Section 6.3 Optimize

Patient Health Diary

This tool describes how a patient health diary can help patients, care coordinator (CC) and providers keep track of the patient's health status. A health diary empowers the patient to be more engaged in health maintenance, and aids family, caregivers, and clinicians in identifying when there are health issues that need to be addressed.

Time required: 3 hours

Suggested other tools: Approaches to Patient Communications; CCC Patient Plan and template; Patient Action Plan and template; Health Risk Assessments and templates

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How to Use

1. **Review** the sections on how to motive a patient to use a health diary, and how to develop a health diary for a specific patient.
2. **Consider** if and how a patient should share health diary information with the care coordinator or his/her provider, and some methods on how this can be done.
3. **Review** the key considerations in using a health diary.

Motivating Patients to Keep and Use a Health Diary

A health diary helps patients see that good health practices can lead to positive outcomes, such as those practices they agreed to undertake when developing their patient action plan with their care coordinator.A health diary helps patients take control over their health issues, spot issues before they become too severe, and potentially take action before the issue requires attention by a health care provider. A written diary helps patients remember to take specific actions, and helps them recall specific results of self-monitoring when discussing their progress with their community-based care coordinator (CC) or provider.

If the care coordinator determines a need to receive health information from the patient's diary regularly, the CC should establish a predetermined way for the patient to communicate the information and the time-intervals for submission. However, the CC should establish the expectation that such monitoring by the CC is a temporary measure until the patient's vital signs are stabilized. Then the patient should maintain his or her own diary and only reach out to the CC or provider when issues arise. Much as patients are weaned off ventilators, so too must patients be weaned off total reliance on a CC for long periods of time. The expectation should be set that the patient will not only continue to use the health diary themselves, but also to provide the diary to the CC and provider when routine checkups are scheduled, and whenever there is any issue requiring intervention between regular checkups.

Developing a Health Diary for a Patient

Patient health diaries can be used for a variety of purposes, although their primary focus has been onchronic disease conditions, such as diabetes, congestive heart failure, or others. The diary typically tracks physiological signs such blood glucose, weight, blood pressure, etc.They can also be focused on medications, which is especially useful when a patient has many drugs to be taken at different times, perhaps some with food and others not, etc. Health diaries are also used to help patients and providers assess symptoms and follow lifestyle changes. Sleep diaries, exercise diaries, diet diaries, and so forth are very popular.

Many patients using care coordination services have multiple chronic conditions, take many medications, and need to make changes in several lifestyle areas. However, managing multiple diaries or a very complex diary would be challenging to even the ideal patient. The CC must determine what the most important elements are to track for a specific patient and set up a diary that accommodates those factors.

A health diary for any patient should be kept simple and easy to use. For patients with (health) literacy issues, maintaining a diary may need to be managed by a family member or caregiver, or some form of automated monitoring may be necessary (see below for Submission of Health Diary Data). The following is a *sample diary* for a Type 2 diabetic patient not on insulin and taking medications for other conditions.

Weekly Health Diary Modified for a Specific Patient [*example*]

	Breakfast Blood Glucose	Medicine	Lunch Blood Glucose	Medicine	Dinner Blood Glucose	Medicine	Notes: (Special events, sick days, physical activity
Monday	109	✓		✓	115	✓	
Tuesday		✓	106	✓	152*		*Missed evening walk
Wednesday	113	✓	128	✓	241*	✓	*Sick with flu
Thursday	159	✓	137	✓	120	✓	
Friday							
Saturday							
Sunday							

Note that this *example diary* has been constructed specifically for this diabetic patient, including that the care coordinator is comfortable that the patient knows what medications to take and when. In the example, it appears that the patient did not take blood glucose reading at lunch on Monday, but readings were within normal limits throughout the rest of the day and medicines were being taken. On Tuesday, it seems that perhaps the patient was starting to feel sick and on Wednesday noted having the flu. By Thursday evening it appears the patient was feeling better and on track managing blood glucose and medications.

If this diary was for personal use only, the patient would probably not have called the CC on Tuesday or Wednesday. If this diary was to be submitted to the CC daily, the CC would use professional judgment in determining whether it was appropriate to call the patient on Wednesday or see how things progressed on Thursday.

The following is a *sample medication diary.*

Medication Diary [*example*]

Drug	**Morning**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Notes**
Name: Dose: When taken: Reason prescribed:						
Name: Dose: When taken: Reason prescribed:						
Name: Dose: When taken: Reason prescribed:						
Name: Dose: When taken: Reason prescribed: 			✓			

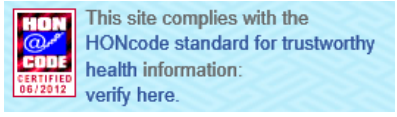
The medication diary can be adjusted by adding or deleting rows per the number of drugs the patient is taking. Columns can be added or deleted based on the timing of when drugs should be taken. If the patient has poor literacy, a picture of the drug can be inserted and the time of day to take the medication highlighted (e.g., lunch time). The patient can be asked to check the box when taken.

