Reducing Care Fragmentation

A TOOLKIT
FOR COORDINATING CARE

Contents

Reducing Care Fragmentation: A Toolkit for Coordinating Care, is supported by The Commonwealth Fund, a national, private foundation based in New York City that supports independent research on health care issues and makes grants to improve health care practice and policy. The view presented here are those of the authors, and not necessarily those of The Commonwealth Fund, its directors, officers, or staff.

I. Introduction

Ms. G:
A CASE STUDY IN FRAGMENTED CARE

Ms. G is a 58-year-old grandmother with a 15-year history of Type 2 diabetes complicated by elevated blood pressure and recurrent episodes of major depression. Ms. G has a BMI of 37 and has struggled with weight control since young adulthood. On a recent visit to her primary care doctor for progressive fatigue and other depressive symptoms, she was found to have an HbA1c of 9.7%, a blood pressure of 190/106 and PHQ-9 score suggesting major depression despite taking an SSRI. Her PCP postponed adjusting her hypoglycemic and anti-hypertensive drug doses until her depression was under better control, and referred her to the mental health center to review and update her depression treatment. Ms. G had difficulty getting an appointment at the center, and finally saw a psychiatrist she had never seen before. At the mental health center, her blood pressure was 220/124 and Ms. G complained of headache, as well as fatigue. The psychiatrist, who had received no information about Ms. G before seeing her, became alarmed about her blood pressure and headache, and sent her to the ER. The ER physician told Ms. G that her BP medicine was inadequate and that she needed new, more powerful medications. She was given prescriptions for two new anti-hypertensive medications, but it wasn't clear to her what she was supposed to do with her current BP drugs or which doctor she should call. So she took them all.

One week later, Ms. G had a syncopal episode on arising from the commode. 911 was called and she was taken to the nearest hospital where she was found to have neurological deficits and admitted with a possible stroke. With adjustment of her medications in the hospital, her BP stabilized and the neurological deficits cleared, and she was sent home with an appointment at the mental health center to have her worsening depression managed. Once home, she became increasingly depressed, forgetful and dysfunctional. She didn't have the energy to get herself to the mental health center. She became increasingly non-adherent with her medications and was found bedridden and hemi-paretic three weeks later by her daughter who became concerned when her phone calls went unanswered. She was readmitted to the hospital with a completed stroke.

Her PCP was dismayed to hear about Ms. G's course from her daughter. He was unaware of any of the events that followed her last visit with him, and Ms. G's daughter was stunned and angered by his ignorance.

Care coordination, a core function of the patient-centered medical home (PCMH), has been defined as "the deliberate organization of patient care activities between two or more participants involved in a patient's care to facilitate the appropriate delivery of health care services."[1]

Though medical care is error-prone even when care is delivered by a single provider, the opportunities for serious mishaps escalate when multiple providers are involved. The case of Ms. G illustrates the perils of fragmented care involving multiple clinicians who are not effectively communicating and sharing information. Care coordination is a set of activities that is needed to minimize the dangers of fragmentation. Those activities include assuring that all providers involved in a patient's care share important clinical information and have clear, shared expectations about their roles in care. They also include efforts to keep patients and families informed, and to optimize their experience through transitions.

American health care has many features that contribute to fragmentation of care: independent practices, limited use of electronic records and physician payment that doesn't reward efforts to coordinate care. More recent developments, such as health plan physician networks and the separation of primary care from hospital care, have tended to erode personal relationships between primary care physicians (PCPs) and their specialist consultants and the institutions where patients get care. As a consequence, consultants frequently complain about the poor quality of information sent by referring clinicians and the inappropriateness of many referrals [2,3], while primary care physicians often receive no information back from consultants, and are not notified when their patients are seen in an emergency room (ER) or admitted to the hospital.[3,4] These failures in communication and care coordination—typically referred to as fragmentation— can have devastating consequences for patients, as with Ms. G.

Why is care coordination so difficult?

1. Accountability for the process is shared, which contributes to ambiguity as to who is responsible for making it work well.
2. Many PCPs no longer have the personal relationships with consultants and hospitals that make communication easier.
3. The added time and effort required to achieve an effective referral/consultation or transition is generally not reimbursed.
4. Most primary care practices do not have the dedicated personnel or information infrastructure to coordinate care effectively.

A slowly growing body of literature and reports from innovative practices and care systems are beginning to clarify the elements associated with more effective care coordination and more successful referrals and transitions.[5]

One of the primary goals of care coordination efforts is a high-quality referral or transition. A referral occurs when a patient requires additional, specialized care by a medical consultant or community agency, and a transition is when a patient's overall care is being transferred between institutions, such as from the hospital back to primary care. What constitutes high quality? In our view, all patient referrals and transitions should meet the six Institute of Medicine [6] aims of high-quality health care. From this perspective, referrals and transitions should be:

- **Timely:** Patients receive needed transitions and consultative services without unnecessary delays.
- **Safe:** Referrals and transitions are planned and managed to prevent harm to patients from medical or administrative errors.

- **Effective:** Referrals and transitions are based on scientific knowledge, and executed well to maximize their benefit.
- **Patient-centered:** Referrals and transitions are responsive to patient and family needs and preferences.
- **Efficient:** Referrals and transitions are limited to those that are likely to benefit patients, and avoid unnecessary duplication of services.
- **Equitable:** The availability and quality of referrals and transitions does not vary by the personal characteristics of patients.

The IOM aims appropriately define high-quality health care from a patient's perspective. But, transitions and referrals should also meet the needs and expectations of the involved providers to be fully successful. A patient may have a very satisfying encounter with a specialist, but if the PCP fails to send relevant information or the specialist fails to communicate with the referring provider, care for that patient or others with similar problems may well suffer.

1. McDonald KM, Sundaram V, Bravata DM, et al. *Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies, Volume 7—Care Coordination*. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services; June 2007.
2. Cummins RO, Smith RW, Inui TS. Communication failure in primary care. Failure of consultants to provide follow-up information. *JAMA*. Apr 25 1980;243(16):1650-1652.
3. Gandhi TK, Sittig DF, Franklin M, Sussman AJ, Fairchild DG, Bates DW. Communication breakdown in the outpatient referral process. *J Gen Intern Med*. Sep 2000;15(9):626-631.
4. Kripalani S, LeFevre F, Phillips CO, Williams MV, Basaviah P, Baker DW. Deficits in communication and information transfer between hospital-based and primary care physicians: implications for patient safety and continuity of care. *JAMA*. Feb 28 2007;297(8):831-841.
5. O'Malley AS, Tynan A, Cohen GR, Kemper N, Davis MM. Coordination of care by primary care practices: strategies, lessons and implications. *Res Briefs*. Apr 2009(12):1-16.
6. Committee on Quality of Health Care in America, Institute of Medicine, "Crossing The Quality Chasm: A New Health System for the 21st Century", Washington DC: National Academy Press; (2001). http://www.nap.edu/openbook.php?isbn=0309072808

II. The Care Coordination Model

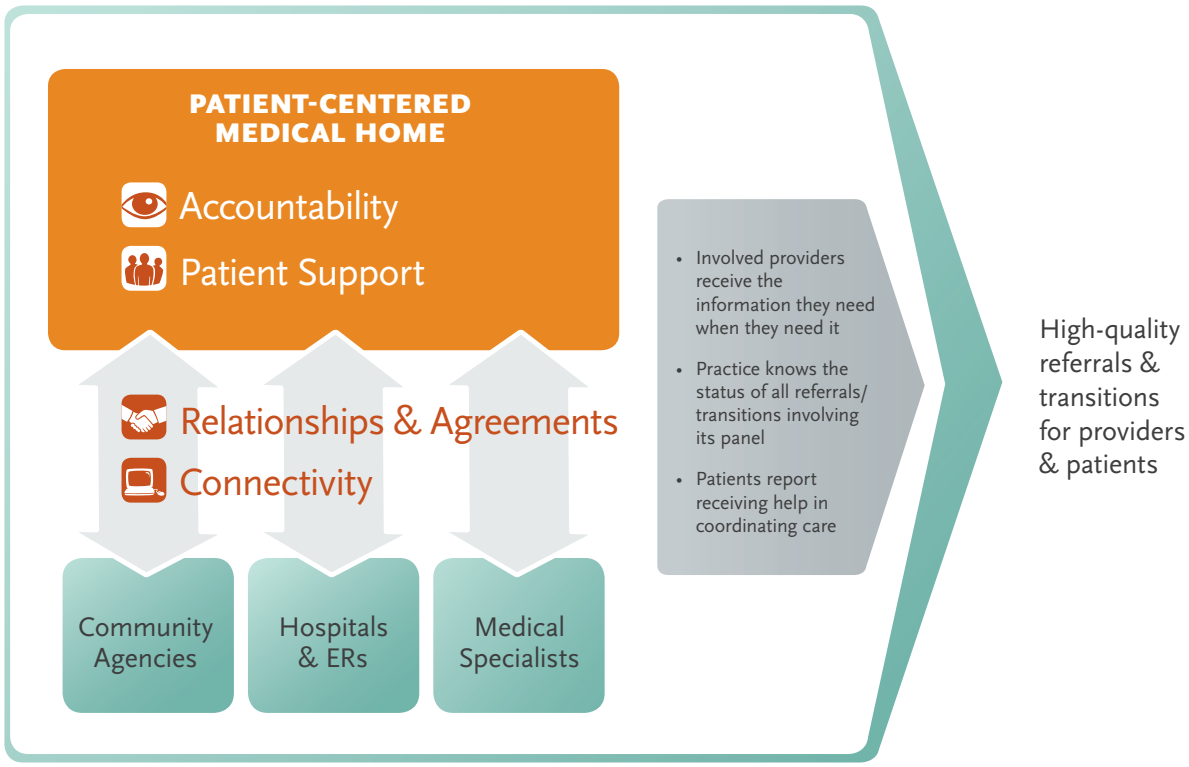
Unlike other aspects of medical care, there has been relatively little rigorous research to direct efforts to improve care coordination.

However, many innovative health care organizations have recognized the dangers of poorly coordinated care and have implemented interventions to improve it. The recommendations in this toolkit derive from both the scientific literature, when available, and the best ideas from the field. We have assembled the best evidence in a Care Coordination Model (Figure 1). The goal of care coordination is **high-quality referrals and transitions** that meet the six IOM aims for high-quality health care, and assure that all involved providers, institutions and patients have the information and resources they need to optimize a patient's care. The Model looks at care coordination from the perspective of a PCMH. It considers the major external providers and organizations with which a PCMH must interact—medical specialists, community service agencies, and hospital and emergency facilities—and summarizes the elements that appear to contribute to successful referrals and transitions. Those elements include:

- Assuming **accountability**
- Providing **patient support**
- Building **relationships and agreements** among providers (including community agencies) that lead to shared expectations for communication and care
- Developing **connectivity** via electronic or other information pathways that encourage timely and effective information flow between providers (including community agencies)

The Care Coordination Model (Figure 1) is shown on the following page.

CARE COORDINATION MODEL[7] (FIGURE 1)



Ms. H illustrates what care would look like if it were coordinated in accord with the Care Coordination Model.

Ms. H:

A CASE STUDY IN COORDINATED CARE

Ms. H, Ms. G's sister, is a 55-year-old grandmother with a 12-year history of Type 2 diabetes complicated by elevated blood pressure and recurrent episodes of major depression. Ms. H has a BMI of 36 and has struggled with weight control since young adulthood. At a check-back visit, she was found to have an HbA1c of 8.9%, a blood pressure of 148/88 and PHQ-9 score suggesting minor depression. Her PCP postponed adjusting her hypoglycemic and anti-hypertensive drug doses until her depression was under better control, and referred her to the mental health center to review and update her depression treatment.

Ms. H's doctor had previously met with the clinical director of the mental health center. The clinical director suggested that one particular psychiatrist, Dr. P, work with referrals from her practice. Dr. P was shown how to log in to and use the practice's Web-based e-referral system.

Ms. H's doctor recommended that she not leave the office without making an appointment with Dr. P. The receptionist/referral coordinator worked with Ms. H and the appointment clerk at the mental health center to set up an appointment that week. Ms. H missed her appointment because one of her grandchildren was ill. The e-referral system noted her missed appointment, and the referral coordinator called Ms. H to set up another appointment.

When Ms. H saw Dr. P, he had her clinical information in front of him. He adjusted her depression medication, but also found that her blood pressure was elevated. Ms. H also complained of headache and fatigue. Dr. P became alarmed about her blood pressure and headache, and arranged for her to be seen that afternoon by her PCP, who adjusted her anti-hypertensive medications. The receptionist/referral coordinator suggested that Ms. H have her BP checked by the EMTs at the neighborhood fire station every other day, which she did. Ms. H slowly began to feel less depressed and her BP slowly came down to target levels with one more medication adjustment.

ACCOUNTABILITY

Since care coordination, by definition, involves multiple providers and sources of services, who among those providers is accountable for assuring that "the deliberate organization of patient care activities" takes place? Obviously, all providers must collaborate, but establishing the conditions and infrastructure for assuring quality referrals and transitions is a core responsibility of the PCMH. All primary care offices currently devote some time and energy to managing referrals. Back offices often contain stacks of charts with "yellow sticky notes" indicating the need for a referral or additional information requested by a consultant or health insurance company. In contrast, practices that assume responsibility and make an effort to coordinate care try to develop the relationships, infrastructure and processes that support successful referrals and transitions. Referrals are more likely to be successful if referring providers and consultants understand each other's expectations and preferences, and referring practices have the staff and information infrastructure to help patients and their information get where they need to go. Patients and their families can help ensure effective and efficient referrals if they are adequately informed and supported to play an active role.

