the counseling staff. Third, there is a need for services to manage. Prearranging or precontracting with community agencies appears to be one politically and practically sound method to do this; there may be other, equally effective strategies. Fourth, instituting a stratification process to determine patients with higher need will provide guidance in determining team composition and staffing patterns, enable better utilization of health home team members' expertise, and assist in measuring outcomes. Finally, there is a need for sustained effort to insure that the "paradigm shift" to health home has adequate time to be incorporated.

3. Financing components

Health homes are a vehicle to move away from a fee-for-service model toward more meaningful, value-based purchasing. States and programs should work together when developing the health home payment methods. One method may be the creation of a tiered payment schedule, scaling either by level of member complexity or by the qualification of the provider. Other options currently being considered are the evolution of health homes into accountable care organizations, with shared savings and shared risk, or replacement of care management fees with more expansive global waivers (Moses & Ensslin, 2014). Whatever the payment approach selected, both the state and the treatment programs should work toward a performance- and outcome-based system.

Conclusion

The health homes initiative is just one piece of the broader reform process set in motion by the Affordable Care Act. Yet, the Affordable Care Act's explicit inclusion of behavioral health conditions in the list of health home qualifying conditions, and the health home program's emphasis on person-centered care management that integrates physical and behavioral health care, reflect the premise that health homes are a promising model for individuals with SUDs. The potential is great, but the challenges are many. Changing the culture of health care delivery will take time and thus requires perseverance. The long-term sustainability of health homes will require good data and careful analysis to determine if the initiative improves quality, reduces fragmentation of care, and supports states' other health care payment and delivery reforms.

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Integration of Health Homes in Maryland OTPs
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Introduction

The impact of addiction on individuals, families, and society is profound and undeniable. The indirect and direct economic costs of illicit drug use alone are estimated at 193 billion dollars (National Drug Intelligence Center, 2011). These costs related to crime, health, and productivity loss affect us all, but the effect of incarceration, poor health outcomes, and societal disengagement associated with addiction pose the heaviest burden to individuals with substance use disorders (SUDs) and their families.

Specifically, individuals with opiate use disorders often face multiple complex comorbidities that are social, behavioral, and medical in nature (Moses & Klebonis, 2015). They face substantial barriers to accessing the services they need to meet their needs and goals. According to Craig et al. (2011), "The health care and social service systems are better designed to meet isolated needs than to foster independence, resilience, and good health, and are unnecessarily complex." Siloing occurs within and between these systems. Traditionally, opioid treatment programs (OTPs) have provided support and referral for their patients' behavioral and social needs but have lacked the capacity to offer medical services or coordinated linkage to medical care. However, many OTPs have embraced holistic models of care to coordinate across disparate health and social service systems to improve the factors, also known as social determinants, that impact patients' overall health and treatment outcomes. These include access to medical care, safe neighborhoods, education, housing, and vocational opportunities.

To accomplish this, OTPs have had to rely on limited grant funding and stretch their limited budgets. Unfortunately, payment structures that could support financially sustainable models for care and service coordination did not exist until recently despite evidence that provision of medical care and psychosocial services in treatment settings improves treatment outcomes (JAMA, 1993). In 2010, the Affordable Care Act established the Medicaid health home option (Alexander & Druss, 2012), which created the opportunity for states to reimburse agencies for providing care coordination and health promotion services. To date, the Centers for Medicare & Medicaid Services (CMS) has approved 21 State Plan Amendments for health homes, and three states—Maryland, Rhode Island, and Vermont—include OTP health homes (CMS, n.d.).

OVERVIEW OF THE MARYLAND HEALTH HOME PROGRAM

The State of Maryland's health home State Plan Amendment became effective October 1, 2013. Maryland's health home program builds on larger state initiatives to integrate somatic and behavioral health care, and its goals align with the Affordable Care Act's Triple Aim to improve patient health outcomes and experience of care while reducing avoidable health care costs (Maryland Department of Health and Mental Hygiene [DHMH], 2013). The program focuses on behavioral health populations—specifically, individuals with serious and persistent mental illnesses—served by psychiatric rehabilitation programs (PRPs) or mobile treatment providers (MTPs) and persons with opioid use disorders receiving care at OTPs. These individuals must

be at risk for another chronic condition due to tobacco, alcohol, or other non-opioid substance use and enrolled in Medicaid. The health home program is meant to help providers increase their existing capacity to meet patients' health needs, building on their current holistic approach to patient care by offering care coordination and support services from providers from whom they regularly receive care.

