

Integrating Evidence Into KP HealthConnect: Making the Right Thing Easier to Do

By Grant Okawa, MD

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Clinicians make countless decisions every day regarding diagnosis and treatment, relying principally upon personal experience and clinical judgment. What is also needed—and often lacking—is current, relevant evidence that can inform and strengthen decision making at the point of care. With the ever-increasing body of medical literature, the ability for any individual clinician to stay abreast of this evidence becomes increasingly more difficult, if not impossible. In addition, the information is usually not readily available or accessible when most needed.

With KP HealthConnect, we now have a powerful tool that offers the ability to deliver high-quality evidence to the clinician in a form that supports and improves decision-making in the examination room.

Case Scenario #1

A 52-year-old woman, new to you, was recently diagnosed with hypertension. She has been working on her diet and exercise for the past six months, but her blood pressure remains elevated. You recom-

mend that she start medical therapy. She states that her friend was successfully treated with a calcium channel blocker, which she would therefore also like to try. With all of the newer agents being marketed, you wonder whether they might be comparable, or even superior, to the more established medications.

Let's see how, in this scenario, various KP HealthConnect tools can deliver decision support.

SmartSets: Templates for Focused Problems

A SmartSet is a template tool that can assist the clinician in being more efficient in documenting, coding diagnoses and procedures, and ordering. It also can be designed to provide decision support at the point of care.

The 2004 National Kaiser Permanente (KP) Hypertension Guideline¹ evidence-based recommendation for initial therapy are the thiazide diuretics. Their review of the evidence found that both thiazide diuretics and ACE-inhibitors are superior to beta blockers, calcium channel blockers, and alpha blockers as initial therapy for uncomplicated hypertension. Thiazides are preferred because they have been shown effective in reducing cardiovascular morbidity and mortality and because no other drug class has been found to be consistently superior.

Figure 1 illustrates how this evidence-based recommendation can be integrated into the Order section of the SmartSet. You would not need to remember this information but could rely on the SmartSet to guide your decision. Should the evidence related to the use of specific medications change over time, these changes can be incorporated into the SmartSet, thus ensuring that you are always presented with the most current evidence-based recommendations. You can see how SmartSets could provide similar levels of decision support for treatment of other common conditions, such as diabetes, dyslipidemia, heart failure, and depression.

A number of outpatient SmartSets have already been built using a collaborative interregional process.² The Care Management Institute's Knowledge Management

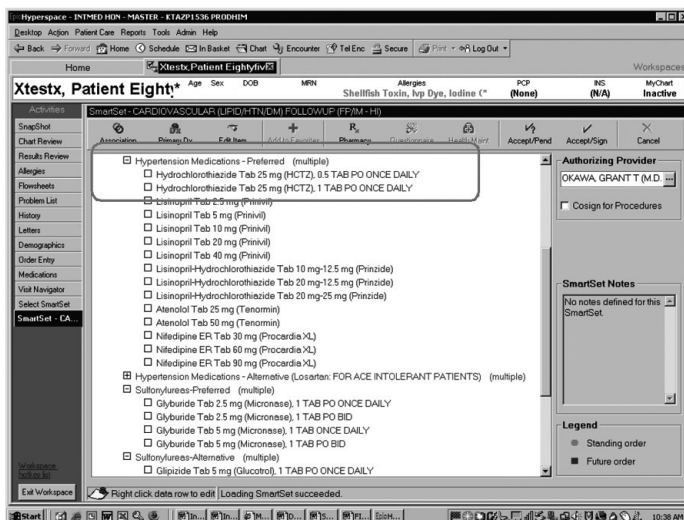
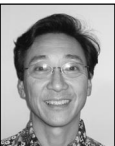


Figure 1. An example of a SmartSet presenting the recommended medications for treatment of hypertension.



Grant Okawa, MD, has been with the Department of Internal Medicine with the Hawaii Permanente Medical Group since 1988. He is the Physician Lead for Ambulatory KP HealthConnect for the Hawaii Region. E-mail: grant.okawa@kp.org.

