

The Impact of Health Literacy on Diabetes

Health literacy is a measure of patients' ability to read, comprehend, and act on medical instructions. [Poor health literacy](#) is common among racial and ethnic minorities, elderly patients, patients with chronic medical conditions, individuals with fewer years of education, and lower socioeconomic status. Addressing health literacy in public housing patients can result in improved outcomes for persons living with diabetes, while [lower levels of health literacy](#) can result in decreased quality of health, poor diabetes management, and short and long-term diabetes complications.

Public housing residents are [more likely](#) to have diabetes than the general population. A [report](#) from the U.S. Department of Housing and Urban Development (HUD) shows that individuals that receive HUD assistance are more likely to have chronic health conditions such as diabetes and cardiovascular disease and are higher utilizers of health care than the rest of the U.S. population, even more so than other low-income renters. The report also mentioned that [over 67%](#) of HUD-assisted adults reported having a high school diploma or less, and many of them [\(26%\)¹](#) are from Hispanic descendants, which could make them more likely to misinterpret or have trouble understanding instructions and recommendations from their medical providers.

In order to provide diabetes prevention and management education to public housing residents, health centers in or immediately accessible to public housing need to develop and find easy-to-understand diabetes education resources, assess the feasibility of creating a health literacy action plan, and make sure that they address medication adherence through verbal and written communication materials as well as medication reminder tools.

Verbal and Written Communication Strategies for Diabetes Prevention

Good written materials in addition to clear and simple verbal communication are useful tools to address health literacy in patients with diabetes living in public housing. Clearly written and easy-to-read materials have several benefits for the patient: they can find what they need, understand what they read, and do what they need to the first time that they read it. As a rule, it is important for providers and support staff to write short



¹ Upon clicking the link, select “public housing” program type, then “national”, followed by “race and ethnicity”.

sentences, use active voice, and use everyday words and pronouns (when appropriate).

Health centers often ask patients to fill out forms and provide them with written materials to read. With [36 percent](#) of the U.S. adult population having limited health literacy skills, it is likely that many patients have trouble understanding all the written materials that they receive.

Assessing, selecting, and creating easy-to-understand forms and educational materials can help clinicians improve patient comprehension. According to Dr. Roy P C Kessels, studies have shown that [40-80%](#) of the medical information patients receive is forgotten immediately and nearly half of the information retained is incorrect. One method of verbal communication that clinicians can use is the “teach back” [method](#), which allows the patient to repeat to the clinician in their own words what they just learned. Another verbal communication strategy is the “chunk and check” tool, where the clinician teaches the information by sections and assesses the patient’s mastery of each section before proceeding to the next section.

Developing a Health Literacy Action Plan for Diabetes

Improving health literacy in special and vulnerable populations is not an easy task. It would require a series of steps and involve members of the quality assurance team. According to the Agency of Health Research and Quality (AHRQ), the first step in creating a health literacy action plan for your practice is to collect assessment data. Gathering materials from patients can be done in a variety of ways, whether it is written or verbal. It is important to record the data concisely for the plan to be as accurate as possible.



For persons living with diabetes, examples of assessment data to be collected include number of patients with diabetes, racial or ethnic groups, language barriers, and type of diabetes resources in the community.

The second step in creating a health literacy action plan for your practice is to review the [Primary Care Health Literacy Assessment](#). This is an assessment that evaluates one’s medical practice on the following standards:

- **Preparing for Practice Change**
This step involves staff having to analyze the methods that their practice is currently using and seeing what needs to be done.
- **Improving Spoken Communication**
In order for staff to evaluate how they are communicating with patients, they need to ensure that they are using correct terminology in everyday words when speaking for

patients to understand, among many other [verbal communication methods](#).

- **Improving Written Communication**
This step ensures that staff are using proper written communication methods. Some of those methods include using plain language, having materials in languages other than English, and having clear and understandable lab results for patients.
- **Improving Self-Management and Empowerment**
Health centers should provide a warm and nurturing environment for their patients. One example of this is considering the culture, religion, and other contributing factors to a patient's health when planning options for treatment. Another example is calling patients to follow up to see if they are following their diabetes action plan.
- **Improving Supporting Systems**
In this step, practices evaluate how their patients are receiving support for diabetes treatment. Examples of this are taking a close look at the patient's ability to pay for their diabetes medication and offering help for making appointments.

Based on the answers from the Primary Care Health Literacy Assessment, you can use these results to develop a clear and written health literacy action plan for persons living with diabetes. In this action plan, it is also important to set reasonable objectives that can help you assist patients with diabetes management.

The last step in creating a health literacy action plan is to discuss opportunities for improvement. Based on your answers to the questions in the Primary Care Health Literacy Assessment, you can find ways to improve your practice and the way that health literacy is addressed in your practice. It is also important to track your progress routinely.