Provider Eligibility

Providers must be Maryland Medicaid providers and must submit a health home provider application to the state. Provider organizations must also have Joint Commission or Commission on Accreditation of Rehabilitation Facilities (CARF) accreditation and obtain health home accreditation with either agency within 18 months (DHMH, 2013). The health home team must include a health home director, nurse care manager, and a consultant physician/nurse practitioner, and minimum staffing level requirements must be met according to the number of participants. Staffing requirements include a 0.5 full-time equivalent (FTE) health home director per 125 enrollees and a 0.5 FTE health home nurse care manager per 125 participants. The physician/nurse practitioner consultant must allocate 1.5 hours per enrollee per 12-month period. Administrative support staff are not required, but recommended at 0.25 FTE per 125 enrollees; care management tools may reduce administrative support needs. A consortium is permitted among smaller OTP clinics with fewer patients and/or multiple locations (DHMH, 2013).

Participant Eligibility and Enrollment

Individuals enrolled in Medicaid and receiving care from a PRP, MTS, or OTP with approved health home are eligible for enrollment if they are engaged in treatment and are at risk for additional chronic conditions due to current alcohol, tobacco, or other non-opioid substance use or have a history of alcohol, tobacco, or other non-opioid substance use. Enrollment is opt-in; however, the state, the managed care organization (MCO), or accountable care organization (ACO) refers patients to a health home when they are identified as high utilizers of emergency and inpatient services. Individuals are not eligible for enrollment in the health home if they receive services similar to those offered by the health home that are also reimbursed by Medicaid (DHMH, 2013).

Health Home Services

In order to receive reimbursement, health homes must provide at least two services to a participant in a given month. Service categories include:
- Comprehensive care management to assess, plan, monitor, and report on participant health care needs and outcomes.
- Care coordination to assure appropriate linkage to care and follow-up.
- Health promotion to aid participants in implementation of their care plans.
- Comprehensive transitional care to ease the transition when discharged from inpatient settings.
- Individual and family support services to provide support and information that is language-, literacy-, and culturally appropriate.
- Referral to community and social support services.

Reporting

Providers are required to report health home services every month and patient health and social indicator outcomes every 6 months to DHMH via Maryland's eMedicaid system**.**

Use of Health Information Technology

Health homes are required to use health information technology (HIT) to record and review data for individual care management and population health management. It is expected that providers will use an electronic health record (her) for recording, care management, and evaluation purposes. Providers must also use the state-developed eMedicaid Web-based tool to record intake assessment data, service delivery, and social and clinical indicator outcomes. Providers are required to be linked to a regional health information exchange for hospital encounter alerts and a prescription drug monitoring program (PDMP) for pharmacy data on Schedule II-V drugs (DHMH, 2013).

Billing and Reimbursement

Health home providers receive a capitation payment per member per month for health home services. If two services are provided in a given month, then providers receive a capitation payment of $98.87. Both services can be provided at the same encounter. Some services don't require a patient encounter (e.g. medical records request or population health management). Additionally, providers receive a one-time payment of $98.87 for completing a new participant's intake assessment.

Rollout

Prior to health home program rollout, the state used several methods to identify stakeholders and collect their input about the design of the health home. They included public notification in the state's administrative record; email to a behavioral health integration listserv of over 800 stakeholders and all eligible OTP, PRP, and MTPs; website notice at DHMH's health homes page; three public hearings; and two stakeholder webinars (DHMH, 2013).

OTP HEALTH HOMES: PROVIDER-LEVEL IMPLEMENTATION

OTP Health Home Characteristics

The participating organizations are stand-alone OTPs located in an urban setting. Average annual patient volume is 750. In addition to medication-assisted treatment (MAT), these programs offer outpatient care (aftercare) and an intensive outpatient program (IOP) for opioid use and other SUDs. In the IOP program, patients receive services primarily through group therapy, but they are also assigned an individual therapist they will meet with on a weekly basis while in treatment. Groups are small and generally do not exceed 10 to 12 patients, allowing for a safe and cohesive environment. The IOP may be recommended for those who do not need medically-supervised detoxification. It can also enable people in recovery to continue their therapies following successful detoxification, on a part-time yet intensive schedule—usually 3 hours per day, at least 3 days per week.