The accountability for assuring quality transitions rests primarily with the discharging institution and providers (e.g., hospitals and hospitalists, ERs and emergency physicians). But, transitions may also go in the opposite direction as when the PCMH arranges a hospitalization, or one of their patients needs nursing home care. Because of the critical importance of reducing ER and hospital care, PCMHs must try to work with area hospitals and ERs to increase the likelihood that they will receive timely, useful information when their patients are admitted and discharged. Hospitals vary considerably in their efforts to identify and contact PCPs, but many have responded positively when asked to share admission and discharge information.

An important component of assuming accountability is having the ability to track referrals and transitions to assure their successful completion. Referral tracking is made easier if there is an information system that records important landmarks in the referral process (e.g., referral appointment made, patient information received, appointment completed, consultation note returned).

Tracking referrals means developing a paper or electronic database that records all referrals made and key landmarks toward their successful completion. Whether paper or electronic, a useful referral tracking system will include: patient name, patient ID number, diagnosis, brief reason for referral, consultant name, insurance status, referral request status (sent, received), appointment date (if made), required pre-appointment tests, appointment completion, consultation note received, post-consultation care (e.g., consultant follow-up visits, specialist-to-specialist referral, return to primary care). E-referral systems generally facilitate referral tracking. To track transitions, the PCMH will have to regularly receive timely information about its patients' admissions and discharges from hospitals, emergency rooms, and other institutions. Transition tracking should in most cases include early PCMH contact with the recently hospitalized patient and/or patients' family, as some evidence suggests that early post-discharge follow-up prevents readmission.

PATIENT SUPPORT

Referrals and transitions challenge patients and families. They raise questions that need to be answered, generate appointments that need to be made, and produce logistical challenges and anxiety that need to be addressed. Practices that dedicate staff time to meeting these patient needs are more likely to have successful referrals and transitions. These care coordination patient support functions are sometimes confused or conflated with clinical functions such as care management, because in some practices a nurse or other care manager provides support functions in addition to her clinical care management responsibilities (i.e., clinical assessment and follow-up, self-management support, or medication management). While care managers generally focus on a small, very sick subset of a practice population, almost, if not all, referrals and transitions within the PCMH would benefit from some degree of active coordination. We urge that patient support for care coordination be considered separately from clinical care management, although care managers do and should provide care coordination support for their high-risk patient panels. In many practices, patient support is provided by a referral coordinator who:

- Identifies and attempts to resolve any logistical or financial barriers to completing a referral

- Helps get timely appointments
- Assures the transfer of clinical information
- Tracks progress and assists patients encountering difficulties

Patient support is especially critical for coordinating the care of children with ongoing behavioral and/or physical problems. The special requirements of care coordination for these children have been well described by Antonelli, McAllister, and colleagues. [7,8]

RELATIONSHIPS AND AGREEMENTS

Referrals and transitions work best when all parties—patients, primary care providers, and consultants—agree on the purpose and importance of the referral, and the roles that each will play in providing care. As close, personal relationships between PCPs and specialists or hospital staff have become less and less common[9], PCMHs would be wise to initiate conversations with their key specialist consultants or hospitals to discuss each other's preferences and expectations. The sorts of issues and expectations that might be considered in such conversations include:

- Types of patients referred—many specialists have developed criteria for the patients they prefer to see
- Information provided at time of referral
- Notification of the PCMH of ER visits and hospitalizations
- Testing to be completed prior to referral—if PCP's complete a specialist's preferred laboratory testing prior to the referral, it increases the value of the consultation and reduces possible duplicate testing
- Availability for "curbside consults"
- Consultation report content and timeliness
- Post-consultation care expectations—need discussion to prevent unhappiness among providers because expectations weren't met (e.g., specialist assumes care when PCP only wanted advice, or specialist returns patient and advice when PCP wanted to transfer care)
- Post-ER or hospitalization care expectations
- Specialist-to-specialist referrals—many PCP's do not want specialists to refer their patients to other specialists without first consulting with the PCP.

These conversations can result in agreements that can be codified in writing or programmed into electronic referral systems. Such agreements seem to be critical to reducing unnecessary referrals, avoiding duplicated assessments, and assuring optimal post-referral or post-hospital care. Building relationships takes time and effective leadership to open necessary communication channels, but rewards practices with quality referral experiences over time.

CONNECTIVITY

A critical predictor of a successful referral or transition is assuring that the involved providers have the information they need to optimize care and a trustworthy way of communicating. On the one hand, PCPs need to be sure that consultants know the reason for a referral and have the necessary information to provide optimal service. On the other hand, consultants must provide information back to the PCP that addresses her questions and concerns. And providers should keep patients informed and confident that all the providers involved are communicating with each other. The presence of an electronic referral (e-referral) system can help assure that this critical information flow occurs in a timely way. E-referral systems can incorporate agreed upon guidelines for referrals and transitions that prevent unnecessary ones and assure that consultants and PCPs get the information they need. These goals can also be accomplished with pencil and paper approaches to structuring and standardizing referral requests and consultation notes, and using FAX machines or telephone calls to communicate. Assuring effective connections between providers should be discussed as part of an agreement.

7. Antonelli RC, McAllister JW, Popp J. *Making Care Coordination a Critical Component of the Pediatric Health System: A Multidisciplinary Framework* The Commonwealth Fund; May 2009.

8. McAllister JW, Presler E, Turchi RM, Antonelli RC. Achieving effective care coordination in the medical home. *Pediatr Ann.* Sep 2009;38(9):491-497.

9. Pham HH, O'Malley AS, Bach PB, Saiontz-Martinez C, Schrag D. Primary care physicians' links to other physicians through Medicare patients: the scope of care coordination. *Ann Intern Med.* Feb 17 2009;150(4):236-242.

III. Change Package and Tools

Practices wanting to improve the coordination of their care should consider making changes to practice systems and processes consistent with the four elements described above—accountability, patient support, relationships and agreements, and connectivity.

These four represent high-level "change concepts," which the Institute for Healthcare Improvement defines as "general ideas...that can be adapted to make specific changes that lead to improvement in many processes and clinical areas" and in aggregate, make up the "change package" for better care coordination. But, to be useful, suggested changes to a practice must be more specific. The following table identifies the six key changes in the Care Coordination Model, as they apply to each change concept, and the specific activities involved in making the key change. Related tools and resources that might be of help are located in the Tools and Resources section (section V) of this document, on page 28. The key changes are described more fully in the text that follows the table.

Table starts on the following page.

ACCOUNTABILITY

Key Changes	Activities
#1 Decide as a primary care clinic to improve care coordination.	Develop a quality improvement (QI) plan to implement changes and measure progress.
#2 Develop a tracking system.	Design the clinic's information infrastructure to internally track and manage referrals/transitions including specialist consults, hospitalizations, ER visits and community agency referrals.

PATIENT SUPPORT

Key Changes	Activities
#3 Organize a practice team to support patients and families.	Delegate/hire and train staff to coordinate referrals and transitions of care, and train them in patient-centered communication, such as motivational interviewing or problem solving. Assess patient's clinical, insurance and logistical needs. Identify patients with barriers to referrals/transitions and help patients address them. Provide follow-up post referral or transition.

RELATIONSHIPS & AGREEMENTS

Key Changes	Activities
#4 Identify, develop and maintain relationships with key specialist groups, hospitals and community agencies. **#5 Develop agreements with these key groups, hospitals and agencies.**	Complete internal needs assessment to identify key specialist groups and community agencies with which to partner. Initiate conversations with key consultants and community resources. Develop verbal or written agreements that include guidelines and expectations for referral and transition processes.

CONNECTIVITY

Key Changes	Activities
#6 Develop and implement an information transfer system.	Investigate the potential of shared EHR or web-based e-referral systems; if not available, set up another standardized information flow process.

ACCOUNTABILITY

#1 Key Change:

DECIDE AS A PRIMARY CARE CLINIC TO IMPROVE CARE COORDINATION.

This decision is not one that many primary care practices have chosen to make. Improving care coordination involves effort and expense—redeploying and training staff in new roles, reaching out to other key providers and service agencies, and improving information flow between the practice and other providers. This effort is of course not currently rewarded by most payment schemes. Also, isn't care coordination every provider's responsibility—PCP, specialist, ER, hospital? Why should the onus for assuring smooth patient transitions fall on primary care? There are a number of reasons.

1. Fragmented care can be dangerous when associated with delays and other mishaps in care.
2. Fragmented care is a major irritant to patients and families.
3. Fragmented care is a major source of duplicated and unnecessary service.
4. Fragmented care is a major headache for primary care practitioners having to deal with angry patients and family members who can't understand why their doctor didn't know they were in the hospital, or didn't know what the specialist said.
5. High-quality care coordination is an expectation of all PCMH models and related payment reforms, and may play a crucial role in reducing unnecessary emergency room and hospital use.

Once the decision is made to try to improve care coordination, the next step is to develop a QI plan. The plan should begin with clear goals, (e.g., assure 100 percent return of consultation reports following specialist referral, or contact all patients discharged from the hospital within three days following discharge) and consider measures that will signal progress toward meeting the goals. **The NCQA Process Measures** (care coordination indicators for medical home certification) and **Care Coordination Questions from Validated Instruments** (a selection of questions from major patient experience questionnaires) will help practices choose measures that have a track record. See Tools and Resources #1 and #2. An Atlas of Care Coordination Measures compiled by the Agency for Healthcare Research and Quality can be found at the following link:
www.ahrq.gov/qual/careatlas

#2 Key Change:

DEVELOP A REFERRAL/TRANSITION TRACKING SYSTEM.

Since care coordination concerns activities outside the practice, the practice's capacity to improve coordination depends upon its awareness of those activities. Did Ms. G keep her appointment with the psychiatrist? Has the practice received the psychiatrist's report? Which patients were seen in the ER last week? Have they been contacted by the practice nurse? Information of this sort enables the practice to identify potential problems and remedy them. A tracking system begins by recording basic information about each referral or transition, and then developing strategies for assessing and recording whether key milestones (e.g., appointment made, consultant

received information, consultant appointment kept, report received by primary care,) were reached. Similarly, practices should make efforts to routinely receive information about patients admitted to the hospital or seen in the ER. Many practices, rather than relying on hospitalists or ER physicians to contact them, have the hospital regularly send them daily admission/discharge reports. Hospitals and ERs complain that patients can't tell them their PCP's name when asked. To remedy this, some practices have given all their patients cards with provider and practice information to carry in their wallets. The tracking system helps the practice follow these patients, collaborate with hospital-based care managers, and coordinate management with the hospital or ER. An effective referral/transition tracking system can be pencil and paper, a function of an e-referral system or EMRs, or developed on readily available software such as Excel or Access. The American College of Physicians Center for Practice Improvement and Innovation has a practical **Referral Tracking Guide**. See Tools and Resources #3.

PATIENT SUPPORT

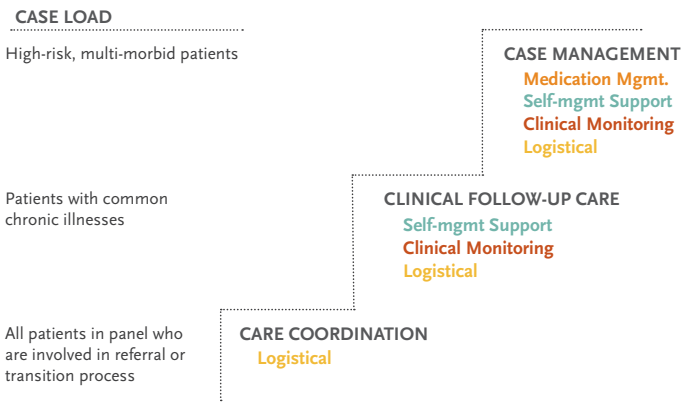
In the PCMH, the aim of care coordination is to keep the patient at the center of care during the referral or transition. The referral coordinator has several important roles: supporting patients and their families in understanding the need for the referral, assuring seamless referral and transition processes from the patient's perspective, and systematically following up to assure that the referral or transition is completed and achieves its goals. This section is meant to describe the patient support functions of care coordination within patient-centered primary care homes. We focus on referral and transition management tasks and distinguish them from clinical roles, including clinical follow up and case management, while appreciating that referral management may be conducted by staff that is also performing these more clinical roles.

#3 Key Change:

ORGANIZE THE PRACTICE TEAM TO SUPPORT PATIENTS AND FAMILIES DURING REFERRALS AND TRANSITIONS.

The care coordination patient support tasks vary with the needs of the patients served, and those providing patient support need skills, training, to meet the needs of those patient populations. Recent evidence suggests that more intensive care management of small number of high-risk patients by a nurse, pharmacist or other health professional improves outcomes and reduces costs. Such clinical care management has often been labeled care coordination. But the percentage of patients in a practice needing logistical support for referrals or transitions will be considerably larger than those requiring clinical care management. An intermediate group, such as patients with a poorly controlled chronic illness, may benefit from additional, but less clinically sophisticated, follow-up and support for self-management by telephone or e-mail. The stepped patient-support model below describes these different levels and the different roles that include care coordination responsibilities. Most clinical follow-up or care management programs focus on small, higher risk subsets of a practice's panel; having a care management or chronic illness follow-up program doesn't address the coordination needs of less ill patients. National data indicate that about 15% of outpatient visits result in a referral, meaning that a significant proportion of a clinician's panel will be involved in hand-offs at any one time.

Figure 2:



Although some primary care practices can successfully distribute the tasks of care coordination among team members, most benefit from designating a specific person to handle the patient support, logistical and information management issues associated with referrals and care transitions. A sample **Referral Coordinator Job Description** for that role is included in the Tools and Resources section (#4). Training for the referral coordinator should address the competencies described in a proposed **Referral Coordinator Curriculum**. See Tools and Resources #5. In practices using an e-referral system, the referral coordinator generally uses the system for many of the functions described below—transmitting patient information, making appointments and tracking the referral process. Once a referral is initiated by the PCP, the referral coordinator helps assemble the necessary information, including the patient's clinical, demographic and insurance details, in accord with recommendations or protocols from specialists. This may include assuring the availability of lab results recommended for a specific referral. She will also help obtain prior authorization if necessary. Using patient-centered tools, the referral coordinator will prepare and empower patients and families to play an effective role in the referral process. Use the **Patient Referral Checklist** to track your steps. See Tools and Resources #6.

