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Case Study

Neurobehavior HOME (HOME)

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SUMMARY

Neurobehavior HOME (HOME) is a Health Maintenance Organization that provides coordinated primary and behavioral health care for people of all ages with intellectual and developmental disabilities. Preliminary data suggest that HOME improved care outcomes, such as reduced hospitalizations and reduced 30-day readmissions. Key factors driving HOME's performance include the involvement of families and patients in the design of services; comprehensive care coordination; capitation payment; and strong leadership support.

Note: This case study uses identify-first language (autistic people) instead of person-first language (people with autism) as emerging research has shown that autistic adults prefer identity-first language.

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Case Study Hilights

Overview. Neurobehavior HOME (HOME) is a Health Maintenance Organization for people with Intellectual and Developmental Disorders across all age ranges. HOME provides primary care, psychiatry services, psycho-social interventions, behavioral therapy, occupational therapy, and care coordination all in one place.

Attributes	Examples
Co-production	A parent council meets quarterly to discuss and improve care at HOME.
Information continuity	An EMR allows the integration of data on treatment plans, clinical progress, and care coordination.
Care coordination and transition	A designated care navigator provides flexible, ongoing care coordination. Joint PCP-psychiatrist, one-hour appointments to coordinate care for people with severe mental and behavioral challenges. A licensed behavioral analyst oversees care management, coordinating with other providers, parents, and teachers in order to align therapy goals and strategies across settings.
Quality Improvement	HOME frequently implements quality improvement projects to prevent high cost events (e.g., prevention of diabetes).
Easy access to appropriate care	Patients and families have access to an after-hour hotline for behavioral health-related crises. HOME can often schedule same-day appointments or appointments within a few days of the request.
Financing and payment	HOME receives a per-member-per-month fee (PMPM) and negotiates its capitation rate annually with Utah's Medicaid Agency, its sole source of revenue.
Staffing Structure	Staff include 27 full time clinicians or workers, including four primary care physicians, six psychiatrists, four social workers, six case managers, five behavioral analysts, and an occupational therapist.

ORGANIZATIONAL BACKGROUND

Neurobehavior HOME (HOME) was established in 2009 and is housed within the Huntsman Mental Health Institute at the University of Utah which offers a full range of inpatient and outpatient mental and behavioral health services.

HOME is set up as a Health Maintenance Organization (HMO) located in Salt Lake City, Utah, which accepts insurance risk and provides care within an integrated provider network.

I/DD Services

HOME offers comprehensive, coordinated primary and specialty care for people with intellectual and/or developmental disabilities (I/DD), all in one care setting. HOME's services include primary medical care, psychiatric medical care, nutritional counseling, psychological services (e.g., testing and individual and group counseling), behavior therapy, occupational therapy, crisis management, and care management/coordination.

The full suite of care provides comprehensive support for patients and their families that is tailored to their level of need. See Graph 1 for a visual representation of the services at HOME.