Approximately two-thirds of patients are enrolled in Medicaid,10 percent have Medicare, less than 5 percent are privately insured, and 28 percent are uninsured. The patient population is primarily Black, with equal numbers of males and females. These OTPs are located within 5 miles of several federally qualified health centers (FQHCs), hospitals(including two academic medical centers), and rehabilitation hospitals.

Patient Comorbidities

The prevalence of chronic conditions of enrolled health home participants is extremely high compared to the general population; two-thirds of the participants have a mental health disorder, more than one-third have a chronic respiratory condition, 15 percent have diabetes, 44 percent have hypertension, 3 out of 4 are obese, 1 out of 10 has human immunodeficiency virus (HIV), and almost 40 percent have hepatitis C. These numbers illustrate the poor health of the OTP patient population and thus the importance of care coordination and primary care connections for these patients.

Health Home Participant Identification

Potential health home participants are identified for enrollment by the intake coordinator at admission to OTP, self-referral/word of mouth, or referral by other members of the team, including counselor, medical providers, and dispensing nurses. Often, referrals are made during the weekly treatment team meeting or via warm handoff—an approach in which the person referring the patient provides a face-to-face introduction of the patient to the staff of the health home to which the patient is being referred.

Team Structure

In the OTPs, the health home team is structured with the participant at the center, and with all OTP staff, the patient's family and other supports, and external care providers including medical providers at the same level and working together to support the participant.

Figure 1. Health Home Team Structure
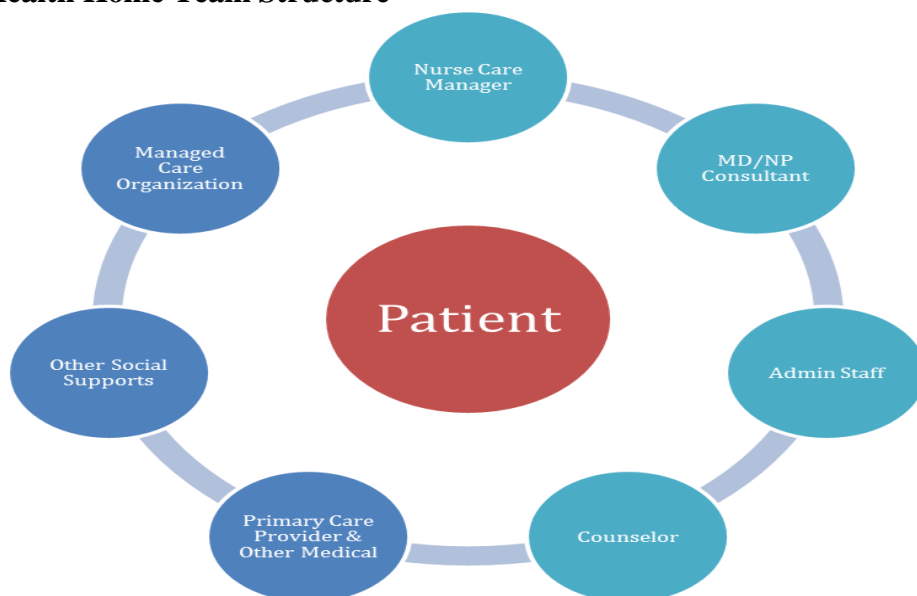
Team Roles and Responsibilities

In the structure of the OTP, counselors act as case managers to patients. They work with patients to develop and implement treatment goals, meet at regular intervals, and coordinate with the treatment team, which includes the medical director, nurse practitioner, dispensing nurses, health home nurses, and clinical directors. The OTP counseling staff remain the central point of contact for patients in the agency, and coordination of care with the nurse care manager is done according to participant's needs and goals. Some patients are reluctant to meet with a nurse care manager, and instead, they work directly with their counselors on their health goals. In these cases, the nurse care manager acts as a consultant.