The referral coordinator can help patients make appointments and identify patient barriers such as language or lack of transportation, and either handle these logistical needs herself or connect patients with other staff or local services. By tracking all referrals and care transitions, referral coordinators can identify problems and intervene with patients who failed to show up for a specialist appointment or with specialists' offices if a consultative report hasn't yet been received. Transitions such as being discharged from the hospital can be dangerous if patients are not adequately prepared, supported and clinically managed. For guidance and tools for primary care practices to conduct encounters with their recently hospitalized patients, see Tools and Resources #7, #8 and #9: **The Care Transitions Program℠** website includes valuable information about the support and management of patients following hospital discharge, including the **Patient Activation Assessment**, a useful, brief patient assessment tool. **The Post-Hospital Follow-Up Visit: A Physician Checklist to Reduce Readmissions** is another valuable checklist.

RELATIONSHIPS AND AGREEMENTS

#4 Key Change:

IDENTIFY, DEVELOP AND MAINTAIN RELATIONSHIPS WITH KEY SPECIALIST GROUPS, HOSPITALS AND COMMUNITY AGENCIES.

Identify key outside service providers by focusing on the providers and organizations referred to most frequently. Begin by building or enhancing relationships with these providers and their staff. Described in the case study section, The Family Care Network completed their first service agreement with their local cardiology specialty group not only because their patients were often referred there, but also because they had experienced miscommunications in the past. In addition to key medical specialist groups, hospitals and emergency departments, PCMHs should also consider building relationships with other providers of key services such as:

- Behavioral health and substance abuse specialists
- Ancillary services—social work, nutrition, physical and occupational therapy, transportation, home health care, financial assistance, alternative and complementary medicine, pharmacy, caregiver support
- Behavior change support services—self-management, smoking cessation, exercise, weight loss, stress management, alcohol, and drug abuse programs
- Peer support opportunities for patients

Relationships should extend beyond providers to include key staff such as appointment clerks, business managers, and clinical staff. Organizations such as Genesys Health System (See case study) employ health navigators as members of the primary care team to support patients and develop these community service relationships.
The identification of community resources may be aided by asking patient focus groups or consumer advisors the names of agencies and organizations valued by the community.

#5 Key Change:

DEVELOP AGREEMENTS WITH THESE KEY GROUPS AND AGENCIES.

It may take time and several conversations to build relationships and develop a service agreement. For this reason, primary care practices should consider focusing on one or two relationships at a time. The process begins with a conversation initiated by the PCMH. Since the goal of the initial discussion and those that follow is to find common ground, the following principles should guide the interchange:

- Find common goals and work on them.
- Assume all providers have the best intent for the patient's care.
- Avoid confrontation.
- Focus on the system and not the people.

The final bullet is particularly important since changes to the system (e.g., the structure and flow of clinical information) are generally more effective than urging a colleague to behave better. For further guidance on developing relationships within your medical neighborhood, refer to the AHRQ White Paper **Coordinating care in the medical neighborhood: critical components and available mechanisms.** See Tools and Resources #10.

The discussion might begin by considering important categories of patients, such as patients who need an urgent referral, need follow-up care after hospitalization, need a procedure or need a consultation for an ongoing problem. For each patient type, both PCP and specialist should state and discuss their expectations. These expectations should cover:

- Which patients are appropriate to refer.
- Information the consultant needs before the referral (e.g., records and test results that should be available prior to the consultation visit).
- Information the PCP wants following the consultation.
- Roles for both the PCP and specialist post-consultation.
- Other processes, including the PCP not wanting the specialist to refer the patient to another specialist.
- If applicable, the use of an e-referral system.

The discussion should also cover patients with different types of insurance coverage, especially the uninsured and those covered by Medicaid and Medicare.

Some organizations have found it useful to put in writing the shared expectations that result from such discussions, but the conversations and resulting personal relationship are ultimately what is critical. The Tools and Resources section (#11 and #12) contains examples of primary care/specialty care agreements: **Colorado Systems of Care/ Patient Centered Medical Home Initiative**, and **Promising Approaches for Strengthening the Interface between Primary and Specialty Pediatric Care**, a report developed by the Federal Expert Workgroup on Pediatric Subspecialty Capacity. A second way in which shared expectations can be systematized is through an electronic referral system. Good e-referral systems embed referral guidelines and structure the information transmitted to assure consistency with prior agreements.

For the PCMH to play a significant role in the transition of its patients from the hospital or ER back into the community, it needs to have analogous discussions with leaders of key hospitals and other emergency facilities in its community. At the very least, the PCMH should make clear its interest in coordinating care and preventing readmissions, and the importance of being notified when patients are admitted and discharged.

CONNECTIVITY

#6 Key Change:

DEVELOP AND IMPLEMENT AN INFORMATION TRANSFER SYSTEM.

High-quality referrals and transitions depend upon every provider in the chain having the information they need when they need it. The requisite information of course includes essential data about the patient and their treatment plan. The essential information should also include the test results needed by the consulting specialist to complete their consultation. Referring patients without test results considered to be necessary for an adequate consultation is a common reason that referrals are refused, duplicate testing is done, or consultations take multiple visits. Which tests are necessary may well vary among physicians in a given specialty, so they need to be discussed as part of the agreement process.

In addition to access to critical patient information, each provider needs to know what others in the chain expect of them. What is my role? What question(s) or issues(s) am I to address? What roles are others playing? Many problems in care coordination stem from failure to address these issues. General expectations can be discussed while reaching agreements, but expectations often need to be revisited for each patient. For example, specialists need to know the PCP's wishes for post-referral care arrangements to avoid serious misunderstandings that may confuse or even harm patients.

There are four key elements of an effective information transfer system, whether electronic (e-referral system, shared EMRs or health information exchange) or pencil and paper:

- Established agreements about information needs and expectations are integrated in the system.
- The system helps assure that requisite information is transmitted to the correct destination(s).
- Key milestones in the referral/consultation process can be tracked.
- Referring providers and consultants can efficiently communicate with each other.

Structured referral requests and consultation notes increase the likelihood that the desired information will be there. Tools #13-15 in the Tools and Resources section are three articles illustrating the changes to referral requests and consultation notes that increase the quality and utility of a referral. Many of these key elements can be met with paper forms, and many clinics are experimenting with standardizing communication procedures using FAX, pagers, text messages and email notifications. E-referral systems offer many advantages because they enable referrers and consultants to interact, as well as transmit, standardized information. Most can be programmed to include referral criteria for various clinical problems and specialties. Some organizations use these criteria to prevent unnecessary referrals as well as to assure that the necessary information is available at the time of the referral. Some e-referral systems won't transmit a referral request until the information is complete and properly formatted.

Because primary care and specialists share the same software, e-referral systems are being used to increase communication among them, including efforts to implement electronic or virtual consultations. See Humboldt County and San Francisco General e-Referral systems, and Oklahoma e-Consultation system in the Case Studies section. The California Health Care Foundation summarizes the characteristics and functioning of eight

available e-referral systems in **Bridging the Care Gap: Using Web Technology for Patient Referrals.** See Tools and Resources #16.

Many policymakers seem to assume that greater diffusion of EMR systems will improve care coordination. O'Malley and colleagues compared these expectations with the real experience of practitioners with EMR systems in place. Their paper—**Are electronic medical records helpful for care coordination? Experiences of physician practices**—highlights the capabilities of EMRs to improve care coordination and their limitations. See Tools and Resources #17. At best, EMRs should make it easy to assemble key information for a referral, help practices track and follow up on referral recommendation, and coordinate care within the practice. However, their impact on care coordination will be modest until data standardization and health information exchanges facilitate inter-practice data exchange. O'Malley and colleagues also note that most EMRs don't support multi-provider clinical decision support, even among providers sharing the same EMR, and underscore the need to develop infrastructure and reimbursement that encourages the development and maintenance of shared care plans.

IV. Case Studies

ICON KEY

- Accountability
- Relationships and Agreements
- Patient Support
- Connectivity

FAMILY CARE NETWORK: Developing Agreements between Primary Care and Specialty Groups

The Family Care Network (http://www.familycarenetwork.com/) is a family practice in Northwestern Washington state with approximately 75 providers including physicians, nurse practitioners and physician assistants. With 12 clinics throughout the county, their providers aim to understand their patients' lives and develop trusting provider-patient relationships.

A few years ago, the practice held a series of focus groups with their patients. They were surprised to learn that their patients' primary concern was being unable to navigate across the silos of their medical care. Specifically, patients expressed difficulty coordinating care when they were referred out to a specialist. Each physician they saw would change medications and when the patient experienced problems, they didn't know which doctor to contact. With this finding, Dr. Berdi Safford, the Network's Medical Director, decided to improve their patients' care coordination.

After brainstorming solutions, Dr. Safford decided to try to establish service agreements with the key specialty groups they worked with frequently. According to Dr. Safford, the goals of these service agreements were to:

- Improve communication between the provider groups.
- Develop "seamless handoffs" for patients.

Dr. Safford champions service agreements, not because they formalize a process but because through her experience, they create a vehicle for critical conversations between primary and specialty care to occur. For example, a common complaint from specialists is that patients are referred to them without a clear understanding of the clinical question. Likewise, primary care providers often state that a consultation report does not meet their needs.

To counter this finger pointing, Dr. Safford has learned to start conversations about agreements by discussing the best care for a typical patient case. In addition, she keeps the following in mind while negotiating service agreements:

- Find common goals and work on them.
- Assume all providers have the best intent for the patient's care.
- Avoid confrontation.
- Focus on the system and not the people.

The practice's first effort in developing service agreements was with their local cardiology group. The agreement took about one year to develop, which is not an uncommon timeframe. The group of 12 cardiologists was often referring patients to additional specialists and not keeping the primary care provider in the loop. The situation was further complicated because the cardiology group was setting up a heart failure center, which many PCPs opposed because it blurred the lines between specialist and primary care responsibilities. Under Dr. Safford's leadership, the service agreement was developed and a cooperative relationship between the two groups has formed.

The agreement with the cardiologist group focuses primarily on how to access a cardiologist for curbside consultations and how to co-manage and return patients to primary care. Here are the specific elements of their service agreement:

1.) Emergency Referrals

- **a.** How will Cardiology Group provide consultations and admissions?
  - *i. A just-in-time consult phone list includes each cardiologist by specialty and phone number*
- **b.** What patient information will the Primary Care Group provide to Cardiology Group?

2.) Emergency Testing

- **a.** How and who will order emergency testing?
- **b.** Who is responsible for further urgent care?
- **c.** What are the time expectations for sending information back to Primary Care Group?

3.) Routine Consultation

- **a.** What patient information will Primary Care Group submit with referral?
- **b.** How will appointments be booked?
- **c.** Referral will indicate if Cardiology Group is to:
  - *i. Consult only (two visits)*
  - *ii. Assume care of cardiac disease*
  - *iii. Assume management of care until patient is stable*
- **d.** Expectation that Cardiology Group will not refer patient for tests or services outside the scope of cardiovascular health
- **e.** Who will fill out insurance information about referral?
- **f.** Who will follow up with patients about tests ordered by Cardiology Group?
- **g.** How will information be sent back to Primary Care Group?

4.) Follow-up Care:

- **a.** When patient is referred to Cardiology Group to:
  - *i. Have consult only*
    1. *How will appointments be booked back with Primary Care Group?*
    2. *Who is responsible for ongoing prescription refills?*
  - *ii. Assume care of cardiac disease*
    1. *Who is responsible for testing and follow-up?*
    2. *How will Primary Care Group be kept abreast of patient care?*
  - *iii. Assume management of cardiac care until patient is stable*
    1. *Who is responsible for primary cardiology care and for how long?*

5.) Re-Referral

- **a.** Who is responsible for ongoing medications?
- **b.** How is the patient's cardiac care managed once transferred back to the Primary Care Group?

6.) Inpatient Care

- **a.** How will Cardiology Group alert Primary Care Group of hospital admission?
- **b.** What will be included in discharge summary (including follow-up) and how will that information be transferred to Primary Care Group?

7.) **Ongoing Relationship and Education**
   a. How regularly will Primary Care Group and Cardiology Group meet to review service agreement?
   b. How will Cardiology Group provide education to Primary Care Group?

8.) **Insurance Referral Requests**
   a. How will insurance logistics be handled by both groups?

It was important for the process that the service agreements focus on types of patients and lay out who (Primary Care or Cardiology Group) is responsible for specific details such as ordering procedures, booking appointments and filling out insurance information. Time expectations for consultative reports were also included.

Dr. Safford and the Cardiology Group continue to meet every three months to maintain their dialogue. This ongoing relationship has been able to quell problems that would have lingered and potentially created further problems without communication. For example, there was a recent technical glitch that occurred when an insurance company changed their referral paperwork. After it was communicated, the problem was quickly resolved with a data entry process. This new process was written into their service agreement. The collaboration has also led to continuing medical education courses provided by the Cardiology Group.

Although insurance does not pay for the effort and time to develop and maintain this service agreement, Dr. Safford believes it has improved her patients' care. She believes that developing linkages with her specialist counterparts has broken down the silos of care her patients used to experience.