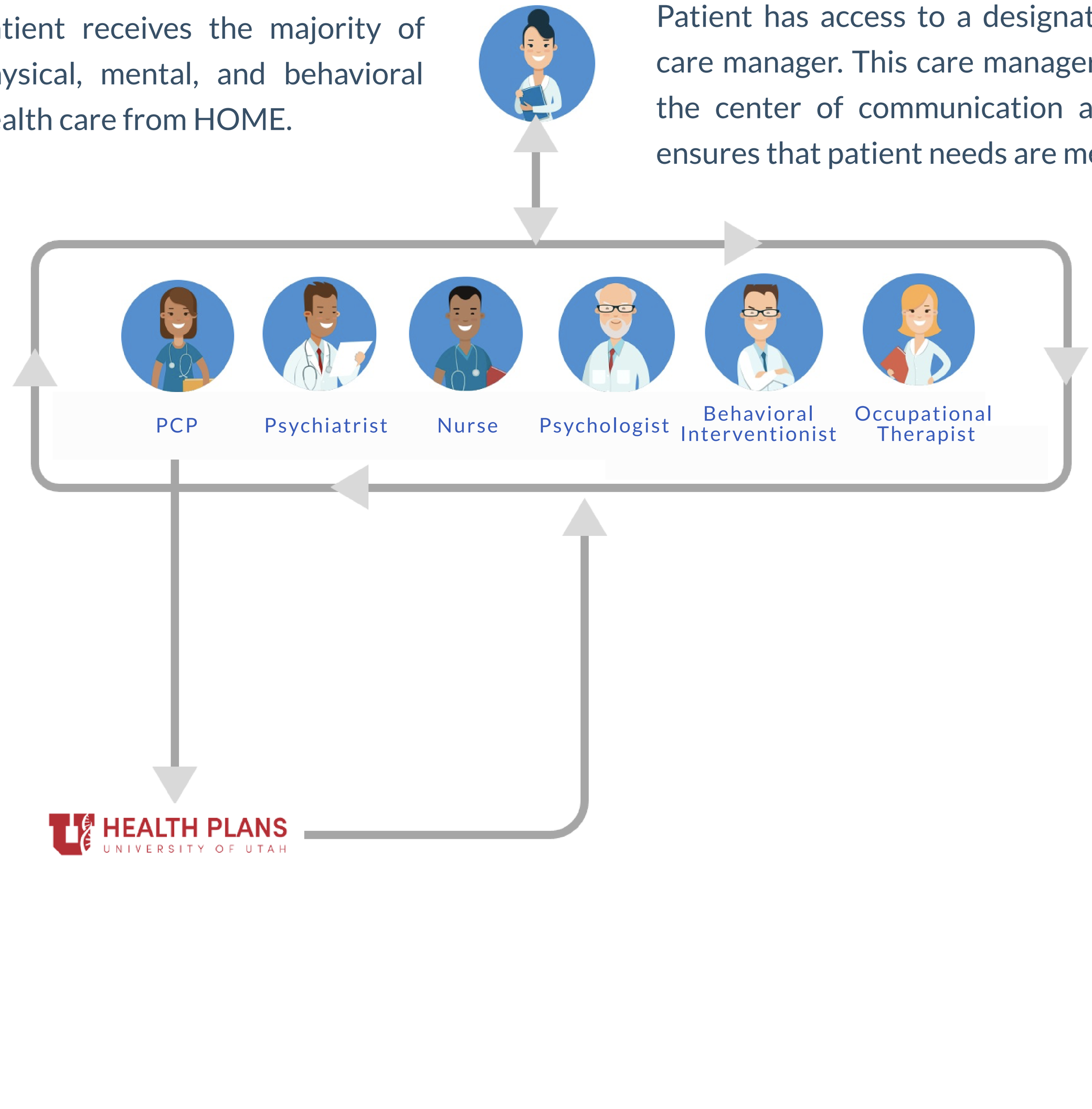
Patients qualify for care from HOME if they are on Utah Medicaid; have a formal diagnosis of developmental disability (e.g. Autism Spectrum Disorders (ASD), Intellectual Disability (ID), Down syndrome); and/or have mental health or behavioral challenges. The program is voluntary for eligible beneficiaries. More details on member benefits can be found here.

Currently, HOME serves approximately 1,200 members with I/DD including children and adults from seven surrounding counties: Salt Lake, Davis, Tooele, Summit, Wasatch, Weber, & Utah. Table 1 displays data on member demographics.

Table 1. Member demographic information.

Age	%
Adults (18 years and above)	83%
Children (Under 18 years)	17%
Gender	**%**
Males	69%
Females	31%
Race	**%**
White or Causasian	84%
African American	2%
Other/Multiracial	8%
Developmental Disorder	**%**
ASD or Comorid ASD and ID	58%
ID	32%
Down Syndrome	4%
Other	6%

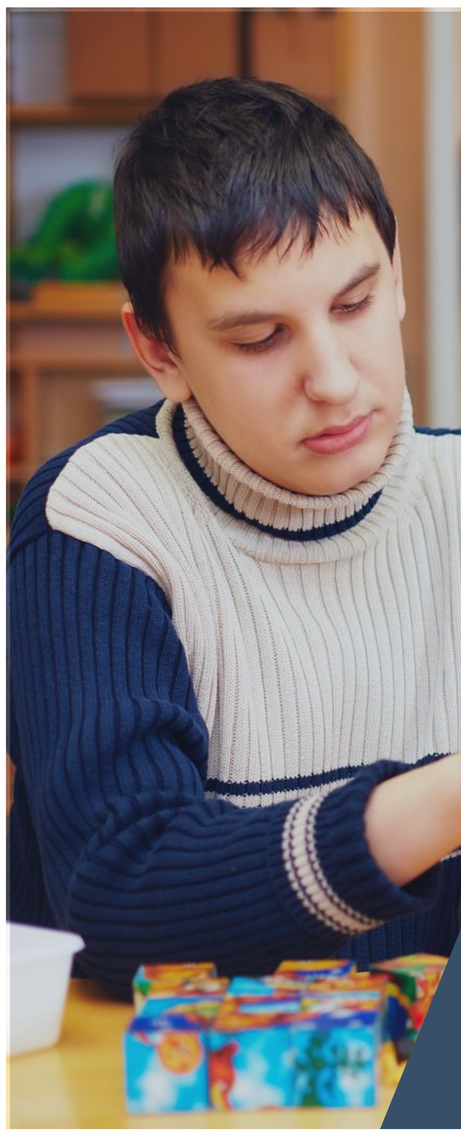
Graph 1. HOME's Services



Co-production and family involvement

Patient and family perspectives drive successful care for the diverse I/DD population. Every three months, HOME formally solicits feedback from a parent council and modifies its services accordingly. For instance, parent council members expressed the need to learn about transition to adulthood (e.g. guardianship). In response, HOME partnered with the Leadership Education in Neurodevelopmental and Related Disabilities program at The University of Utah partnered to develop related resources for both clinicians and patients and families (e.g., checklists, success stories).