Unit is a network comprised of evidence consultants and physician methodologists trained in critical appraisal of the literature. They have worked closely with each specialty group developing clinical content for KP HealthConnect and developing evidence summaries for relevant clinical questions to help inform the selection of appropriate diagnostic and/or therapeutic interventions within the SmartSets.

SmartRx: Diagnosis-Based Ordering

If you choose not to use a SmartSet or should this patient present with hypertension in the context of a number of other health problems, a SmartRx can provide a similar level of decision support as the SmartSet. The SmartRx is triggered by typing in "HTN" as an "order." Figure 2 illustrates how the SmartRx informs you that thiazide diuretics are the preferred initial therapy in uncomplicated hypertension. It also streamlines the ordering process by offering a list of the recommended medications. In addition, there is a Web link to the complete hypertension guideline should you require additional information to guide your decision making.

Although entering a diagnosis as an "order" sounds strange at first, it is actually quite intuitive in that it more accurately reflects the way most physicians think. Instead of the constant need to keep up with the medical literature, a SmartRx that is kept current can provide this information to you at the time of decision-making. Like the SmartSet, the SmartRx can not only inform you of the right thing to do but also can make it easier to do by providing a panel that allows you to quickly order the appropriate medications.

Preference Lists: Using Display Names to Guide Decisions

An innovative strategy developed in the KP Colorado Region is to use the display names for medications to provide decision support. In our example, the best available evidence supports the benefit of diuretics as first line agents for treatment of routine hypertension. By entering the diagnosis of "HTN" as an order, the appropriate priority of evidence-based medications is presented (Figure 3). As with the SmartRx, by entering the diagnosis of "HTN" as an "order," the thiazide diuretics are presented as the initial drug of choice at the top of the list.

The medical literature is constantly expanding, and new studies may require that current evidence-based recommendations be updated. Therefore, critical to maintaining the relevance and accuracy of all embedded evidence-based recommendations is the ability to tag, locate, and find each decision-support tool in which a specific piece

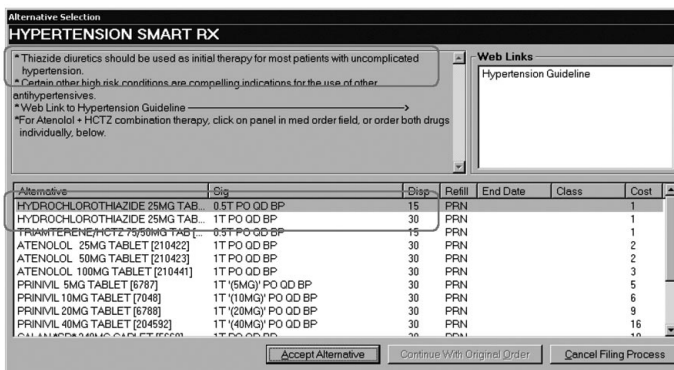


Figure 2. The SmartRx presents the recommended initial medications when the provider enters hypertension as an "order."

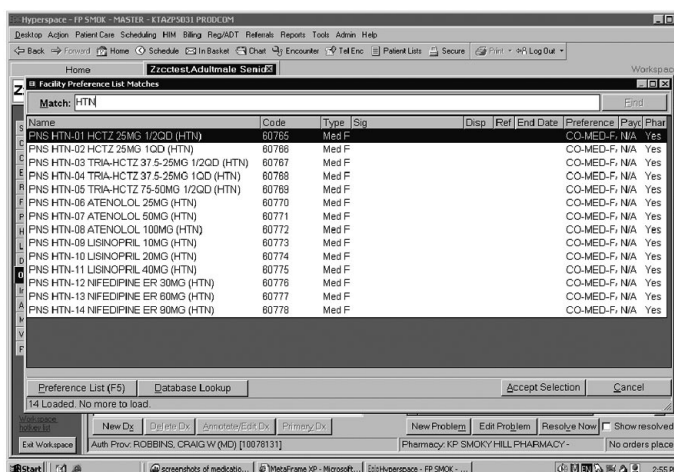


Figure 3. The Preference List can be set up so that decision-support is enabled through the display name of the medication. This is made active by entering a diagnosis as an "order" similar to the functionality of the SmartRx.