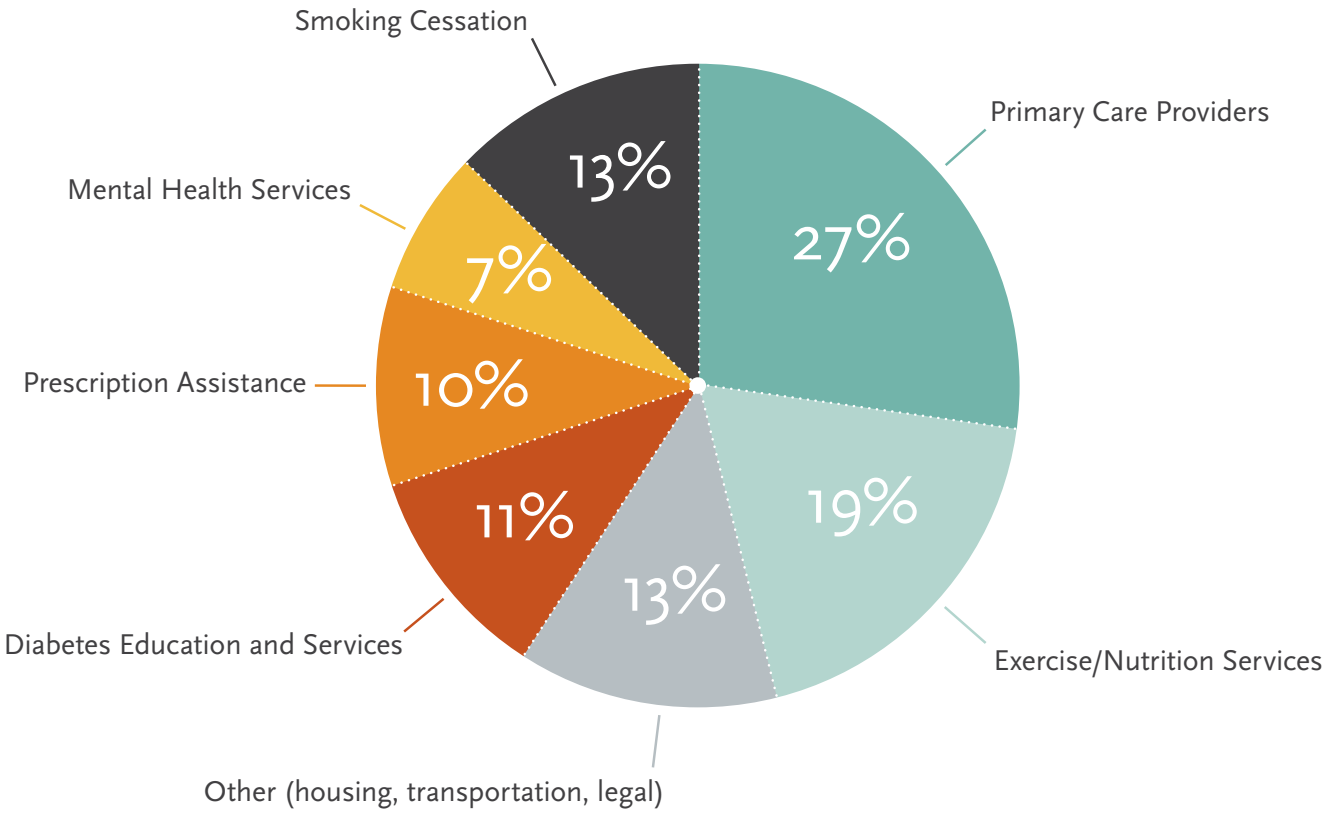
GENESYS HEALTH SYSTEM: Developing Linkages with Community Resources

Genesys Health System, a member of Ascension Health, is a regionally integrated health care delivery system providing a full continuum of care. It partners with approximately 140 primary care physicians in central Michigan. Genesys HealthWorks (http://www.genesyshealthworks.org) is a strategic initiative within Genesys Health System to create a new model of care that is focused on health, not just disease. The program focuses on coordinating care for patients utilizing community resources. The initiative is led by Dr. Trissa Torres who is a physician focusing on preventive medicine and public health.

HealthWorks employs Health Navigators who are members of the primary care practice team who support patients and develop community service linkages. The Health Navigator's primary focus is to support patients in self care, particularly health behavior changes such as eating healthier, increasing physical activity or quitting smoking. As patients identify barriers to engaging in their own self care and adopting healthy behaviors, Health Navigators often suggest community resources to enhance support for patient self management. Their effort to develop partnerships with community resources is analogous to efforts to identify and develop relationships with key medical specialists.

HealthWorks Health Navigators emphasize the distinction between simply making a referral and making an effective referral that results in access to services. "Behavior change takes place in the context of a relationship," explains Dr. Torres. A community referral is most effective when, as Dr. Torres describes, you "transfer the relationship between the Health Navigator and the patient to the community resource." The Health Navigator is knowledgeable about key community resources and knows how to prepare the patient for the referral. For example, the Health Navigator can share details with the patient about what their initial experience will be, such as whether the patients should bring a towel and a change of clothes to the swim class, or telling the patient that they'll meet with Lynda who is very friendly. Effective referrals go above and beyond handing the patient a brochure or referral slip. By sharing specific details about what the patient should expect and who to go to for help, the patient is more likely to follow through on the referral.

IN 2009, HEALTH NAVIGATORS MADE THE FOLLOWING TYPES OF LINKAGES:



Health Navigators inform the patient that they will contact them after the scheduled referral. During this follow-up contact, the Health Navigator identifies and addresses problems. If the patient did not complete the referral, the Health Navigator works with the patient to overcome the barriers to accessing the community resource. The Genesys HealthWorks Health Navigator program conducted a telephone survey with almost 2,000 patients to evaluate their program. Patients were interviewed at initiation and six months after they began the program. The following self-reported improvements in health behaviors and health outcomes were found:

- 17% (120/713) of smokers quit smoking
- 45% (217/481) who had never received formal diabetes education attended Diabetes Self Management Education
- 42% (260/620) of patients screening positive for depression reported improved symptoms

In addition, the interviews found high patient satisfaction with the program. Many patients expressed appreciation for the additional support they received. Dr. Torres and her team are dedicated to improving the health of the patients by building relationships and making effective referrals to community organizations.

HUMBOLDT COUNTY:
Tracking Referrals through an Electronic Referral System

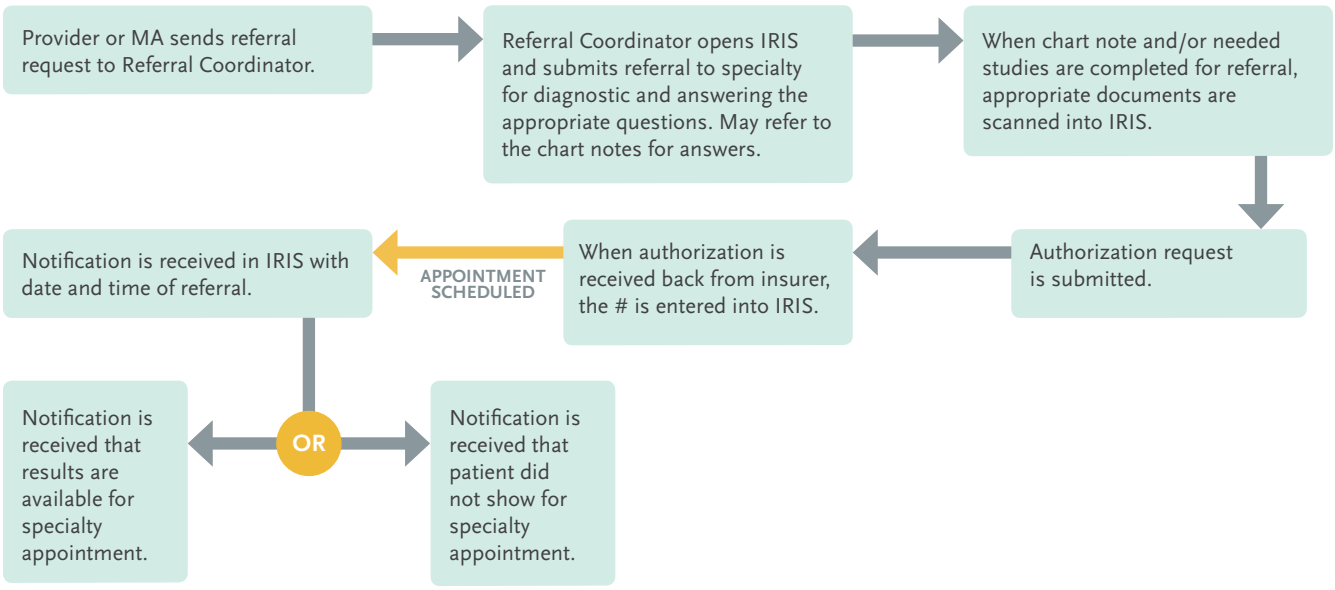
Dr. Alan Glaseroff is the Chief Medical Officer for the Humboldt Independent Practice Association (IPA) (http://www.hdnipa.com/) in Northern California. The IPA has a track record of implementing successful quality

improvement initiatives including their Humboldt Diabetes Project, which has demonstrated improved health outcomes for their patients. The IPA utilizes technology solutions including a chronic disease registry that contains 93 percent of all patients with diabetes in Humboldt County. The registry is expanding to include several chronic conditions to track preventive screenings and report office-based metrics, including BMI and blood pressure. A few practices have also launched electronic prescribing via a stand-alone free product (eRx) although the majority of prescribing occurs via electronic health records (EHRs). Dr. Glaseroff acknowledges that each platform (EHR, registry, eRx, etc.) introduces necessary reconfiguration in the clinic's workflow; additionally, avoiding duplicate data entry (EHR, registry) proved of critical importance to maintain the willingness to use shared platforms not included in office-held solutions (exporting data from EHR to populate the community-wide applications).

The IPA has recently introduced an electronic referral (e-referral) system, which was purchased and implemented using grant funding. After reviewing e-referral vendor options, the IPA adopted the Internet Referral Information System (IRIS) that was first used in Cook County, Illinois. The technology's design is often compared to how FedEx tracks its packages, because if a step within the process does not take place, the system sends an automatic alert. All of the referral steps, from beginning to end, are tracked by a referral coordinator.

The referral coordinator is a clerical position who in Dr. Glaseroff's practice is the practice's receptionist. Through her pro-active follow-through, the practice has been able to accomplish a 100 percent completion rate for mammography referrals.

THE WORKFLOW USING THE eREFERRAL SYSTEM:



The referral coordinator monitors reports generated by the e-referral system. Examples of these reports include referral appointments that have been missed by patients or consultative reports that have not yet been received. The referral coordinator follows up on these referral problems and takes action. The referral coordinator is also accountable for ensuring that information between the primary care practice and specialist's office is exchanged.

The e-referral system incorporates rules analogous to referral guidelines often included in service agreements. The goals of the rules are to:

1. Increase the appropriateness of referrals.
2. Prompt preparatory work that should be completed prior to the specialist appointment.
3. Establish "rules of engagement" for specialty referral (PCP-specialist compact).

IRIS produces a set of instructions for referrals to specialists and for procedures. For example, a referral for a CT scan with contrast automatically prompts an alert to the primary care clinic to have the patient complete a serum creatinine test within the month prior to the CT scan. Adherence to these referral guidelines are monitored by the referral coordinator via protocol. While there is significant variation in how individual clinicians use IRIS, Dr. Glaseroff believes that the optimal approach is to have the clinician start the process electronically with the patient in the room. The patient receives "patient instructions" that outline next steps. Within 24 hours, the referral coordinator enters the patient's demographic and insurance information into the e-referral system along with key clinical information (including lab test results) from the patient's chart.

To support the roll-out of e-referral across sites, the IPA hired a full-time coordinator who works with clinics to implement the system. The coordinator is able to troubleshoot problems and continually monitor the system. She was involved in training all of the referral coordinators at each of the clinics and developed their User Guide. She also maintains a web page with the latest information: http://www.hdnfmc.com/iris/.

Dr. Glaseroff believes that this system currently improves patient care because it enables primary care practices to systematically track their patients' referrals so that fewer patients slip through the cracks. With e-referral, information is not lost and the patient's primary care provider is kept informed, promoting the "medical home" concept. Dr. Glaseroff believes that, "IRIS will serve as the platform to transform individual isolated medical homes into true medical neighborhoods."

SAN FRANCISCO GENERAL HOSPITAL: Connectivity through Electronic Referral

San Francisco General Hospital & Trauma Center (SFGH) (http://medschool2.ucsf.edu/sfgh) is the city's only public hospital and Level 1 Trauma Center for the residents of San Francisco and northern San Mateo counties. The hospital is owned and operated by the City and County of San Francisco's Department of Public Health and serves as the hub of the county's safety net delivery system, which includes 35 community health centers, clinics and affiliated partners. The hospital serves as a teaching hospital for the University of California, San Francisco, and this entire system benefits from shared access to patients' SFGH electronic medical records.

Until recently, the system was plagued with a severe backlog for medical sub-specialty appointments. For example, the wait time for a gastroenterology appointment was 11 months. Referrals were paper-based and faxed or hand-delivered; sometimes the referral was never received and the patient never scheduled. If a patient needed an expedited appointment, the primary care provider had to spend time trying to contact a specialist to advocate on the patient's behalf.