Reflecting on your practices not only helps improve your health center, but it also improves the quality of service that patients receive. For patients with diabetes, it is important to be consistent with their diabetes health action plan. This helps reduce any health complications associated with diabetes in addition to a better quality of health. By creating a plan, this eases any confusion that the patient may have and gives them a concise list of instructions to follow.

Improve Diabetes Medication Adherence through Health Literacy

Medication nonadherence for persons living with diabetes has been very prevalent. A report by the [American Diabetes Association](#) stated that roughly 14-20% of adults with diabetes reported that they reduce or delay medications due to high cost. In a [study](#) conducted by the American Diabetes Association, roughly 69% of participants in a



cohort of over 200,000 patients reported proper medication adherence.

Though cost is a major issue, individual health centers still have a prominent role in increasing health literacy in reference to medication adherence for diabetic patients. One [strategy](#) is to provide education on adherence. Health center staff need to provide written materials and fully educate patients on the medicine that they are taking, so that they are aware that the treatment is ongoing and that they will need to take their medication as prescribed, even if they are feeling better.

Another strategy that health centers can take to improve medication adherence in diabetic patients is to teach patients how to read prescription labels so that they can administer proper dosages. Doctors can perform a “brown bag” review of medications with the patient in which the patient brings in all their medications and supplements and the doctor verifies what they are taking and answers any questions that they may have in relation to their medicine. Patients can use the [My Medicines](#) form, which allows them to write down all their medications, dosages, dosage times, etc. Patients can also sign up for refill alerts through their pharmacy, so that they can get phone notifications when it is time for a refill. Health centers can also provide pill boxes to patients so that they can organize their medications by day.

For persons living with diabetes, health literacy plays a prominent role in diabetes self-management. Health centers have a responsibility of educating patients to take the necessary precautions needed to maintain optimal health. By communicating efficiently and providing easy to read resources, this can help patients better understand their health condition and give them the opportunity to improve their health in different ways, such as keeping a pill box or using a medicine reminder form to keep track of the medications that they take. By having enough knowledge to improve health outcomes, health literacy serves as a preventative measure that allows patients to avoid exacerbation of existing health issues.

Resources

1. Health Literacy in Diabetes Care: Explanation, Evidence, and Equipment
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3158575/pdf/nihms297498.pdf>
2. Social Determinants of Health for Public Housing Residents: Diabetes
<https://nchph.org/wp-content/uploads/2021/01/Diabetes-2020-9232020.pdf>
3. Association of Numeracy and Diabetes Control
<https://pubmed.ncbi.nlm.nih.gov/18490687/>
4. The Spoken Knowledge in Low Literacy in Diabetes Scale: A Diabetes Knowledge Scale for Vulnerable Patients
<https://pubmed.ncbi.nlm.nih.gov/15797850/>
5. Association of Health Literacy with Diabetes Outcomes
<https://pubmed.ncbi.nlm.nih.gov/12132978/>

6. Determinants of Adherence to Diabetes Medications: Findings from a Large Pharmacy Claims Database
<https://care.diabetesjournals.org/content/38/4/604>
7. Social Determinants of Health and Diabetes: A Scientific Review
<https://care.diabetesjournals.org/content/early/2020/10/31/dci20-0053>
8. CDC Grand Rounds: Improving Medication Adherence for Chronic Disease Management: Innovations and Opportunities
<https://www.cdc.gov/mmwr/volumes/66/wr/mm6645a2.htm>
9. Nine Tips for Improving Medication Adherence
<https://www.amerisourcebergen.com/insights/pharmacies/nine-tips-for-medication-adherence>
10. Association of Health Literacy and Medication Self-Efficacy with Medication Adherence and Diabetes Control
<https://pubmed.ncbi.nlm.nih.gov/29785094/>
11. Help Patients Remember How and When to Take Their Medicine
https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2_tool16.pdf
12. My Medicines Form
<https://www.ahrq.gov/health-literacy/improve/precautions/tool16a.html>
13. Health Literacy—Healthy People 2020
<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/health-literacy>
14. Patients’ Memory for Medical Information
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC539473/>

Tools

1. Diabetes Literacy and Numeracy Education Toolkit
<https://pubmed.ncbi.nlm.nih.gov/19240246/>
2. Living With Diabetes Guide
<https://diabetes.acponline.org/archives/2017/11/10/9.htm>
3. AHRQ Health Literacy Universal Precautions Toolkit, Second Edition
<https://www.ahrq.gov/health-literacy/improve/precautions/toolkit.html>

Disclaimer

This publication is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$2,006,400 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.