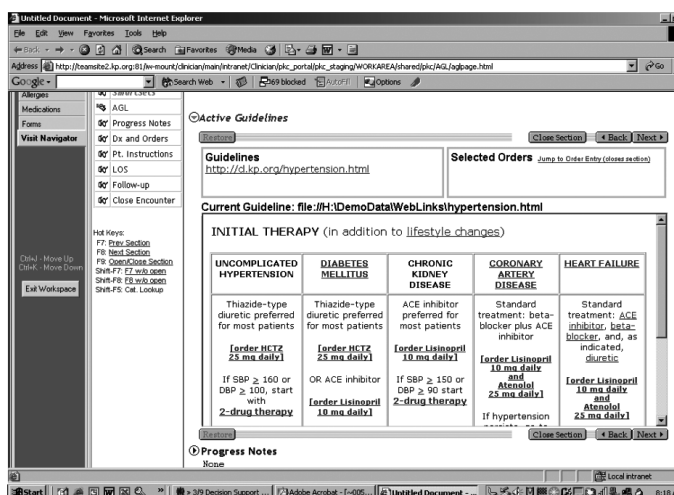


Figure 4. A prototype of a Hypertension Active Guideline being developed with KP Clinical Library.

of evidence was incorporated. KP HealthConnect will allow us to do this kind of updating on an ongoing basis.

Active Guidelines: From the Bookshelf to the Exam Room

Evidence-based clinical practice guidelines, properly developed, offer a systematic synthesis of the best available evidence for a given condition. The greatest obstacle to successful implementation has been that this information is not usually readily available at the point of care when an informed decision needs to be made.

A tool designed to address this barrier is currently being developed through several independent collaborative projects with Clin-eguide—a third-party content vendor for clinical practice guidelines, the Center for Health Research in the Northwest, and the KP Clinical Library (Figure 4). The concept is to embed an interactive, evidence-based guideline into KP HealthConnect which the clinician can then activate via a hyperlink. An algorithm is presented to guide decision making and, if desired, the clinician will be able, at each decision point, to click on and to place orders from within the guideline that flow directly into KP HealthConnect. This procedure permits accessing an entire guideline with minimal interruption of workflow.

KP Clinical Library: Complete Reference Shelf at Your Fingertips

All of the above decision-support tools are able to present evidence-based recommendations for decisions related to therapy and diagnosis. However, sometimes you are looking for other information such as the natu-

ral history and prognosis of a disease; the potential harms and adverse effects of a treatment; differential diagnoses; or you have the time and interest to dig deeper into the evidence surrounding a specific recommendation.

The KP Clinical Library is a comprehensive reference library that gives you access to high-quality evidence-based content. It contains all of the National KP Guidelines, which are all developed using a rigorous evidence-based methodology. The Clinical Library also accesses OVID, which contains a number of excellent evidence-based databases including the Cochrane Library, DARE (Database of Abstracts of Reviews of Effects), Clinical Evidence, and the Cochrane Central Register of Controlled Trials. Also accessible through the Clinical Library is Micromedex, which offers evidence-based content on medications and specific diseases; and Natural Standard, a source for evidence-based information related to alternative medications.

To make the Clinical Library easily accessible from within KP HealthConnect, links can be placed on the KP HealthConnect home page of each clinician as shown in Figure 5. The KP Northwest Region recently launched this feature, and the Hawaii Region is working to do the same.

Case Scenario #2

You have recently returned from a conference on women's health where there was a comprehensive review of the evidence related to the benefit of routine cervical and breast cancer screening. You are reminded of the importance of both, and although you realize that your region has systems in place to ensure that this is being done, you would also like to have a personal reminder system.