In order to address the backlog, Dr. Hal Yee, chief of the Gastroenterology and Hepatology Division, developed an electronic referral management and consultation system (eReferral). The two primary goals of the system were to:

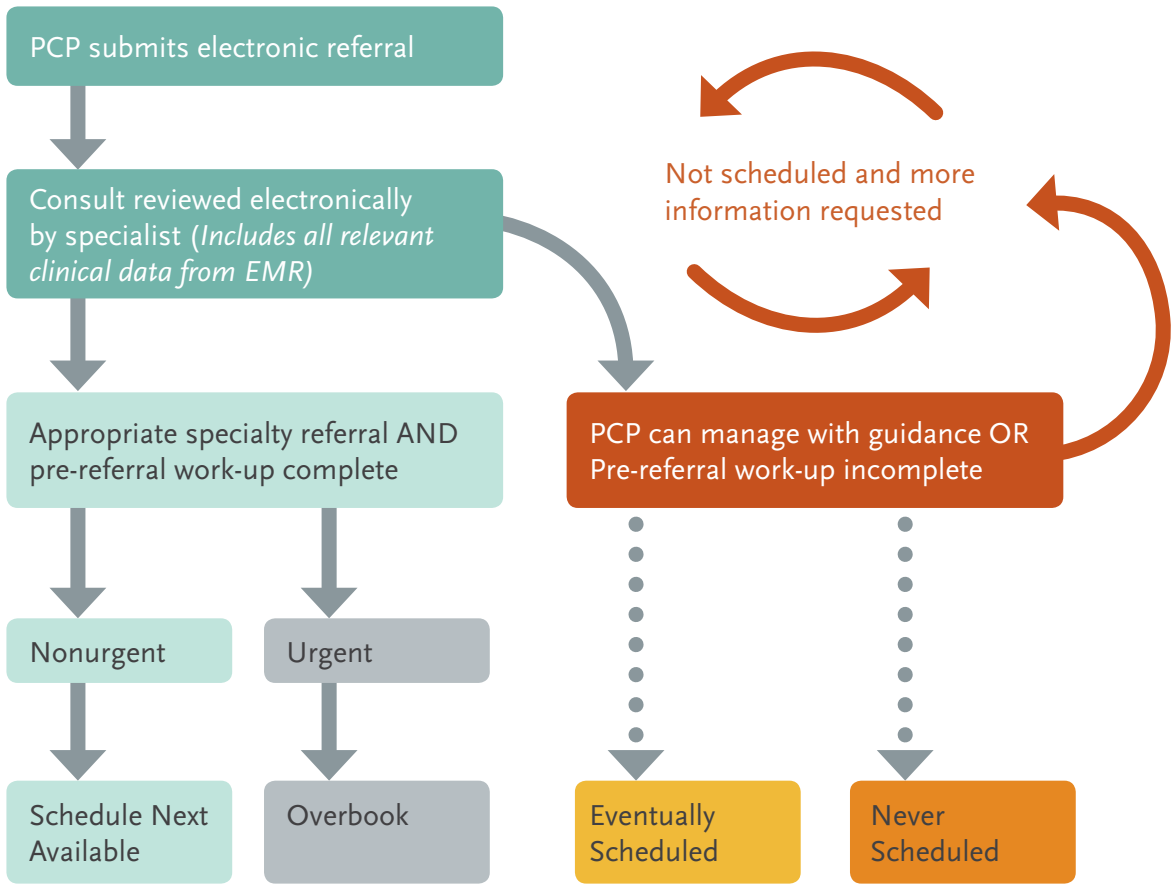
1. Track referrals so that there was accountability for referrals.
2. Reduce wait times.

The technology platform was developed by the hospital's Information Systems Department, and improved with the support of grant funds that also initially paid for the specialist's time to review the incoming queue of referrals.

Dr. Alice Chen is the medical director for San Francisco General's Adult Medical Center, and together with Dr. Yee, successfully spread the eReferral system to more than 30 medical specialty clinics and services at SFGH, including radiology services, home care and diabetes support groups. The system's key components include the following:

- There is a centralized, electronic queue for each participating specialty service.
- All referring clinics must use the eReferral system to refer to participating specialty services.
- Each participating specialty service has a designated specialist clinician reviewer with dedicated time to review and respond to referral requests. The reviewer can use the system to schedule appointments, triage patients, request clarification of the consultative question and provide guidance for pre-visit evaluation.
- The referring provider and specialist reviewer can communicate in an iterative fashion using the eReferral system until the patient's clinical issue has been addressed, with or without an appointment.
- The eReferral system is tightly integrated with the hospital EMR so that all information exchange is documented in the patient's chart in real time.
- The system is limited to initial referrals (rather than referral for follow-up care) because these were decided to be the best use of the reviewer's time.

THE eREFERRAL SYSTEM

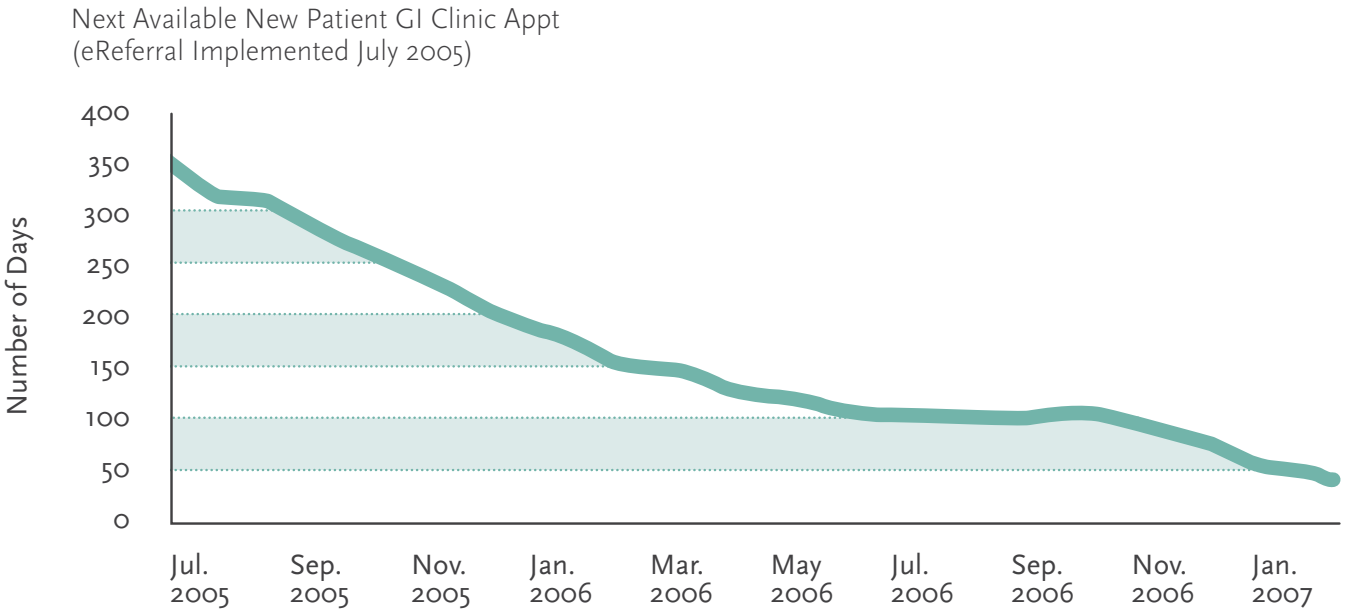


Drs. Yee and Chen believe that one of the primary values of the eReferral system is facilitation of communication between primary care and specialist providers. It is important to note that implementation of these consultations may be difficult because of legal, medical and logistical reasons. Nonetheless, primary care providers now receive guidance on evaluation and management in a timely fashion, while specialists who see patients in clinic receive clear consultative questions. This information connectivity not only reduces unnecessary specialist appointments, but gives PCPs more opportunity to learn and treat their own patients' clinical issues.

Local PCPs are satisfied with the eReferral system, especially clinics with good Internet access. Clinics that only have intermittent internet access are less able to fully benefit from the system. In these practices, referrals tend to be entered by clerical staff yielding a less informative clinical referral and less opportunity for back-and-forth communication between providers.

Their eReferral system recently received accolades and is promoted as a successful system. The following results demonstrate that the system's goal of reducing wait times has been achieved. It is clear that SFGH's eReferral system has achieved its goals of improving specialty access and reducing specialty visits.

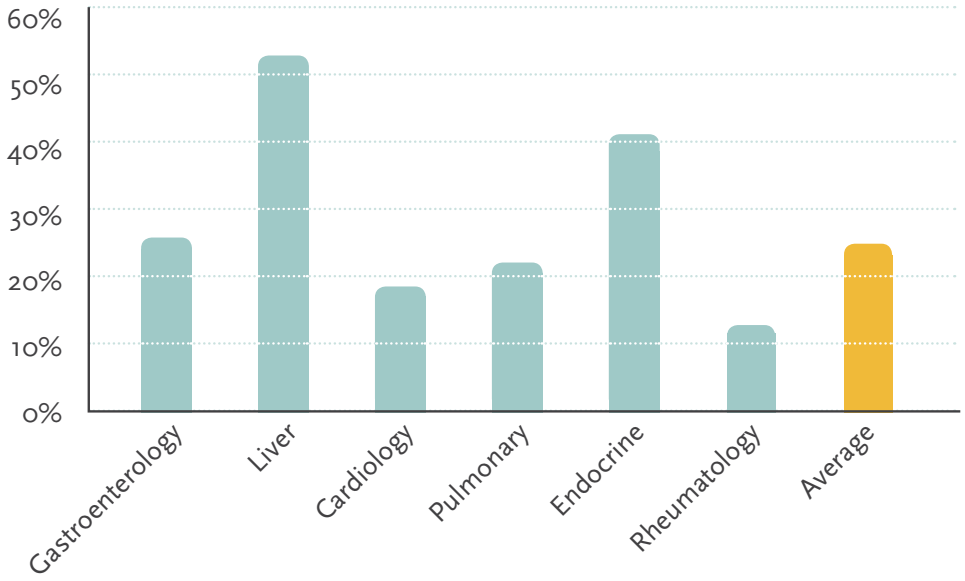
GI CLINIC eREFERRAL: RESULTS



Yee, Hal, San Francisco General Hospital and Trauma Center, and University of California San Francisco. "E-Referral: Integrating information technology and clinical provider communication to improve specialty healthcare access and quality." PowerPoint for National Association of Public Hospitals and Health Systems conference call, September 2009.

MEDICAL SPECIALTIES: VISITS AVOIDED

Medicine Clinics Proportion of eReferrals Never Scheduled
Submitted January 2007–December 2007



Yee, Hal, San Francisco General Hospital and Trauma Center, and University of California San Francisco. "E-Referral: Integrating information technology and clinical provider communication to improve specialty healthcare access and quality." PowerPoint for National Association of Public Hospitals and Health Systems conference call, September 2009.

OKLAHOMA SCHOOL OF COMMUNITY MEDICINE: Developing and Implementing an Electronic Consultation Platform

Dr. David Kendrick is a practicing physician who has launched several technology platforms to improve the quality and efficiency of patient care. He has most recently established an electronic consultation system, which has evolved and grown to serve patients across three states. Dr. Kendrick is an associate professor of internal medicine and pediatrics and a Kaiser Chair of Community Medicine at the University of Oklahoma School of Community Medicine. He serves as the medical director for community medical informatics.

Dr. Kendrick wanted to develop an e-consultation system to simulate the doctor's lounge culture where providers gathered, developed relationships and discussed patient cases together. He also wanted to provide a technological fix that would reduce the number of unnecessary referrals. From experience he knew that the time crunch faced by many PCPs led to providers initiating a "quick" referral rather than taking the time to research and consult with colleagues about the case. Ultimately, Dr. Kendrick deduced that there were too many patients being referred for specialist visits that could be handled competently within primary care.

When Dr. Kendrick first built his e-consultation prototype, dubbed "Doc2Doc," almost 120 PCPs who predominately practiced in rural settings signed up quickly. Specialists from the University of Oklahoma also agreed to review and respond to the incoming queue of consultation requests. The Web-based system's work flow is as follows:

1. A sending provider decides that the patient needs specialist input.
2. Staff (who is usually a clerical referral coordinator) at the PCP's office initiates the e-consultation.

3. The sending provider adds the clinical information and question.
4. The consulting provider responds to the e-consultation.
5. There may be back-and-forth communication between providers.
6. Useful clinical dialogue that is general in nature may be added to the system's "knowledge base" for other providers to review.
7. If needed, the e-consultation is routed to the clerical staff for referral scheduling.

It's important to note that the system does not link with the EMRs and thus, the clinical exchange is not captured in the patient's chart. This inconvenience however was less important in uptake of the technology than the lack of incentives for specialists which as described by Dr. Kendrick, caused problems in the quality of information and timeliness of responses. Dr. Kendrick in fact learned that a lack of incentives for specialists caused problems in the quality of information and timeliness of their replies. A new approach was deemed necessary.

The Oklahoma Department of Coorections (DOC) used the University of Oklahoma's Medical School faculty for its specialty referrals. The prison system bears the costs of these referrals and thus wanted to eliminate unnecessary referrals. Dr. Kendrick approached the Oklahoma DOC and, having learned about the necessity of reimbursing specialist time, told the DOC upfront that they would need to pay $50 to the specialist for every completed consultation. The prison e-consultation system was implemented and, ultimately, led to an approximate 50 percent reduction in utilization of specialty care. Electronic consultations were a cost savings to the system. To date, almost 100,000 e-consultations have taken place and the system has spread to Louisiana and Kentucky.

In 2004, Dr. Kendrick was awarded an economic development grant to implement a randomized control trial (http://www.doc2docstudy.org/) of his e-consultation technology. This trial was implemented outside of the prison system. Its results are currently being prepared. Although this trial is no longer operating, many of the primary care practices continue to use the e-consultation platform. The roll-out of Medicaid's reimbursement to both medical homes and specialists for care coordination activities have helped sustain the platform's use. Dr. Kendrick is also currently working on a Health IT Beacon Community award and one of their major interventions is the spread of the Doc2Doc platform.

V. Tools and Resources

Following is an annotated table of contents for the tools and resources mentioned throughout the Care Coordination toolkit. These tools and resources were selected for their value in supporting practices in their efforts to coordinate care effectively.