Submission of Patient Health Diary to Care Coordinator or Provider

If the care coordinator or provider believes it is necessary for the patient to share health diary information with him or her, there are several ways this can be done:

1. **Paper/Call:** Patient can record on paper and call the CC, leaving a message with designated information: "My name is John Smith. Today my blood glucose readings were 109 in the morning and 115 at dinner. I forgot to take a reading at lunch time. I took all medications as prescribed."
2. **Portal:** Patient can log onto the provider's office patient portal and be supplied a form on which to document the same information as what is on the paper form. The patient would initially be given a user name and password, as well as both verbal and written instructions. There should also be instructions to call the CC if there are any problems with the portal.
3. **Mobile App on Smart Phone:** Patient can use an application for a smart phone to document and, if desired, transmit information to the CC. There are a variety of apps on the market. Many are solely for the purpose of a patient recording his/her information. Some also transmit information in much the same way email or text message might be sent. Still other apps include the ability to connect to a physiologic sensor via Bluetooth for the recording of the information. And finally, a very small number of apps are approved by the Food and Drug Administration (FDA) as a medical device. These medical devices may recommend adjustments in medication or other actions to be taken by the patient directly, or in consultation with a provider. These apps should be compared to determine which are most suitable for the given patient population.

   In addition to keeping current with information available on the web, it is also important for the CC and the patient to ensure that the information is ***trustworthy***. The Health on the Net (HON) Foundation, created in 1995, is a non-profit, non-governmental organization, accredited by the Economic and Social Council of the United Nations that promotes and guides the deployment of useful and reliable online medical and health information, and its appropriate and efficient use. HON operates much like the Better Business Bureau in that any consumer can click on the link provided on the web site (such as shown below) and determine if the site's HON certification is current. If it is not, the content of the website may not be current or reliable. Whether or not the certification is current or the HON seal is verifiable or not, issues with a site that displays the HON seal can be reported to the HON and if deemed appropriate, the certification can be terminated. (*Be aware, however, that a seal without a link or a link but without certification may be displayed; so it is important always to click on the link.*)



4. **Personal Health Record:** A personal health record is more extensive than a patient health diary, and can be paper-based or electronic. If electronic, it may be connected to one of the patient's providers or it may be a stand-alone, commercial system on the web or offered as an app. It may include clinical summaries from the patient's health records at various provider sites, documents of history and physical exams, consultation reports, surgical procedure reports, lab results, radiology reports, problem lists, medication lists and other information, as well as a "diary" component on which the patient can document vital signs, sleep, diet, exercise, etc. (See *Personal Health Record* for additional information.)

Key Considerations in Using a Patient Health Diary

With whatever form of diary and method to submit information, there are a few key considerations:

1. ***Explain the importance*** and value of keeping the diary. Use "teach-back" to make sure the patient understands why a health diary is helpful for the patient, family, caregiver, CC, and provider(s).

2. ***Reassure the patient*** that information left on voice mail or submitted electronically via a portal, app, personal health record, or telemetry is safe and secure. No one other than the patient's CC or person employed by the patient's provider will have access to the information unless the patient wishes to give someone else his or her password (such as to a family member, caregiver, home health nurse, social worker, etc.).

3. ***Remind the patient*** to use the Patient Health Diary in conjunction with the Patient Action Plan. If blood glucose levels, weight, and/or other information is out of range for the patient (in the "yellow" or "red" at risk zones on the Patient Action Plan), the patient should seek appropriate medical attention – call the care coordinator, primary care provider, or 911 in an emergency.

4. ***Motivate the patient*** to manage his or her own health status by learning what steps to take to maintain health.

Resources

The following are articles or websites that compare diabetic health diary apps on the market today. As new and updated devices are constantly marketed and websites change frequently, the CC should check the date of articles or websites to determine that they are current. Periodic searches for new apps should be conducted to keep abreast of changes in the marketplace.

- Smartphone-Based Glucose Monitors and Applications in the Management of Diabetes: An Overview of 10 Salient "Apps" and a Novel Smartphone-Connected Blood Glucose Monitor. Available at: http://clinical.diabetesjournals.org/content/30/4/173.full
- Diabetes Center of Excellence, University of Florida Health. Available at: http://diabetes.ufl.edu/my-diabetes/diabetes-resources/diabetes-apps/
- Diabetes Monitor. Available at: http://www.diabetesmonitor.com/resources/7-diabetes-apps-for-your-smartphone.htm

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For support using the toolkit

Stratis Health • Health Information Technology Services
952-854-3306 • info@stratishealth.org
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