Ongoing training for medical and other allied health professionals also supports a culture of family involvement. Dr. Patricia Aguayo, MD, the Chief Medical Officer of HOME, regularly provides training on practical strategies to involve families in care (e.g., shared decision-making techniques and active listening skills) during HOME's monthly staff meetings.



> "You just need to bring it [family invovlement] up constantly among your staff."
>
> — Patricia Aguayo, MD, CMO

Information continuity

HOME uses the same electronic health record system (EHR) as The University of Utah, where members receive a majority of their referral services, thus allowing HOME clinicians easy access to all appointment and care records across the care continuum.

Care Coordination & Transition

HOME employs a single-point-of-contact strategy to coordinate care. A designated care coordinator assesses needs, manages all medical referrals and referrals to community services, and acts as the point of contact for the patient and family. Care coordinators can usually respond to requests within a few hours.

HOME also collaborates with service providers in non-healthcare sectors. HOME's behavioral analysts regularly coordinate with other therapy providers, parents, and teachers; the behavioral analysts also sometimes visit therapy places, homes, and schools in order to align therapy goals and strategies.

To support patients with significant mental and behavioral challenges, HOME offers patients joint appointments with their PCP and psychiatrist in order to allow joint planning around medication and other interventions.

> "It's easier for families to get what they need from one visit. It's also easier for me to partner with my psychiatrist colleague."
>
> — Paul Carbone, MD, PCP

Since HOME provides care for individuals with I/DD across age ranges, transitions among pediatric, adult, and geriatric care all happen within HOME through tightly designed coordination processes. When a member at HOME approaches 21 years old, the pediatric medical team, adult medical team, parents, and the member convene regularly to discuss transition planning. While the transition-age member may switch medical providers, s/he can keep the same care coordinator and allied health professionals (e.g. psychologist, behavior analyst). Such a seamless transition experience at HOME stands in contrast to the typical patient experience of difficulty accessing adult medical providers, poor information transfer, and lack of meaningful transition-related support.

This streamlined care coordination and transition support, together with high-standard clinical care, have proven key to HOME's track record of improved patient outcomes. HOME's internal data in 2019 and a published paper (Suen et al.,2020) documented the following:

- HOME decreased the length of inpatient stays, the 30-day readmission rate, and the rate of ambulatory care-sensitive ED visits by approximately 14%, 9%, and 4% respectively between 2013 and 2017. In contrast, the number of ambulatory care-sensitive ED visits for non-HOME Medicaid beneficiaries increased by 6% during the same period of time.
- The rate of recommended immunizations among HOME enrollees was >90%.
- HOME had a low attrition rate of 5.6% (mainly due to death, loss of Medicaid eligibility, or moving out of the service area). Dissatisfaction with care accounted for only 4.2% of total disenrollment.
- More than 95% of members and caregivers reported that HOME was improving their lives and considered it a preferred provider of medical and mental health care.
- Caregivers of autistic children enrolled in HOME reported receiving better care, in comparison to a national sample using the National Survey of Children's Health. For instance, a higher percentage of HOME caregivers reported receiving behavioral treatment for autism (80.5% vs 62.2%), relatively easy access to services (90.5% vs 85.0%), having more than 20 minutes of interactions with medical doctors during the last check-up (67.8% vs 27.9%), and having reasonable out of pocket spending for care (83.5% vs 52.7%).

QUALITY IMPROVEMENT

HOME continually engages in quality improvement efforts; see below for some examples:

HOME Qualitative Improvement Objectives

Key Objectives	Interventions	Success Indicators	Outcomes
Reduce HbA1c level in patients	1. Patient and caregiver education 2. Nutritional counseling 3. Metformin use	1. HbA1c level	1. 43% increase in patients with lower HbA1c <5.7 between 2017 and 2018.

EASY ACCESS TO CARE

At HOME, clinicians flexibly schedule same-day appointments. When HOME's members have emergency needs outside work hours, they may call an after-hour hotline at the Huntsman Mental Health Institute, staffed by psychiatrists who can help families deescalate crisis situations or provide advanced care if needed. The staff psychiatrists have close contact with HOME to ensure streamlined care transfers across shifts.