ACCOUNTABILITY

1. **NCQA Care Coordination Process Measures**
   This table provides quality measurement items from relevant standards from the NCQA measurement set.

2. **Care Coordination Questions from Validated Instruments**
   This table is an aggregation of patient survey items relevant to the key concepts for referral coordination excerpted from the major validated instruments currently used to monitor quality of care delivery.

3. **Referral Tracking Guide**
   The American College of Physicians Center for Practice Improvement and Innovation website lays out the goals and mechanics of referral tracking.

PATIENT SUPPORT

4. **Referral Coordinator Job Description**
   This job description is a generic document generated from many job descriptions within various delivery systems that were posted on the Internet or supplied by organizations interviewed. It contains skills, tasks, and responsibilities that were present across the many descriptions. It also reflects the focus on basic referral coordination tasks, rather than the more clinical tasks included in some care coordination positions and case management positions.

5. **Referral Coordinator Curriculum**
   For practice teams or delivery systems that wish to train existing staff members to fill referral coordinator functions, this curriculum outline provides a structure with training modules that mirror the elements of the Care Coordination Model.

6. **Patient Referral Checklist**
   This document is designed to be given to patients prior to their specialist visit by the referral coordinator. The document provides information to prepare patients for their upcoming appointments and prompts them to be active participants in the referral process.

7. **The Care Transitions Program℠ www.caretransitions.org**
   This program, under the direction of Dr. Eric Coleman, has done fundamental research in improving the care and outcome of patients discharged from hospital, and is now being disseminated. The Care Transitions website includes many tools for patients and families to ensure active and informed management activities to assure safety through care transitions. Please see the website for tools, terms of use and attribution.

8. **Patient Activation Assessment Form**
   This Care Transitions Program℠ tool, for use with patients in transition, measures progression of activation in transition-related self-care skills, assessing confidence in four critical areas of patient activity. It should not be converted into a provider-oriented checklist. The document is free to all. Please see the website for terms of use and attribution. (http://www.caretransitions.org)

9. **The Post-Hospital Follow-Up Visit: A Physician Checklist to Reduce Readmissions**
   Coleman EA, The Post-Hospital Follow-Up Visit: A Physician Checklist to Reduce Readmissions, The California Healthcare Foundation, October 2010.

RELATIONSHIPS & AGREEMENTS

10. **Coordinating care in the medical neighborhood: critical components and available mechanisms**
    Taylor EF, Lake T, Nysenbaum J, Peterson G, Meyers D. Coordinating care in the medical neighborhood: critical components and available mechanisms. White Paper (Prepared by Mathematica Policy Research under Contract No. HHSA290200900019I TO2). AHRQ Publication No. 11-0064. Rockville, MD: Agency for Healthcare Research and Quality. June 2011.

11. **Colorado Systems of Care/Patient Centered Medical Home Initiative: Colorado Primary Care - Specialty Care Compact**
    This compact contains definitions, outlines types of care management transitions, provides points for mutual agreement, and provides expectations for primary and specialty care in terms of access, transitions, collaborative management, and patient communication.

12. **Federal Expert Work Group on Pediatric Subspecialty Capacity. Promising Approaches for Strengthening the Interface between Primary and Specialty Pediatric Care.**
    Maternal and Child Health Policy Research Center, American Academy of Pediatrics and the Maternal and Child Health Bureau Department of Health and Human Services. March 2006.

    This guide outlines promising referral practices, consultation approaches, and collaborative management approaches between pediatric subspecialties and primary care practices.

CONNECTIVITY

13. **Berta W, Barnsley J, Bloom J, et al. Enhancing continuity of information: essential components of a referral document. Can Fam Physician. Oct 2008;54(10):1432-1433, 1433 e1431-1436.**
    This journal article provides detailed information on required domains and data fields to include in referral documents and consultation reports. *Available online.*

14. **Berta W, Barnsley J, Bloom J, et al. Enhancing continuity of information: essential components of consultation reports. Can Fam Physician. Jun 2009;55(6):624-625 e621-625.**
    This journal article provides detailed information on required domains and data fields to include in referral documents and consultation reports. *Available online.*

15. **Reichman M. Optimizing referrals & consults with a standardized process. Fam Pract Manag. Nov-Dec 2007;14(10):38-42.**
This e-journal article provides guidance about standard information and processes that lead to optimal communication between primary care practices and consulting physicians to ensure that referrals and consultations run smoothly for everyone involved. A sample referral and consultation form is included. *Available online.*

16. **Bridging the Care Gap: Using Web Technology for Patient Referrals: California HealthCare Foundation; September 2008.**
This 2008 report examines eight Web-based referral systems, including five that are commercially available. The report explores common functions of the new software applications, outlines considerations for those interested in adopting such systems, and highlights providers' successes and challenges in using them. Four case studies are also included.

17. **O'Malley AS, Grossman JM, Cohen GR, Kemper NM, Pham HH. Are electronic medical records helpful for care coordination? Experiences of physician practices. J Gen Intern Med. Mar 2010;25(3):177-185.**
This journal article describes the actual role that EMRs are playing in efforts to coordinate care, and contrasts it with the potential that linked EMRs with standardized data could have. *Available online.*

1. NCQA Care Coordination Process Measures

http://www.ncqa.org/

National Committee for Quality Assurance (NCQA) Care Coordination Standards

Instrument	NCQA Patient-Centered Medical Home 2011 Standards
Standards	(1) enhance access and continuity (2) identify and manage patient populations (3) plan and manage care (4) provide self-care and community support (5) track and coordinate care (6) measure and improve performance
Track and Coordinate Care Standard	**Test tracking and follow-up** ➢ Practice has documented process for and demonstrates: o Tracks lab tests and flags and follows-up on overdue results. o Tracks imaging tests and flags and follows-up on overdue results. o Flags abnormal lab results. o Flags abnormal imaging results. o Notifies patients of normal and abnormal lab/imaging results. o Follows up on newborn screening. o Electronically order and retrieve lab tests and results. o Electronically order and retrieve imaging tests and results. o Electronically incorporates at least 40% of lab results in records. o Electronically incorporate imaging test results into records. **Referral tracking and follow-up** ➢ Practice coordinates referrals: o Provides specialist with reason and key information for the referral. o Tracks referral status.

- Follows up to obtain specialist reports.
- Has agreements with specialists documented in the record.
- Asks patients about self-referrals and request specialist reports.
- Demonstrates electronic exchange of key clinical information.
- Provides electronic summary of care for more than 50% of referrals.

Coordinate with facilities and care transitions

- Practice systematically demonstrates:
  - Process to identify patients with hospital admissions or ED visits.
  - Process to share clinical information hospital/ED.
  - Process to obtain patient discharge summaries.
  - Process to contact patients for follow-up care after discharge.
  - Process to exchange patient information with hospital.
  - It collaborates with patient to develop written care plan for transitions from pediatric to adult care.
  - Electronic exchange of key clinical information with facilities.
  - Provides electronic summary of care for more than 50% of transitions of care.

2. Care Coordination Questions from Validated Instruments

http://www.improvingchroniccare.org

ACCOUNTABILITY
TOOL REFERENCE

Patient Reported Care Coordination Questions from Validated Instruments

Instrument	Number of items relevant to care coordination	Care Coordination Questions
ACES (Ambulatory Care Experiences Survey)	6 items on integration	• In the last 12 months, when your personal doctor sent you for a blood test, x-ray or other test, did someone from your doctor's office follow up to give you the results? • In the last 12 months, when your personal doctor sent you for a blood test, x-ray or other test, how often were the results explained to you as clearly as you needed? • How would you rate the quality of specialists that your personal doctor has sent you to in the last 12 months? • In the last 12 months, who would you rate the help your personal doctor's office gave you in getting the necessary approval for your specialist visits? • In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you received from specialist doctors? • In the last 12 months, how would you rate the help your personal doctor gave you in making decisions about the care that specialist(s) recommended for you?
Picker Institute	8 items on care coordination	• Did you know who was in charge of your care for each of your health problems? • How often were the doctors, nurses and other health care providers who cared for you familiar with your most recent medical history?

		• How often were your providers aware of changes in your treatment that other providers recommended? • Do you think your providers had all the information they needed, such as test results, to make decisions about your treatment? • How often did you know who to ask when you had questions about your health problems? • How often were you given confusing or contradictory information about your health or treatments? • How often did you know what the next step in your care would be? • How well did your health care providers worked together?
PACIC (Patient Assessment of Chronic Illness Care)	2 items related to care coordination	• Satisfied that my care was well organized. • Contacted after a visit to see how things were going.
CAHPS (Consumer Assessment of Healthcare Providers and Systems) clinician and group survey to measure medical home supplemental	2 items on care coordination	• Doctor seemed informed and up-to-date about care you received from specialists. • Health plan, doctor's office, or clinic helped you to coordinate your care among these doctors or other health providers.

CAHPS clinician and group survey to measure medical home care	1 item on care coordination	• Doctor's office followed up to give you results of blood test x-ray, or other test.
Wood et al (2008) adapted survey for CYSHCN (Children and Youth Special Health Care Needs) and medical home population	5 items on connecting to outside resources	• Did the pediatrician explain your child's needs to other health professionals? • Did the pediatrician, when asked, talk to the school, early care providers, etc., to help them understand your child's condition? • Did the pediatrician, when asked, review your child's medical record? • Did the pediatrician offer to connect you with parent support organizations in the community or state? • Did the pediatrician assist you in finding adult health care services for your adolescent at the appropriate age?
Press Ganey Outpatient Patient Satisfaction Survey	4 items related to care coordination	• Instructions nurses gave about caring for yourself at home. • Our sensitivity to your needs. • How well staff worked together to provide care. • Staff's concern for your questions and worries.

3. Referral Tracking Guide

Referral Tracking Guide

September 2008

25 Massachusetts Avenue, NW · Suite 700 · Washington, DC 20001-7401
(800) 338-2746 · Fax (202) 835-0442 · http://www.acponline.org/running_practice/

Date last reviewed/revised: September 2008

Referral Tracking Guide

One way to ensure a competitive advantage for your practice is to track your referrals and document effective management of your patient population. Regularly generating internal reports will enable physicians to gauge the aptness of referral patterns and analyze potential business impact of any changes.

Referrals impact every practice. Internal analysis of referral patterns can yield critical insights for physicians in both fee-for-service and managed care environments. In a fee-for-service environment, effective referral tracking identifies services that could generate additional revenue streams if performed in-house, while providing added value for your patients. If participating in managed care contracts, referral usage may directly impact net income from capitation revenue streams, and the ability to document appropriate utilization of specialists is vital to some contract negotiations. Also, tracking referrals is increasingly important to demonstrating that you operate an efficient practice capable of providing optimal patient care.

Competition for high-quality managed care relationships is intensifying. Managed care organizations are increasingly trying to capture utilization and referral data to build detailed profiles of utilization patterns. Some Managed Care Organizations (MCO's) include physician's compliance with utilization goals as one factor in their evaluation of provider contracts. Obtaining new or renewal contracts or premium compensation levels may be influenced by result of the utilization data assessment.

Unfortunately, these profiles are often skewed due to incomplete or misleading data. A primary care physician's utilization data may appear to be high due to tests or additional referrals ordered by specialists, or it may be statistically invalid due to the small number of patients. If a practice has a limited number of patients enrolled in a plan, one or two patients with severe or chronic illnesses can inflate your cost per member above your peers. To avoid this problem, track referrals across patients in all your participating plans.
Many practice's software systems are not pre-programmed to effectively track referrals; however, electronic referral tracking can be relatively easy once you have make a few minor adjustments to standard billing software. Although a small office may prefer a manual method of tracking, most practices can use their existing practice management/billing systems to accumulate and analyze referral data without expensive upgrades or add-on products and with minimal staff time. Computer reporting mechanisms generally provide greater flexibility in reporting and a higher level of detail for analysis.

Referrals can be generated after you see a patient in the office, after you speak to a patient over the phone, or when a patient calls (and speaks to someone other than the physician) to "renew" an old referral. As this process may include the billing, reception and nursing staff, a defined protocol to capture the referral information is necessary. Ideally you would like to capture all referrals; however, you may wish to begin by trying to capture only the authorizations made for MCO's, as you most likely already have an MCO authorization procedure in place.

HOW TO RECORD YOUR REFERRALS USING YOUR COMPUTER SYSTEM

Set-up

- Start by using procedure code fields to create "dummy" referral codes within your practice management computer system (see examples listed below.) Most billing systems will accept posting of alpha-numeric codes, which allows you to choose a three-letter abbreviation to define the referral category. Alphabetic codes are preferred over numeric codes, because many reports sort and group alphabetical characters at the end or beginning of a list. The alpha codes are also more meaningful to staff and easily separated visually from the standard numeric CPT codes.

- If you are unable to use alpha codes, the alternative is to select unassigned, numeric "dummy" codes, which correspond to the referral category. For example, you might choose 33001 to represent Cardiology, since it is not a valid CPT code, but is in the Cardiovascular system range of codes. Remember to check your chosen "dummy" codes annually to make sure they have not become active, valid CPT codes. Use any mechanisms your billing system may provide to create a "reporting group" to separate these dummy referral codes from the CPT codes for reporting purposes.

Specialty	***"Dummy" CPT code***		
Cardiology	CRD	or	33001
Endocrinology	END	or	60010
Gastroenterology	GAS	or	43010
Pulmonology	PLM	or	30010

- Set any available insurance billing status flags to avoid billing insurance plans for these codes. In some instances, if a claim goes through with an invalid "dummy" referral code, the payer may hold payment for the entire claim and not just ignore the invalid code.

- Check the computer system's validation processes or flags for electronic claim files. You must be careful when submitting electronic claims so the referral code does not create errors in electronic claims batches.