Table 1. Health Home Team Member Responsibilities

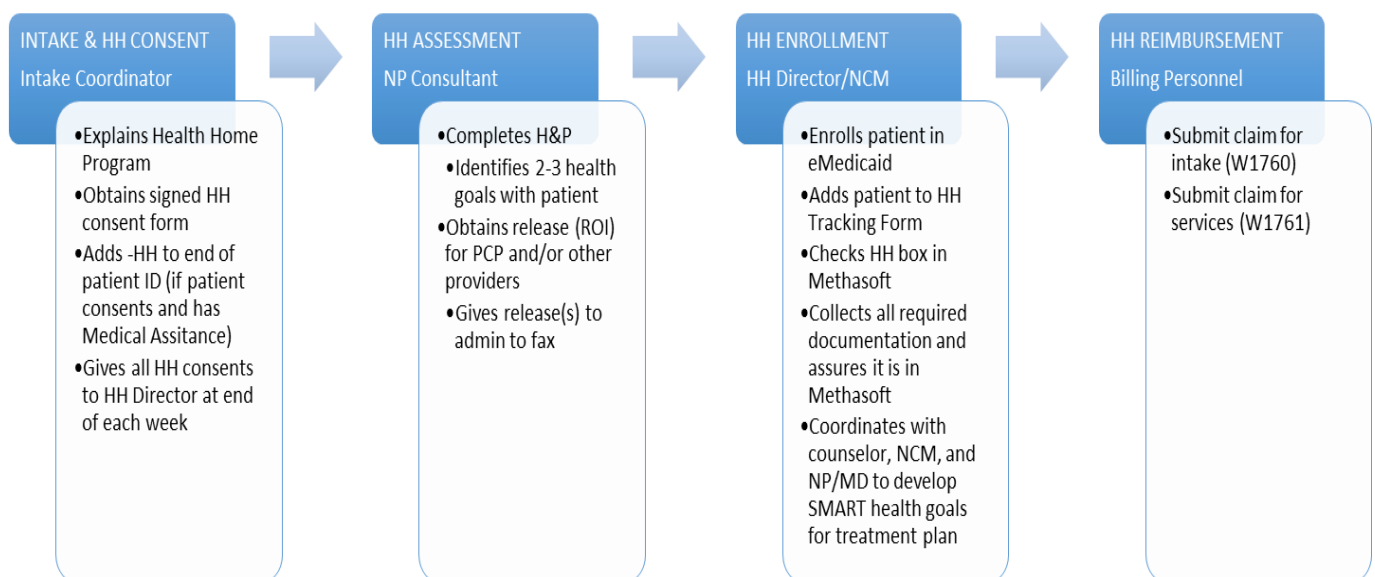| Team Member	Responsibilities
Counselor	• Work with patients to develop health goals for treatment plan • Review/update treatment plan every 6 months • Provide health home services consistent with patients' treatment goals • Coordinate care with nurse care manager for patients with complex medical needs
Nurse Care Manager	• Maintain caseload of up to 250 patients • Work with patients and counselors to develop and implement treatment plans • Coordinate care for most complex patients • Conduct 24-hour follow-up with patients who have been to the emergency room or hospitalized • Provide health home services consistent with patients' treatment goals • Provide health promotion and education to patients, individually and in group setting
Health Home Director	• Train care team on health issues, resources, etc. • Identify quality improvement opportunities • Lead population-level care management • Build partnerships with clinics, hospitals, other organizations • Assure all health home regulatory and accreditation requirements are met • Provide general administrative oversight • Supervise nurse care manager and administrative staff
Physician/Nurse Practitioner Consultant	• Sign off on and/or performs initial intake assessment and treatment plans • Consult on medical issues as necessary • Coordinate with external medical providers • Participate in case reviews and quality improvement efforts • Be on call to patients 24/7 • Provide training to staff

