Washington State Health Care Authority

Report to the Legislature

HEALTH HOME DIABETES PROJECT

As Required by Engrossed Substitute Senate Bill 6052,
Subsection 213(1)(m)

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Executive Summary

Background:
The legislative report, Health Home Diabetes Project 2015, was created in response to Engrossed Substitute Senate Bill 6052, Subsection 213(1)(m), which directs the Health Care Authority (HCA) to address strategies to improve adherence of diabetic patients to their treatment plans. The strategies are to be implemented through at least one Health Home program as identified by the HCA. The 2014 report focused on the preliminary Health Home program impact on diabetes measures, comparing small groups of Health Home diabetic clients versus comparison groups as reported by three Health Home lead entities. The findings were mixed and inconclusive. The section further directs the HCA to calculate the cost savings derived from the strategies, to make recommendations for improving these strategies, and to report this information to the Governor and the Legislature in December of 2015.

The Legislature also received the "Diabetes Epidemic and Action Report" at the end of December 2014. The collaborative report by the Washington State Department of Health (DOH), Department of Social and Health Services (DSHS), and HCA provided comprehensive information about the impacts of diabetes in our state. It included a definition of and general treatment for diabetes, as well as information about the prevalence of the disease and the affected populations, the financial costs of the disease to the state, the current programs and services that the state provides to address the diabetes epidemic, and recommendations for future policy.

Findings:
This 2015 report focuses on how the Health Home program impacts patients' involvement in their own health care, a key first step in improving adherence of diabetic patients to their treatment plan. In summary:

- Health Home recipients who started out at low levels of "activation" (least confident and knowledgeable about managing their health) improved in their level of self-direction and involvement in their health care;
- there was no demonstrated direct impact on common claims-based measures of diabetes treatment adherence, likely because Medicaid clients who participated in Health Homes had relatively high adherence to diabetes screening to begin with; and
- cost savings have been achieved with the Health Home program, notably in reducing inpatient hospitalization.

Recommendations:
Based on the findings in this report,

- continuation of the Health Home program is supported by trends in cost savings; and
- development of a clinical data repository for better monitoring of diabetic treatment plan adherence is recommended.

Washington Health Home Program

In 2013, HCA implemented a Health Home Program in all but two counties of Washington State. Half of the counties began enrolling clients in July 2013, and half in October 2013.

Admission to the Health Home program is offered to eligible Medicaid and dual beneficiaries of Medicaid and Medicare as part of their Medicaid benefit. Both fee-for-service and managed care enrollees in Apple Health are eligible for Health Home services if they:

- have one or more chronic conditions, which may include asthma, diabetes, heart disease, and obesity (or other chronic conditions, upon approval from the Centers for Medicare and Medicaid Services); and
- are at risk for a second, defined as having a PRISM risk score of 1.5 or greater.

The Health Home model seeks to address complex problems by offering:

- comprehensive care management,
- care coordination,
- health promotion,
- comprehensive transitional care and follow-up,
- patient and family support, and
- referral to community and social support services.

Registered nurses and other licensed medical professionals are employed as care coordinators to facilitate implementation of the services. They are employed by Care Coordination Organizations that are contracted by Qualified Health Home Lead Entities. These Lead Entities include Apple Health managed care organizations and community-based organizations.

A key component of the Health Home model is the care coordinator's initial in-depth assessment with the Medicaid client, including the joint development of a Health Action Plan. All care coordinators receive intensive training in administering the Health Action Plan, with an emphasis on Motivational Interviewing.

Motivational Interviewing is achieved through skillful listening and guidance, conveying a message of changes in the interest of their health. There are distinct steps to the process:

- **Engage**—the client, family and/or caregiver
- **Focus**—on the behaviors they would like to change
- **Evoke**—draw from the client his or her concerns, perceived barriers, confidence level, and willingness to consider a change in self-management of their chronic condition
- **Plan**—create a Health Action Plan to address the client's concerns and desires for improving his or her health

The tool used to measure clients' level of participation in their own self-care is called the Patient Activation Measure (PAM®), a series of 13 questions which assesses an individual's knowledge, skill, and confidence related to managing his or her health and healthcare. The PAM® survey measures patients on a 0 to 100 scale and segments patients into one of four activation levels

along an empirically derived continuum. Particular attention is paid to those in the two lowest levels: Level 1, where clients still believe that their nurse or doctor alone is responsible for "fixing" them, and Level 2, where they recognize they must be involved in their healthcare, but lack the knowledge and confidence to take care of their chronic conditions. Moving these clients higher along the activation continuum has been established as a state performance measure for the dual eligible demonstration and is part of the requirement for sharing in Medicare savings.

Health Home Diabetes Intervention

A key goal of the Health Action Plan and subsequent coaching is to improve Medicaid clients' self-activation, so they more actively participate in their own health care. The expectation is that increased self-activation will lead to greater adherence to diabetic treatment plans and care of other concurrent chronic conditions.

The Research and Data Analysis Division of DSHS was asked to look at Health Home Medicaid clients with diabetes who were at the lowest levels of activation as measured by the PAM® score during their initial Health Action Plan assessment. The analysis is intended to determine how these high-risk clients receiving Health Home services fare over time in their ability to manage their chronic diseases, including diabetes, and assess the resulting change in quality measures related to treatment adherence.