Data Collection

- After the patient's office visit is complete and he/she is checking out, write the appropriate referral information on the patient's encounter form. Write legibly, making it easy for staff to recognize and classify correctly.

- When referrals are issued in response to telephone requests, have written request forms available to document the authorization and route those to billing staff.

- Alternatively, if you have centralized approval and issuance of referrals, the designated referral staff member may be given procedure-posting privileges.

- During procedure posting, record the referral information into the computer along with any valid transactions for an office visit. The items for entry can include:

  Dummy procedure code
  Number of visits allowed
  Length of referral (30, 60, 90 days as the modifier)
  ICD-9 code to justify the referral

Example:

After your visit with Mr. Smith, you decide he should see an endocrinologist for further evaluation. You write this on the bottom of the encounter form he then presents to the front desk staff (or other designated referral person) for checkout. The staff person pulls the patient up on her computer and enters both the valid procedure service code transactions and the referral, using a "dummy" CPT code. At week or month end, your computer should generate the reports on both the services you provided and the referrals that you made.

OR

Ms. Hanson calls the office and speaks to the nurse (or designated referral person) requesting a renewal of the referral to her gastroenterologist. After the referral is approved by her physician (without her having to come into the office) the nurse notes the patient's information on the form, and billing staff then post the referral information as noted above.

Reporting and Analysis

Once your data has been recorded for a full month, you can review the results. Productivity reports by physician will list the number of referrals issued to each specialty. Unusual numbers of referrals (either high or low) may require investigation to determine whether differences are attributable to variations in patient populations between physicians or are caused by different clinical styles.

Some managed care companies are comparing your referral utilization against your peers. Again, tracking your overall patient base and referral patterns may assist you in determining whether your results are skewed due to a particular patient base for that insurer.

Reports which cross-reference diagnosis and procedure/referral information can provide data to pinpoint opportunities to capture services which currently are referred outside the practice.

Quarterly comparisons can help identify seasonal variations or document changes in general referral patterns.

HOW TO RECORD YOUR REFERRALS MANUALLY

- On the referral-tracking grid provided at the end of this document, write the names of your practice physicians and the week's beginning and ending dates. There are also blank spaces provided for adding other providers to whom you frequently refer (dermatology, OB-GYN, etc.) You must first decide who will keep track of the referrals made when a patient is in the office. The grid can be kept at the front desk where patients check out or with the nurse or staff person who physically writes/calls in referrals. Remember, by tracking referrals manually your final tallies will not include patient names or information, only referral categories.

- After a patient's office visit is complete and he/she is checking out, write the appropriate referral on the patient's encounter form. Write legibly, making it easy for staff to recognize and classify correctly.

- The staff member will transfer this information onto the tracking grid. This person will simply make a hash mark under the correct referral category.

- If a staff member is taking incoming telephone requests for referrals, he/she, too, will make the appropriate hash mark under the corresponding category after the referral is made.

- At week's end, staff can tally the totals for each physician and record this information onto The Referral Summary Log. Each physician may also be given his/her own referral log.

Example

After your visit with Mrs. Jones, you decide she should see an allergist for further evaluation. You write this on the bottom of her encounter form which she presents to the front desk staff (or other designated referral person) upon checkout. The staff person locates your name on the left-hand side of the grid and simply makes a hash mark under the Allergy/Immunology category. At week's end, the staff person adds the total number of referrals you made for the week and transfer these onto the Summary Log. Each referral category is listed separately on the Summary Log for easy evaluation.

OR

Mr. Collins calls the office to renew his ongoing referral to his cardiologist who he sees on a regular basis. After the physician approves the referral, the staff member marks the appropriate category on the grid provided.

Points to Remember

- By generating your own referral utilization data, you will be in a better position to refute data produced by a managed care organization that you believe to be inaccurate.
- Analysis of referral patterns can pro-actively identify reasons for "outlier" patterns. A particular physician may have an unusual amount of female patients; therefore his referrals to OB/GYN may be significantly higher than another physician.
- Many computer systems do not have the specific software routines to track referrals effectively. By using the "dummy" codes, however, you can "fool" your computer into performing this function.
- Your practice management software should be able to generate periodic reports by physician; listing referred specialty, patient name and diagnosis.
- After viewing the data, you may decide to offer services in-house that previously were referred elsewhere.
- Posting of referrals as part of the patient history provides a more accurate record of treatment.
- The hard data you produce with your referral tracking system will prove to be an invaluable tool for your practice in negotiating future managed care contracts.
- The data may be used to set reasonable referral guidelines for new physicians and/or incentive compensation targets.

Summary Log

Dr. _____ Week ___/___/___ to ___/___/___

TOTALS: Allergy/Immunology _____

Cardiology _____

Endocrinology _____

Gastroenterology _____

Hematology _____

Infectious Diseases _____

Nephrology _____

Oncology _____

Pulmonology _____

Rheumatology _____

_____ _____

_____ _____

_____ _____

PT/OT _____

Nutrition _____

Mental Health _____

Surgery _____

Hospital _____

Home Health _____

Lab _____

Week _____/_____/_____ to _____/_____/_____

Physician	All / Imm	Cardio	Endocrin	Gastro	Hematology	Inf Dis	Nephrol	Oncol	Pulmon	Rheum				PT/OT	Nutrition*	Mental Health	Surgery	Home Hlth	Lab	TOTAL:

Date last reviewed/revised: September 2008

4. Referral Coordinator Job Description

http://www.improvingchroniccare.org

PATIENT SUPPORT
TOOL REFERENCE

Referral Coordinator Job Description

We have reviewed many job descriptions for positions labeled “care coordinators,” “referral coordinators,” or “referral managers” and the like. Some position descriptions seek nurses and combine clinical with referral management functions. Some positions are strictly clerical dealing exclusively with information transfer and insurance authorization. What follows is a summary of the responsibilities found in these job descriptions that seem to fall under the referral coordinator role.

Referral and transition coordination includes the following activities:

- Maintain ongoing tracking and appropriate documentation on referrals to promote team awareness and ensure patient safety. This tracking may use an IT database.
- Ensure complete and accurate registration, including patient demographic and current insurance information.
- Assemble information concerning patient's clinical background and referral needs. Per referral guidelines, provide appropriate clinical information to specialist.
- Contact review organizations and insurance companies to ensure prior approval requirements are met. Present necessary medical information such as history, diagnosis and prognosis. Provide specific medical information to financial services to maximize reimbursement to the hospital and physicians.
- Review details and expectations about the referral with patients.
- Assist patients in problem solving potential issues related to the health care system, financial or social barriers (e.g., request interpreters as appropriate, transportation services or prescription assistance).
- Be the system navigator and point of contact for patients and families, with patients and families having direct access for asking questions and raising concerns. May assume advocate role on the patient's behalf with the carrier to ensure approval of the necessary supplies/services for the patient in a timely fashion.
- Identify and utilize cultural and community resources. Establish and maintain relationships with identified service providers.
- Ensure that referrals are addressed in a timely manner.
- Remind patients of scheduled appointments via mail or phone.

- Ensure that patient's primary care chart is up to date with information on specialist consults, hospitalizations, ER visits and community organization related to their health.

If you are hiring someone into a referral coordinator role, the following experience and skills may be important:

- High school diploma, sometimes combined with medical assistant certification
- Strong customer service focus
- Effective verbal and written communication skills
- Teamwork orientation
- Organized and able to manage competing priorities
- Good judgment
- Resourcefulness in problem solving
- Able to take and follow through with delegated tasks and accountability

5. Referral Coordinator Curriculum

http://www.improvingchroniccare.org

PATIENT SUPPORT
TOOL REFERENCE

Referral Coordinator Curriculum

A designated referral coordinator can markedly enhance the efficiency and improve the experience of patients undergoing referrals or transitions in care. Training for this position is not widely available, and most practice teams will find they need to provide training in core competencies. Since the tasks of referral coordinators touch on most parts of health care delivery, and focus on connecting them, a working knowledge of several domains is necessary:

- Primary care delivery and medical records
- Developing and sustaining relationships with community providers and agencies
- Insurance and finance structures
- Communicating effectively with patients and families
- IT system or other tracking method for information transfer and monitoring

The following table provides basic competencies and content for referral coordinator training.

Competency	Training Question	Training Highlights

Understanding of job's purpose	What are high-quality referrals and transitions and why are they important?	• Define referral and transitions.
		• Describe why high-quality referrals and transitions are important.
		  o Discuss differences between Ms. G and Ms. H.
		  o Read introduction of toolkit and description of Care Coordination Model.
		• Discuss high-quality referrals and transitions.

Team work	How is the Referral Coordinator expected to work within the health care team?	• Include clinical lead(s). • Discuss types of questions that Referral Coordinator should ask of the (1) patient's provider or (2) agency to which the patient is being referred to. • Discuss how Referral Coordinator should

		ask these questions (via weekly meetings, post-it notes on charts, e-mail, etc.). • If practice has or will be developing guidelines: review guidelines with Referral Coordinator using patient cases.
Be liaison with "outside" agencies	With whom should the Referral Coordinator develop relationships?	• Identify key community resources that patients frequent. • Discuss the importance of (ongoing) outreach to these groups. o Read Genesys Case Study from toolkit. • Discuss relationship building with appointment clerks at specialist offices and hospitals.
Utilize e-referral or tracking system	How does the Referral Coordinator use the e-referral or tracking system?	• System is for all patients who are being referred or transitioning between health care settings. • Goals are to request referrals, facilitate appointment making, transfer appropriate information and provide population management of this group so that patients have a high-quality referral/transition. • Goals can be met using structured forms, a database using excel or access, or by an electronic referral system. • Systematically assemble each patient's information needs for referral/transition including: o Demographics o Insurance information o Pertinent medical information for referral/transition o Information the patient needs

		about referral such as directions, appointment scheduling, any other expectations o Any logistical barriers/needs that the patient has (interpreter, transportation, etc.)
Understand medical chart	How does the practice organize their medical charts?	• Referral Coordinators who are new to the practice need to understand how medical charts are organized, and how to find information for referral. • Have medical records personnel provide training.
Understand insurance process	What administrative tasks need to be accomplished to assure insurance authorization and coverage?	• Referral Coordinators may also need training on the insurance tasks of the practice. • Have appropriate staff person provide training.
Provide patient support	What barriers and problems do patients face when referred to a specialist or community agency, or when discharged from the hospital or ER? How can these problems be elicited, and what actions might the coordinator take to remedy them?	• Review problems in referrals and care transitions using case examples. • Provide training and role play experience for interactions with patients and staff of outside providers to resolve problems. • Use the e-referral or tracking system to identify problems in the referral process. • Provide training and role play experience for interactions with patients and staff of outside providers to resolve problems.

6. Patient Referral Checklist

This document is designed to be given to patients prior to their specialist visit by the referral coordinator. The document provides information to prepare patients for their upcoming appointments and prompts them to be active participants in the referral process.

PATIENT SUPPORT
TOOL REFERENCE

REFERRAL PREP CHECKLIST

1. Do I know whom I'm seeing?
2. Do I know how to get there?
3. Do I know the reason for the referral?
4. Do I have questions I want answered at the visit? Are they written down?
5. Do I need tests or procedures before the visit?
6. What do I need to do to be ready for the visit?
    a. Bring medications?
    b. Bring records or X-rays?
    c. Change my usual eating?
7. Is there anything else I should know about the visit?
8. Will my insurance cover the visit? If so, will there be co-pays or other charges??
9. Do I know who to call if I have trouble with the referral?
10. What can I expect after the visit?
    a. Who will tell me what to expect next?
    b. Do I need to check in with my primary care team?
    c. Will I see the specialist again?

7. The Care Transitions Program℠

www.caretransitions.org

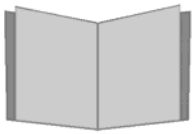
Grateful acknowledgment is made to the Care Transitions Program℠ and Eric A. Coleman, MD, MPH by The MacColl Institute for Healthcare Innovation for permission to include The Care Transitions Program℠ in this toolkit.