Health Maintenance Reminders: Timely Prompts for Prevention

The above scenario is familiar to many primary care physicians. With preventive interventions, it is often not a matter of knowing the right thing; it is a matter of having systems in place to make it easier to do. Due to the need to address urgent and/or multiple issues during the office visit, routine preventive measures often are forgotten or are postponed to the next office visit. There are a number of interventions that are well supported by the evidence such as screening for colorectal, cervical, and breast cancer.

The Health Maintenance Reminder (HMR) is a tool that can serve to remind you when such interventions are due. It can be tailored to the individual patient on the basis of factors such as age and gender and, on the

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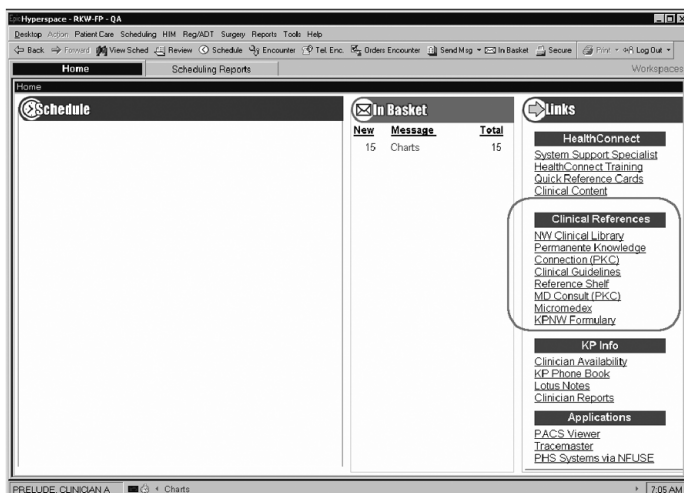


Figure 5. Easily accessible direct links to the KP Clinical Library (formerly known as the Permanent Knowledge Connection depicted here) can be built into the physicians' Home Page in KP HealthConnect.

basis of the date of the last preventive intervention, can determine when the next is due. Figure 5 is an example of a HMR for a Pap smear and mammography. A reminder for colorectal cancer screening would be designed in a similar manner. To make it easy to order the proper screening tests, the alert is accompanied by a Best Practice SmartSet (shown inside the box in Figure 6). Opening this SmartSet allows you to quickly order both exams.

A similar process can be applied to a panel of patients, and all those who are due for an intervention can be thus identified. The appropriate screening test can then be ordered and letters mailed out to each patient. A significant advantage of this type of panel management is a reduction in the number of HMR alerts that require attention during the limited time of an office visit.

Scenario #3

Your Cardiology Department completes an evidence review on secondary prevention and determines that there is good evidence that the use of statins is effective in reducing cardiovascular morbidity and mortality in patients with coronary artery disease. Review of statin use data among this high-risk population in your region shows that there is room for improvement.

Similar to an HMR, a Best Practice Alert (BPA) can be used to provide evidence-based decision support at the point of care. In this example, the alert would be triggered on the basis of an appropriate age threshold, relevant cardiovascular disease diagnoses shown on the problem list, and absence of a statin prescription in the medication file. Like the HMR, a BPA is patient-specific instead of disease-specific (Figure 7).

Besides having the best available evidence, the other important and necessary components of evidence-based decision-making are clinical judgment and patient preferences. Therefore, although these tools serve as prompts and reminders, as the physician you will need to take all factors into consideration to make the best decision for each individual patient.

Conclusion

One of the main barriers to the successful practice of evidence-based medicine has been the inability to deliver the evidence to the clinician when decisions are made and in a way that does not hinder the natural workflow. As has been presented here, the variety and flexibility of KP HealthConnect's decision-support tools allows the evidence to be brought to the point of care, making it easier to do the right thing. ❖

Acknowledgments

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Figure 6. An example of a Health Maintenance Reminder for a patient who is overdue for her Pap smear and mammogram.

Figure 7. The Best Practice Alert offers the relevant information and an accompanying BestPractice SmartSet to allow for efficient ordering of the recommended intervention.