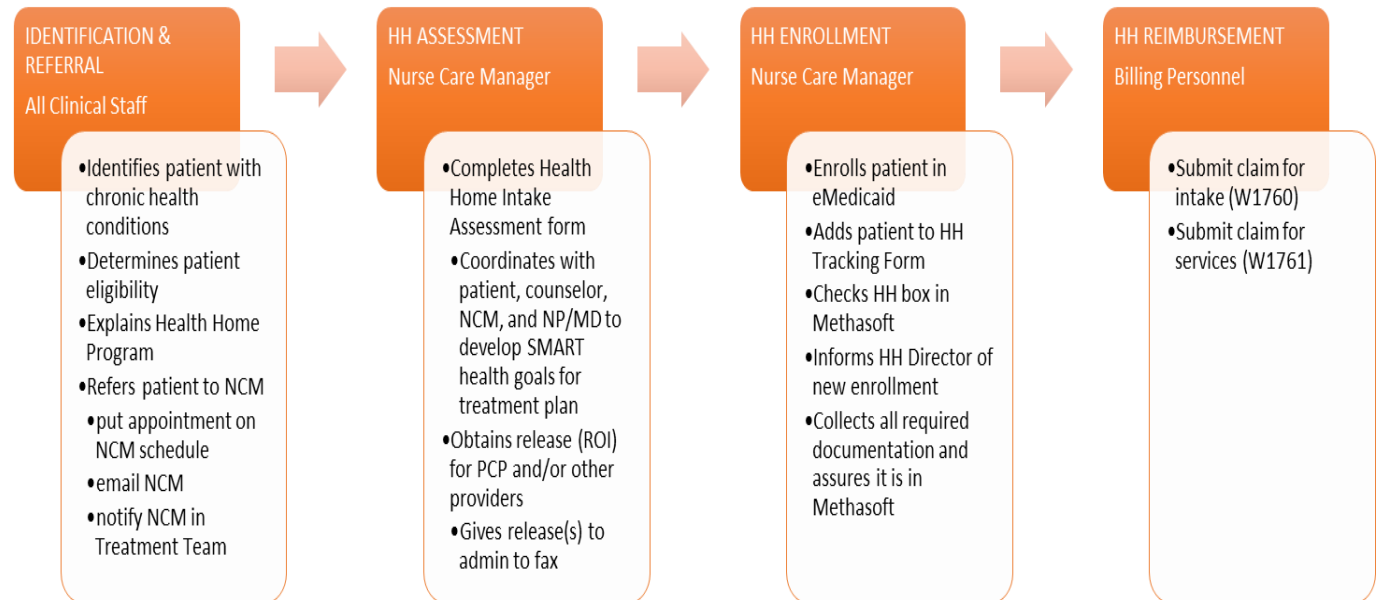| Administrative Support Staff	• Provide data management and reporting • Schedule health home staff and participants • Assist with chart audits • Remind participants regarding keeping appointments, filling prescriptions, etc. • Request and send medical records for care coordination
Intake Coordinator	Coordinate health home enrollment for new OTP intakes
Billing Personnel	Seek reimbursement for health home services
Management Team	Provide leadership and support health home integration

Health Home Enrollment/Intake Process

All clients who meet the eligibility requirements set forth by DHMH are eligible for enrollment in the OTP health homes. More stringent eligibility requirements have not been necessary. Health home membership is offered to all Medicaid patients on admission. The health home intake process includes a biopsychosocial assessment with physician/ nurse practitioner review, discussion of health home goals, request for medical records, drafting of a care coordination letter to the patient's primary care provider, and enrollment of the patient in the eMedicaid system. The team member responsible for these activities varies, depending on whether the patient is being enrolled in the health home as a part of the OTP admission process or is an existing OTP patient. See Figure 2.

Figure 2. Health Home Intake Process

Health Home Intake Process— New Admissions/Readmissions to OTP

INTAKE & HH CONSENT
Intake Coordinator
• Explains Health Home Program
• Obtains signed HH consent form
• Adds -HH to end of patient ID (if patient consents and has Medical Assitance)
• Gives all HH consents to HH Director at end of each week

HH ASSESSMENT
NP Consultant
• Completes H&P
• Identifies 2-3 health goals with patient
• Obtains release (ROI) for PCP and/or other providers
• Gives release(s) to admin to fax

HH ENROLLMENT
HH Director/NCM
• Enrolls patient in eMedicaid
• Adds patient to HH Tracking Form
• Checks HH box in Methasoft
• Collects all required documentation and assures it is in Methasoft
• Coordinates with counselor, NCM, and NP/MD to develop SMART health goals for treatment plan

HH REIMBURSEMENT
Billing Personnel
• Submit claim for intake (W1760)
• Submit claim for services (W1761)