Study Design

The study was designed to look at one year prior to a client's involvement in Health Homes and one year after receiving initial Health Home services; see Figure 1.

Figure 1: Study Design

Each client who met the inclusion criteria was followed based on his or her own unique start time in receiving initial Health Home services, determined as the completion date of their individual Health Action Plan.

- Change in activation level was measured using the clients' Patient Activation Measure scores.
- Adherence to their diabetic treatment plan was approximated using three nationally recognized HEDIS® annual diabetes screenings measures (Hemoglobin A1c testing, retinal eye exam, and medical attention for nephrology) that can be derived from claims data. Other HEDIS® comprehensive diabetes care measures were considered, but they depend on clinical data not available for this study.

- The incidence of hospital admissions for short term diabetes complications, considered potentially avoidable with adequate primary care, was also tracked. (Source: Agency for Healthcare Research and Quality, Prevention Quality Indicators)
- The overall impact of Health Home services was assessed by looking at inpatient hospital admissions, emergency room use, and use of home and community-based services versus institutional long-term care services.

Population

The intent of the study was to identify diabetic Medicaid clients who had received Health Home services and were initially identified as not actively participating in their own self-care (PAM® levels 1 and 2). The results identified 386 Medicaid clients who met the study criteria. As illustrated in Table 1, the resulting group represented a broad array of ages and nearly an equal amount of clients who were supported by Medicaid alone versus those whose insurance coverage came from both Medicare and Medicaid. The population was made up predominantly of women.

Table 1: Client Information

GROUP DESCRIPTION	CLIENTS	PERCENT *of 386 clients*
Age Group		
18 – 45	42	11%
45 – 55	106	27%
55 – 65	136	35%
65 +	102	27%
Dual Status		
Non-Dual	223	58%
Full Dual	163	42%
Gender		
Female	277	72%
Male	109	28%

Study Results

Changes in patient activation and measures of diabetes plan adherence are described below.

Change in Patient Activation

How did the level of self-activation change after participation in the Health Home program?

A clear majority (71%) of the high-risk clients with diabetes who were least actively involved showed an increase in their perception of their own role in managing their health care. The average increase in PAM® score was statistically significant ($p<.05$).

Change in Measures of Diabetes Plan Adherence

How many achieved improvement in meeting targets for management of their diabetic condition?

Three different comprehensive diabetes care quality measures were examined (Table 2):

- **Hemoglobin A1c Testing.** Of the 349 clients meeting the strict HEDIS® measurement specifications, 89% had at least one Hemoglobin A1c test in the year before receipt of Health Home services, while 87% had at least one Hemoglobin A1c test after receipt of Health Home services. The decrease of 6 individuals meeting the standard was not in the intended direction, but is not considered significantly different statistically. These lower activated clients nevertheless had comparable findings compared to all diabetic clients enrolled in managed care organizations, where the rate was 88.8% to 91.5%, depending on plan.
- **Retinal Eye Exam Performed.** There was an increase of four clients having an annual diabetic retinal screening after receiving Health Home services, ending with 99% in compliance. This rate was significantly above the rate for all diabetic clients enrolled in managed care organizations, where the rate was 47.2% to 63.7%, depending on plan.
- **Medical Attention for Nephropathy.** 85% of the 349 clients meeting the strict HEDIS® measurement specifications had their kidney function tested, with no change after receipt of Health Home services. This rate is comparable to all diabetics in managed care plans, where the rate ranges from 81.5% to 85.2%.
- **All Three Measures.** While not a HEDIS® measure per se, it is interesting to look at the percent of clients who received all three annual tests. At 74%-76%, it appears there is room for improvement.

Table 2: Outcome Measures

Measure Topic	Description	Pre Period		Post Period		Change	
		NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	P-VALUE
Change in PAM® Score	Average PAM® score	44.23	–	52.38	–	8.15	<0.0001
	PAM® score Increased		–	275	71%	–	–
	No change in PAM® score	–	–	22	6%	–	–
	PAM® score decreased	–	–	89	23%	–	–
HEDIS® Comprehensive Diabetes Care Measures	Clients[1] who received HbA1c testing	309	89%	303	87%	– 6	0.3969
	Clients[1] who received diabetic retinal screening	343	98%	347	99%	4	0.0453
	Clients[1] who received medical attention for nephropathy	295	85%	295	85%	0	1.000
	Clients[1] who received all three	265	76%	260	74%	– 5	0.5926
Inpatient Discharges	Inpatient discharges for diabetes short-term complications[2]	4	–	2	–	– 2	0.0045
	All inpatient discharges	286	–	247	–	– 39	0.1664
Emergency Department Visits	All ED visits	963	–	996	–	33	0.5998
	Non-emergent, or emergent but primary care treatable ED visits	411	–	402	–	– 9	0.6347
Long-Term Care Support and Services	Clients[3] with home and community-based services	243	63%	262	68%	19	0.0013
	Clients[3] with institutional-based services	31	8%	26	7%	– 5	0.2257

[1] Out of 349 eligible clients age 18–75.