HOME also proactively engages external providers. For instance, if a member is hospitalized, the care coordinator participates in rounds and discharge meetings to facilitate streamlined inpatient and post-discharge services. Upon request, HOME may also provide I/DD-specific services—such as behavioral intervention or medical consultation—in inpatient units.

FINANCING AND PAYMENT

HOME is a budget neutral program, is an HMO, and receives a per-member-per-month (PMPM) capitated payment from Utah's Medicaid Agency. Capitation (i.e. a lump sum for all the care a patient gets regardless of the actual care utilization) incentivizes HOME to improve access and preventive care in order to reduce unmet needs and to avoid unnecessary healthcare utilization, such as hospitalization and ED visits.

HOME currently only contracts with Utah's Medicaid Agency. HOME's strategies to maintain financial sustainability include:

- Negotiation with Medicaid: The University of Utah has a separate Medicaid health plan (i.e. Healthy U Medicaid Health Plan), which is a Third Party Administrator (TPA) for HOME. The Healthy U Medicaid Health Plan adjudicates HOME's claims and leverages its overall bargaining power to negotiate a favorable PMPM rate with Utah Medicaid for HOME.
- Investment in health outcomes: Clinicians have a great degree of flexibility to offer a range of traditional and non-traditional supports to patients (e.g., purchasing medical ID bracelets, conducting home visits). The clinical team and finance team meet weekly to ensure optimal care. In addition, the finance team also proactively reduces waste in HOME (e.g., monitoring usage of medical supplies, comparing prices of supplies).
- Transparent financial goals: Providers at HOME have a clear understanding of the high-cost events (i.e., hospitalization), the patient panels who are at high-risk for those events, and protocols to support these patients in the community. For instance, providers check in with high-risk patients and their family caregivers daily in order to influence the trajectory of deteriorating physical, mental, and behavioral health.

STAFFING STRUCTURE

Role	Qualification	FTE
Primary care practitioners	MD/NP	4
Psychiatrists	MD	6
Social Workers	MSW/LSW	4
Case Managers	BS	6
Behavior analysts	MS/BCBA	5
Occupational therapist	MS	1
	Total FTEs	26

LESSONS LEARNED

HOME's experience suggests that, with the right financing and payment structure, integrated medical, mental, and behavioral care for I/DD is both sustainable and effective. HOME's approach has a number of implications for healthcare systems.

Streamlined care across age ranges

Two major gaps in care continuity for the population with I/DD are care fragmentation across service lines and disjointed transitions between pediatric and adult medical services. HOME narrows such gaps by offering continual care coordination across age ranges.

Health systems who have expertise in providing care for children and adults with I/DD should consider an integrated care model for people across age ranges. Health systems could also establish capitated or value-based contracts for the I/DD populations with their State Medicaid Agency and/or commercial health plans. Health systems may first engage in upside shared savings contracts in order to mitigate risks.

Progressive state-level policy

Care for people with I/DD is expensive, particularly during the early years. For instance, direct medical costs between the age of zero and five (average of around $35 000; Ganz, 2007). Public I/DD spending is increasing, particularly around long-term services and supports. In 2017, public spending for long-term services and supports reached $129 billion, nationally (KFF, 2020). States have more pressure than ever to innovate I/DD care.

The contract between HOME and Utah's Medicaid Agency is fundamental to HOME's sustainability. There are two unique aspects to this contract. First, it allows for HOME to insure and provide services for people with I/DD as an HMO. Second, it pays a sufficient PMPM rate for HOME to maintain high-quality integrated I/DD care. It is worth noting that the HOME model requires a physical location and in-person services, meaning that a state would need multiple such clinics/plans across its jurisdiction.

The success of HOME suggests that State Medicaid Agencies may engage in pilot value-based contracts with I/DD provider groups, and define clear metrics of success and indicators of quality performance with stakeholder groups.

Challenges

HOME faces a number of barriers to expanding its integrated I/DD services. HOME's reimbursement relies solely on Medicaid. The current economic downturn may cause the state to reduce the premiums it pays while simultaneously leading to an increase in Medicaid enrollment. In the long term, there may be opportunity for HOME to contract with commercial payers (e.g. providing care coordination services or integrated care for commercially insured populations with I/DD) in order to continue to expand their sources of revenue.

Second, there is a shortage of qualified professionals (e.g., child and adolescent psychiatrists specialized in autism and other I/DD). One feasible option to consider is using a combination of group-based tele-training and tele-coaching—such as the ECHO Autism model—to equip non-specialists to handle less severe cases. As a large university system, The University of Utah may also consider incorporating curriculums on I/DD into its medical education in order to increase the supply of I/DD providers.

Third, a tiered care model—with the tertiary integrated clinic serving the high-need, high-cost population and with satellite primary care physicians serving relatively healthy individuals in the community—may also offer a more cost-effective, scalable alternative.

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