Health Home Intake Process – Current OTP
Patients

IDENTIFICATION & REFERRAL — All Clinical Staff	HH ASSESSMENT — Nurse Care Manager	HH ENROLLMENT — Nurse Care Manager	HH REIMBURSEMENT — Billing Personnel
•Identifies patient with chronic health conditions •Determines patient eligibility •Explains Health Home Program •Refers patient to NCM •put appointment on NCM schedule •email NCM •notify NCM in Treatment Team	•Completes Health Home Intake Assessment form •Coordinates with patient, counselor, NCM, and NP/MD to develop SMART health goals for treatment plan •Obtains release (ROI) for PCP and/or other providers •Gives release(s) to admin to fax	•Enrolls patient in eMedicaid •Adds patient to HH Tracking Form •Checks HH box in Methasoft •Informs HH Director of new enrollment •Collects all required documentation and assures it is in Methasoft	•Submit claim for intake (W1760) •Submit claim for services (W1761)

SUCCESSES, CHALLENGES, AND LESSONS LEARNED

Implementation

For providers, one of the most challenging aspects of the start-up phase of the health home was the short time frame between the approval of the State Plan Amendment and the notice to community providers that the health home would be funded and applications were due. Two of the three OTP health homes had to hire externally to meet the health home staffing requirements, and the added expense of paying for staff salaries meant that the health home needed to begin seeing patients right away in order to offset the cost. Another challenge was the requirement of two encounters per member per month. OTPs found that there were health home participants who would have 20+ services in 1 month because their circumstances warranted it, making it difficult to make time to see the participants with less need for services. The challenge became ensuring that those with less need were still seen for two visits per month while finding the time to see the participants with extremely high need for services.

Additionally, there were no operational models for the health home. All of the published literature provided only conceptual models, which described key components but offered no guidance for implementing the health home at the provider level.

Integration

The OTP health homes used a phased-in approach to implementation. Initially, the health homes operated as stand-alone or add-on programs, where the newly hired health home director/nurse care manager was responsible for all aspects of health home enrollment/intake, provision of services, treatment planning, etc. The health home was viewed as a separate space in the organization. The primary reason that the health home was siloed in this way was concern about "double-dipping" with Medicaid because OTPs are reimbursed via a bundled rate. Programs

wanted to avoid inadvertently billing Medicaid for health home services that were included in the OTP bundled rate. Ultimately, the state defined the services OTPs should not provide to avoid any concerns about this and outlined a procedure that would permit OTP staff, particularly the counseling staff, to provide and document health home services. This removed the primary integration barrier and paved the way for the current model for the health home.

One of the most important aspects of integrating the health home into the OTP was the inclusion of all staff in the planning and discussions around the services offered and the benefits to the patient population. It is important to ensure that the health home is not seen as a separate program within the OTP, but as another service offered by all program staff and an integral part of the OTPs services. Another essential element to supporting integration is attention to the language used to describe and discuss the health home with staff and patients. The term health home should be used to describe the entire organization rather than a location or specific staff members. OTPs have observed that the nurse care managers are referred to as "the health home," which inadvertently reinforces siloes and slows integration.

Within the health home, OTPs need to take advantage of the skills the staff already have with regard to behavior change and the use of the Transtheoretical Model of Change and Motivational Interviewing. That model advises looking at the patient in a holistic manner, recognizing that behavior change is what addiction treatment encompasses in general, and using strategies for incremental change to assist patients at various stages of the decision-making process (Boston University School of Public Health, 2013).
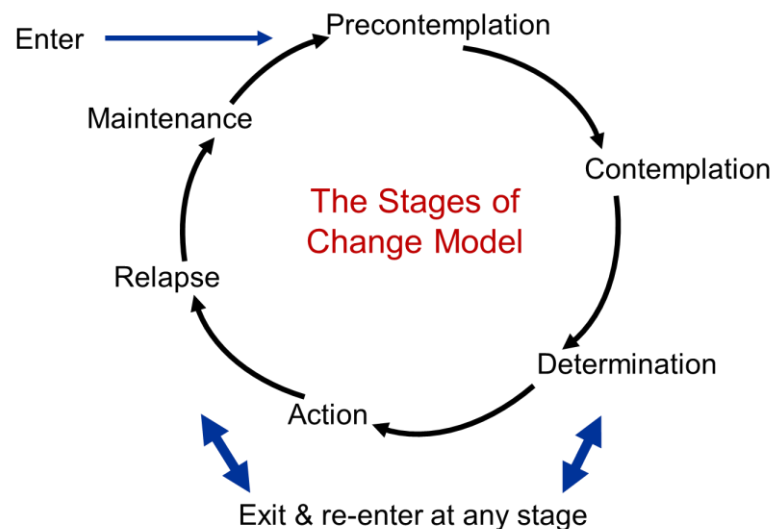
Among staff, the buy-in to the health home model varies. How they view its value to the program, considering the additional work they have to do minus the work taken over by the nurse care manager, varies.