[2] Numerator: All discharges for demonstration eligible Medicare-Medicaid enrollees age 18 years and older with ICD-9-CM principal diagnosis code for diabetes short-term complications (ketoacidosis, hyperosmolarity, or coma).

[3] Out of 386 eligible clients.

The results for the least activated clients who received Health Home services were also compared to a small group of similarly low activated clients who did not received additional Health Home services in the one year period after their initial in-depth assessment. The results were not measurably different, leading us to conclude that those high-risk clients who had initially low participation in their own self-care nevertheless received and continued to receive three diabetic monitoring services at rates comparable to other diabetes patients, independent

of their subsequent receipt of Health Home services and increase in their perception of their own involvement in their self-care.

Cost implications: The direct cost implications of increasing diabetic screens would tend toward minimal increased costs for the Medicaid program for those reimbursed by fee-for-service, and toward minimal increased costs for managed care organizations for those who are enrolled in managed care. Expectations are that regular screening and monitoring of diabetic patients will lead to decreased costs in future periods.

Other Measures of the Impact of Health Home Services

Whether as a result of increased activation in their care or the net effect of care coordination and community infrastructure development, we looked at other utilization measures important to those who have diabetes, particularly those who are least activated to begin with.

Hospital Admissions

We looked at two measures (Table 2):

- Admissions related to diabetes that would be considered "preventable if adequate primary care was provided"—the findings show that there was a statistically significant decrease in the number of admissions of this relatively rare type of hospital admission related to diabetes.
- Total hospital admissions (excluding transfers) also showed a decrease after receipt of Health Home services for those clients with diabetes and other chronic conditions who were initially the least activated.

These results are in keeping with soon-to-be-published findings of the Health Home program in general.

Cost Implications: Assuming that hospitalizations for short-term diabetes complications cost roughly $2,000 per discharge, and there were two fewer admissions for short-term diabetes complications, the direct cost savings from these findings indicate a savings of $4,000. Assuming an average cost of $2,000 per discharge for any inpatient stay, the savings realized for total inpatient discharges equals $78,000. Decreases in hospital stays are one of the most visible areas of cost savings as a result of the Health Home program.

Emergency Department Visits

We also looked at two different measures of emergency department (ED) use:

- For those clients identified as having diabetes and initially low self-activation, we observe that they had a slight increase in the number of ED visits after their participation in Health Home services, though not a statistically significant increase.
- Breaking down the visits by type, using the New York University algorithm for non-emergent and emergent but primary care treatable versus other types of ED visits, we see a very slight decrease.

Cost Implications: Assuming an average cost of $800 per emergency department visit, the increase in emergency department visits is estimated to be $26,400. Of the total ED visits, 40% to 43% are deemed non-emergent or emergent but primary care treatable; these types of visits have decreased slightly in the period one year after the initial Health Action Plan was completed, despite the increase in total visits.

Use of Home and Community-Based Services versus Institutional Services

The final area we examined is the used of home and community-based long-term services and supports versus Institutional Long-Term Care. For those clients with diabetes and relatively low initial perceptions of participation in their own care, the number who received home and community-based services increased (statistically significantly) while those who received institutional services decreased. These are considered positive trends.

Cost Implications: The estimated average cost for home and community-based services for the 243 clients in the pre period is $1,656, so the short-term increase in costs is estimated to be $31,464. Institutional services, the most common being nursing home care, are estimated at $4,515 per client for the pre period. The estimated decrease in costs for institutional long-term care is $22,575, offsetting two-thirds of the increased cost of increased home and community-based services and supports.

Conclusion and Recommendations

It appears that the use of Motivational Interviewing along with interaction with Health Home Care Coordinators has a positive effect on those clients who initially did not see an active role for themselves in their own health care. We have limited tools to judge whether adherence to their diabetes plans improved with their increase in self-activation. We can see that there was no marked movement in improving completion of three annual diabetes screenings for those who were least active in their care, but it is comforting to know that they did not markedly differ from other diabetes patients in managed care. There appears to be room for improvement in meeting multiple diabetes screening measures. In the future, with the advent of the Clinical Data Repository and Health Information Exchange (HIE), and the resulting transmission of care plan information, we may have the ability to see if diabetic adherence levels gleaned from electronic health records are improving, and how the role of Health Home services may have played a part.

More tangible are the preliminary indications that the implementation of the Health Home program itself is contributing to positive utilization outcomes for all clients, including those who are the least active in their self-care. The Centers for Medicare and Medicaid Services are expected to formally release their findings of savings for the Medicare program, when looking at Health Home impacts on the dual eligible population. In the 2014 Legislative Session, the Health Home program was funded only through December 31, 2015, in part due to uncertainty about whether Medicare savings would be shared with the state. In November 2015 a decision was made to extend the program until June 30, 2016.

Future investment in building data infrastructure through the Link4Health project, State Innovations Model grant, and the Medicaid Transformation 1115 Waiver will provide the tools for

providers and patients to monitor and improve adherence to diabetes care plans, and will improve our ability to measure this important area of care.