Initially there were challenges with integration of the multidisciplinary treatment plan and counselor documentation of services. In an agency where there were already many regulations on the timing and signatures required on a treatment plan, to add one more step seemed onerous and time consuming, but clearly it benefits the patient population and the delivery of care to have

a fully integrated treatment plan. Counseling staff initially balked at having to separately document a health home service; they were providing the services as a part of the regular counseling sessions, but not documenting separately so the service could be pulled out of the note for billing purposes. Now, all new staff are trained initially to document health home services separately.

The role of each team member must be clearly articulated to avoid siloing. Initially, some of the counselors remarked that they felt removed from their relationship with the patient because their patient sought all of their care from the medical team. This eventually stopped when all team members began providing health home services.

The location of the health home staff should be carefully considered, for example, placing the nurse care manager in a location easily accessible to patients and counseling staff. The health home staff should be integrated into the fabric of the clinic—certainly under one roof, and having them in the same area as the counseling staff affords quick and easy access and facilitates the warm handoffs that make it more likely the patient will take advantage of the service. One of the OTP's started with the health home staff on another floor in the medical area but moved the health home staff into the counseling area after it was discovered that the trip to another floor made it more likely the patient would decline the service if it were necessary to travel up one floor.

It would be helpful to have the state provide technical assistance up front and guide providers through the challenges of implementation. Answers to frequently asked questions were put out early and often in the initial stages, which was important and increased the providers' sense of efficacy with the implementation.

Staff/Hiring

Most of the new staff had a background in community/public health nursing and had a good awareness of available community resources and strong community connections; they also saw themselves as social justice advocates. Most OTPs did not utilize advertising to hire. Candidates were identified by word of mouth. Some advised that nurses who had only worked in hospital settings had the most challenges adapting to this model and that public health or primary care nurses were best adapted for this role. The nurse care manager and/or health home director should have a background in community/public health, through education and/or experience.

Partnerships

Learning Partnerships

In Maryland, the OTPs operating since October 2013, when the state rolled out the health home program, formed an OTP Health Home Learning Collaborative to provide a forum for health home staff, particularly, health home directors and nurse care managers, to share best practices and work through challenges. The OTPs also joined the Community Behavioral Health Association of Maryland (CBH), an organization that worked closely with the state/DHMH on implementation and served as a provider of technical assistance and a liaison with the state.

Additionally, CBH holds monthly meetings for all health home providers, including OTPs, PRPs, and MTPs.

Community Partnerships
Forming partnerships with care providers in the community is critical to success. One of the OTPs developed formal partnerships with a local university's school of nursing and school of public health, which connected them with students who would work with patients to provide one-on-one care, blood pressure screenings, and opioid overdose prevention training, as well as lead a panel discussion for nursing students and other health professionals countering prejudice about addiction treatment. In addition, the strengthened relationships with FQHCs in the community resulted in same-day medical and psychiatric appointments for some patients.

Information Sharing

Engagement with providers has been another challenge. OTPs either fax a care coordination letter with a request for medical records or write a care coordination letter with the patient and have the patient bring the letter to a doctor's appointment. Some providers have been very responsive, but others will not respond to requests for medical records.

Information Management

One of the key components of the health home is the population care management function. This involves looking at measures of health, such as BMI or blood pressure, or other determinants of health, such as access to a primary care provider, in order to design interventions that target the population-level health needs of the patient. The state-provided eMedicaid allows for running reports on diagnosis. EMedicaid also allows for tracking of other indicators, but there is no reporting function for them; therefore, OTPs rely on Excel spreadsheets to track patient data. That requires documentation in several locations, which is time consuming.

Financing

We recommend states provide grants for initial salary support, supplies, and national certification requirements to allow OTPs 3 months to plan and prepare for providing health home services.

Workforce Development

Providers receive support through the CBH Health Homes Committee. A designated contact at CBH responds to providers' questions and provides technical assistance. In-person trainings and webinars are provided through arrangements with Missouri Health Homes.

Participant Engagement

Most patients, when introduced to the health home and services, eagerly agree to participate. Most of those patients also complete intake activities. However, once enrolled, we have observed challenges with keeping patients engaged consistently. Inconsistent patient engagement presents challenges for the provision and billing of services, for supporting patients in their efforts to meet health goals, and for tracking health outcomes. DHMH requires that health homes report on specific social and health indicators every 6 months.

The OTPs participating in the health home are seeking new ways to improve participation and may consider new engagement strategies, such as working with Medicaid to offer transportation services to health home appointments and using text messages to remind patients of appointments. (One program found that patients would not answer the telephone—it uses up limited minutes—but would respond to a text, since texting is usually unlimited.) Having the nurse care manager "hang out" in the waiting room where patients enter to be medicated is another way to reach out to patients who may not be returning to meet with the nurse care manager, and having an office off the waiting room for a quick follow-up will increase the likelihood of seeing patients. Additionally, one program offers blood pressure screenings every month in the patient waiting room in an attempt to engage new enrollees and to follow up with current health home members. Health home staff and program staff need to be willing to reach out to patients through multiple channels and on an ongoing basis because one never knows when the patient will be receptive.

Another challenge is that patients have barriers that OTPs and the community have limited capacity to meet, particularly safe housing. Patients' housing situations are deeply interconnected with their ability to manage their health. OTP patients also face discrimination in various settings, including primary care physician offices, due to negative attitudes about addiction. Maryland health home OTPs have learned that it is difficult or impossible to provide effective care without working to challenge the internalized and external negativity faced by the patients.

Recommendations

The health home program presents a unique opportunity for OTPs to expand on the holistic, patient-centered care that they already provide while limiting the financial burden of additional staff. The 90-percent federal medical assistance percentages (FMAP) for the first 8 quarters also limit the state's costs while allowing early adopter OTPs time to pilot the health home program. Following are recommendation to states intending to create health homes.

- Identify stakeholders and include them in discussions and decision making. In Maryland this included:
  - Health home implementation led by the DHMH Medicaid Administration.
  - Consultation with the Substance Abuse and Mental Health Services Administration (SAMHSA).
  - The submission of a State Plan Amendment to the Centers for Medicare & Medicaid Services (CMS).
  - Coordination with Maryland's state-designated health information exchange and the state's information technology (IT) center for access to hospitalization and pharmacy data.
  - Coordination with Maryland's eMedicaid system for service data entry and payment invoicing.
  - Contracting with The Hilltop Institute, a nonpartisan health research organization with expertise in Medicaid, for data analysis and outcome reporting.

- Developing a an Advisory Council; a few months into the process, DHMH convened a Health Home Advisory Council which meets quarterly to discussed issues and includes includes representatives from the Medicaid Administration, Maryland's eMedicaid and IT departments, OTPs, PRPs, and BHA.

- Engage provider organizations in use of structured assessment tools to help the states and providers identify barriers to integration early. One is the Behavioral Health Integration Capacity Assessment tool: https://www.resourcesforintegratedcare.com/tool/bhica.

- Ensure that state OTP licensing regulations, health home regulations, and accrediting organization requirements are fully aligned.

- Develop technical assistance teams that work closely with OTPs to plan and implement their programs.

- Consider offering small grants to providers to offset the cost of hiring new staff and allow time for planning before enrolling participants.

- Although the state defines eligibility criteria, reimbursement model, staffing requirements, and enrollment process (opt-in/opt-out), the OTPs should be allowed substantial flexibility to decide how to operationalize the health home according to the values, needs, and goals of the organization.

- Develop an advisory council. A few months into the process, the Medicaid Administration convened a Health Home Advisory Council which meets quarterly to discuss issues and includes representatives from the Medicaid Administration, Maryland's eMedicaid and IT departments, and stakeholders from OTPs and PRPs.

- Identify stakeholders and get them involved early. Providers should consider forming an exploratory health home committee to conduct a needs assessment and engage in strategic planning. If the OTP decides to become a health home, then the committee can oversee the planning and implementation process. The Community Toolbox has excellent guides and toolkits to aid organizations in needs assessment, strategic planning, and program implementation and evaluation: http://ctb.ku.edu/en/table-of-contents.

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