8. Patient Activation Assessment Form

Name: _____

Patient Activation Assessment

Level of Performance (Please rate: 1 point each)

				
Medication Management	**Red Flags**	**Medical Care Follow Up**	**Personal Health Record (PHR)**	**Comments**
__ Demonstrates effective use of Medication Management System (medication organizer, flow chart, etc.) __ For each medication, understands the purpose, when and how to take, and possible side effects __ Demonstrates ability to accurately update medication list __ Agrees to confirm medication list with PCP and/or Specialist	__ Demonstrates understanding of Red Flags, or warning signs that condition may be worsening __ Reacts appropriately to Red Flags per education given (or understands how to react appropriately)	__ Can schedule and follow through on appointment(s). __ Writes a list of questions for PCP and/or specialist and brings to appointment	__ Understands the purpose of PHR and the importance of updating PHR __ Agrees to bring PHR to every health encounter	
Sum: /4	**Sum:** /2	**Sum**: /2	**Sum:** /2	

Total Score: /10

9. The Post-Hospital Follow-Up Visit: A Physician Checklist to Reduce Readmissions

Available Online

Coleman EA, The Post-Hospital Follow-Up Visit: A Physician Checklist to Reduce Readmissions, The California Healthcare Foundation, October 2010.

http://www.chcf.org/publications/2010/10/the-post-hospital-follow-up-visit-a-physician-checklist

PATIENT SUPPORT
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10. Coordinating care in the medical neighborhood: critical components and available mechanisms

Available Online

Taylor EF, Lake T, Nysenbaum J, Peterson G, Meyers D. Coordinating care in the medical neighborhood: critical components and available mechanisms. White Paper (Prepared by Mathematica Policy Research under Contract No. HHSA290200900019I TO2). AHRQ Publication No. 11-0064. Rockville, MD: Agency for Healthcare Research and Quality. June 2011.

http://www.pcmh.ahrq.gov

RELATIONSHIPS AND AGREEMENTS
TOOL REFERENCE

11. Colorado Systems of Care/Patient Centered Medical Home Initiative: Colorado Primary Care - Specialty Care Compact.

Grateful acknowledgment is made to the Patient-Centered Primary Care Collaborative by The MacColl Institute for Healthcare Innovation for permission to reprint the Colorado Primary Care - Specialty Care Compact.

http://www.pcpcc.net

Primary Care – Specialist Physician Collaborative Guidelines

I. Purpose

- *To provide optimal health care for our patients.*
- *To provide a framework for better communication and safe transition of care between primary care and specialty care providers.*

II. Principles

- *Safe, effective and timely patient care is our central goal.*
- *Effective communication between primary care and specialty care is key to providing optimal patient care and to eliminate the waste and excess costs of health care.*
- *Mutual respect is essential to building and sustaining a professional relationship and working collaboration.*
- *A high functioning medical system of care provides patients with access to the 'right care at the right time in the right place'.*

III. Definitions

- *Primary Care Physician (PCP) – a generalist whose broad medical knowledge provides first contact, comprehensive and continuous medical care to patients.*
- *Specialist – a physician with advanced, focused knowledge and skills who provides care for patients with complex problems in a specific organ system, class of diseases or type of patient.*
- *Prepared Patient – an informed and activated patient who has an adequate understanding of their present health condition in order to participate in medical decision-making and self-management.*
- *Transition of Care – an event that occurs when the medical care of a patient is assumed by another medical provider or facility such as a consultation or hospitalization.*
- *Technical Procedure – transfer of care to obtain a clinical procedure for diagnostic, therapeutic, or palliative purposes.*
- *Patient-Centered Medical Home –a community-based and culturally sensitive model of primary care that ensures every patient has a personal physician who guides a team*

of health professionals to provide the patient with accessible, coordinated, comprehensive and continuous health care across all stages of life.

• *Patient Goals – health goals determined by the patient after thorough discussion of the diagnosis, prognosis, treatment options, and expectations taking into consideration the patient's psychosocial and personal needs.*

• *Medical Neighborhood – a system of care that integrates the PCMH with the medical community through enhanced, bidirectional communication and collaboration on behalf of the patient.*

Types of Transitions of Care

• *Pre-consultation exchange – communication between the generalist and specialist to:*

1. *Answer a clinical question and/or determine the necessity of a formal consultation.*

2. *Facilitate timely access and determine the urgency of referral to specialty care.*

3. *Facilitate the diagnostic evaluation of the patient prior to a specialty assessment.*

• *Formal Consultation (Advice) – a request for an opinion and/or advice on a discrete question regarding a patient's diagnosis, diagnostic results, procedure, treatment or prognosis with the intention that the care of the patient will be transferred back to the PCP after one or a few visits. The specialty practice would provide a detailed report on the diagnosis and care recommendations and not manage the condition. This report may include an opinion on the appropriateness of co-management.*

• *Complete transfer of care to specialist for entirety of care (Specialty Medical Home Network) – due to the complex nature of the disorder or consuming illness that affects multiple aspects of the patient's health and social function, the specialist assumes the total care of the patient and provides first contact, ready access, continuous care, comprehensive and coordinated medical services with links to community resources as outlined by the "Joint Principles" and meeting the requirements of NCQA PPC-PCMH recognition.*

• *Co-management – where both primary care and specialty care providers actively contribute to the patient care for a medical condition and define their responsibilities including first contact for the patient, drug therapy, referral management, diagnostic testing, patient education, care teams, patient follow-up, monitoring, as well as, management of other medical disorders.*

- *Co-management with Shared management for the disease -- the specialist shares long-term management with the primary care physician for a patient's referred*

condition and provides expert advice, guidance and periodic follow-up for one specific condition. Both the PCMH and specialty practice are responsible to define and agree on mutual responsibilities regarding the care of the patient. In general, the specialist will provide expert advice, but will not manage the condition day to day.

- *Co-management with Principal Care for the Disease (Referral) – the specialist assumes responsibility for the long-term, comprehensive management of a patient's referred medical/surgical condition. The PCMH continues to receive consultation reports and provides input on secondary referrals and quality of life/treatment decision issues. The generalist continues to care for all other aspects of patient care and new or other unrelated health problems and remains the first contact for the patient.*
- *Co-management with Principal Care for the Patient (Consuming illness) – this is a subset of referral when for a limited time due to the nature and impact of the disease, the specialist practice becomes first contact for care until the crisis or treatment has stabilized or completed. The PCMH remains active in bi-directional information, providing input on secondary referrals and other defined areas of care.*

- *Emergency care – medical or surgical care obtained on an urgent or emergent basis.*

IV. Mutual Agreement for Care Management

- Review tables and determine which services you can provide.
- The *Mutual Agreement* section of the tables reflect the core elements of the PCMH and Medical Neighborhood and outline expectations from both primary care and specialty care providers.
- The *Expectations* section of the tables provides flexibility to choose what services can be provided depending on the nature of your practice and working arrangement with PCP or specialist.
- The *Additional Agreements/Edits* section provides an area to add, delete or modify expectations.
- After appropriate discussion, the representative provider checks each box that applies to the commitment of their practice.
- When patients self-refer to specialty care, processes should be in place to determine the patient's overall needs and reintegrate further care with the PCMH, as appropriate.
- The agreement is waived during emergency care or other circumstances that preclude following these elements in order to provide timely and necessary medical care to the patient.
- Each provider should agree to an open dialogue to discuss and correct real or perceived breaches of this agreement, as well as, on the format and venue of this discussion.
- Optimally, this agreement should be reviewed every 2 years.

Transition of Care

Mutual Agreement

- Maintain accurate and up-to-date clinical record.
- When available and clinically practical, agree to standardized demographic and clinical information format such as the Continuity of Care Record [CCR] or Continuity of Care Document [CCD]
- Ensure safe and timely transfer of care of a prepared patient.

Expectations

Primary Care	Specialty Care
☐ PCP maintains complete and up-to-date clinical record including demographics. ☐ Transfers information as outlined in Patient Transition Record. ☐ Orders appropriate studies that would facilitate the specialty visit. ☐ Provides patient with specialist contact information and expected timeframe for appointment. ☐ Informs patient of need, purpose (specific question), expectations and goals of the specialty visit ☐ Patient/family in agreement with referral, type of referral and selection of specialist	☐ Determines and/or confirms insurance eligibility ☐ Identifies a specific referral contact person to communicate with the PCMH ☐ When PCP is uncertain of appropriate laboratory or imaging diagnostics, assist PCP prior to the appointment regarding appropriate pre-referral work-up. ☐ Informs patient of need, purpose, expectations and goals of hospitalization or other transfers. ☐ Notifies referring provider of inappropriate referrals and explains reasons.

Additional agreements/edits: _____

_____

_____

_____

_

Access

Mutual Agreement

- Be readily available for urgent help to both the physician and patient.
- Provide adequate visit availability.
- Be prepared to respond to urgencies.
- Offer reasonably convenient office facilities and hours of operation.
- Provide alternate back-up when unavailable for urgent matters.
- When available and clinically practical, provide a secure email option for communication with established patients and/or providers.

Expectations

Primary Care	Specialty Care
☐ Communicate with patients who "no-show" to specialists. ☐ Determines reasonable time frame for specialist appointment.	☐ Notifies PCP of first visit 'no-shows' or other actions that place patient in jeopardy. ☐ Schedule patient's first appointment with requested physician. ☐ Provides PCP with list of practice physicians who agree to compact principles.

Additional agreements/edits: _____

_____

_____

Collaborative Care Management

Mutual Agreement

- Define responsibilities between PCP, specialist and patient.
- Clarify who is responsible for specific elements of care (drug therapy, referral management, diagnostic testing, care teams, patient calls, patient education, monitoring, follow-up).
- Maintain competency and skills within scope of work and standard of care.
- Give and accept respectful feedback when expectations, guidelines or standard of care are not met
- Agree on type of care that best fits the patient's needs.

Expectations

Primary Care	Specialty Care
☐ Follows the principles of the Patient Centered Medical Home or Medical Home Index. ☐ Manages the medical problem to the extent of the PCP's scope of practice, abilities and skills. ☐ Follows standard practice guidelines or performs therapeutic trial of therapy prior to referral, when appropriate, following evidence-based guidelines. ☐ Resumes care of patient as outlined by specialist, assumes responsibility and incorporates care plan recommendations into the overall care of the patient. ☐ Shares data with specialist in timely manner including pertinent consultations or care plans from other care providers.	☐ Reviews information sent by PCP and addresses provider and patient concerns. ☐ Confers with PCP or establishes other protocol before orders additional services outside practice guidelines. Obtains proper prior authorization. ☐ Confers with PCP before refers to secondary/tertiary specialists for problems within the PCP scope of care and , when appropriate, uses a preferred list to refer when problems are outside PCP scope of care. Obtains proper prior authorization when needed. ☐ Sends timely reports to PCP and shares data with care team as outlined in the Transition of Care Record. ☐ Notifies the PCP office or designated personnel of major interventions, emergency care or hospitalizations. ☐ Prescribes pharmaceutical therapy in line with insurance formulary with preference to generics when available and if appropriate to patient needs. ☐ Provides useful and necessary education/guidelines/protocols to PCP, as needed

Additional agreements/edits: _____

Patient Communication	
Mutual Agreement	
• Consider patient/family choices in care management, diagnostic testing and treatment plan. • Provide to and obtain informed consent from patient according to community standards. • Explores patient issues on quality of life in regards to their specific medical condition and shares this information with the care team.	
Expectations	
Primary Care	Specialty Care
☐ Explains, clarifies, and secures mutual agreement with patient on recommended care plan. ☐ Assists patient in identifying their treatment goals. ☐ Engages patient in the Medical Home concept. Identifies whom the patient wishes to be included in their care team.	☐ Informs patient of diagnosis, prognosis and follow-up recommendations. ☐ Provides educational material and resources to patient when appropriate. ☐ Recommends appropriate follow-up with PCP. ☐ Be available to the patient discuss questions or concerns regarding the consultation or their care management. ☐ Participates with patient care team.

Additional agreements/edits: _____

_____

_____

_____

_____

V. Appendix

- **PCP Patient Transition Record**

1. Practice details – PCP, PCMH level, contact numbers (regular, emergency)

2. Patient demographics -- Patient name, identifying and contact information, insurance information, PCP designation and contact information.

3. Diagnosis -- ICD-9 code

4. Query/Request – a clear clinical reason for patient transfer and anticipated goals of care and interventions.

5. Clinical Data --

- problem list
- medical and surgical history
- current medication
- immunizations
- allergy/contraindication list
- care plan
- relevant notes
- pertinent labs and diagnostics tests
- patient cognitive status
- caregiver status
- advanced directives
- list of other providers

6. Type of transition of care.

- Consultation
- Co-management
  - Principal care
  - Consuming illness
  - Shared care
- Specialty Medical Home Network (complete transition of care to specialist practice)
- Technical procedure

7. Visit status -- routine, urgent, emergent (specify time frame).

8. Communication and follow-up preference – phone, letter, fax or e-mail

- **Specialist Patient Transition Record --Initial**

1. Practice details – Specialist name, contact numbers (regular, emergency)
2. Patient demographics -- Patient name, identifying and contact information, insurance information, PCP designation.
3. Communication preference – phone, letter, fax or e-mail
4. Diagnoses (ICD-9 codes)
5. Clinical Data – problem list, medical/surgical history, current medication, labs and diagnostic tests, list of other providers.
6. Recommendations – communicate opinion and recommendations for further diagnostic testing/imaging, additional referrals and/or treatment. Develop an evidence-based care plan with responsibilities and expectations of the specialist and primary care physician that clearly outline:
    1. new or changed diagnoses
    2. medication or medical equipment changes, refill and monitoring responsibility.
    3. recommended timeline of future tests, procedures or secondary referrals and who is responsible to institute, coordinate, follow-up and manage the information.
    4. secondary diagnoses.
    5. patient goals, input and education provided on disease state and management .
    6. care teams and community resources.
7. Technical Procedure – summarize the need for procedure, risks/benefits, the informed consent and procedure details with timely communication of findings and recommendations.
8. Follow-up status – Specify time frame for next appointment to PCP and specialist. Define collaborative relationship and individual responsibilities.
    1. Consultation
    2. Co-management
        - Principal care
        - Shared care
        - Consuming illness
    3. Specialty Medical Home Network (complete transition of care to specialist practice)
    4. Technical procedure

- **Specialist Patient Transition Record -- Follow-up**

2. Practice details – Specialist name, contact numbers
3. Patient demographics -- Patient name, DOB, PCP designation.
4. Clinical Data –interval history and pertinent exam, current medication and allergies list, new labs and diagnostic tests.
5. Diagnoses (ICD-9 codes)
    1. Note new or changed diagnoses
    2. New or current secondary diagnoses.
6. Care Plan Recommendations –
    1. Communicate opinion and recommendations for diagnosis, further diagnostic testing/imaging, additional referrals and/or treatment.
        1. Technical Procedure – summarize the need for procedure, risks/benefits, with timely communication of findings and recommendations.
    2. Develop an evidence-based care plan that clearly specifies responsibilities and expectations of the specialist and primary care physician:
        1. Medication or medical equipment changes, refills and monitoring responsibility.
        2. Recommended timeline of future tests, procedures or secondary referrals and who is responsible to institute, coordinate, follow-up and manage the information.
        3. Community or medical resources obtained or needed such as Home Health, Social Services, Physical Therapy, etc.
        4. Patient goals –
            - Outline education and consultation provided to patient on med/surgical condition, prognosis and management and summarize their desired outcome/needs/goals/expectations and understanding.
    3. Specify Follow-up status –
        1. Specify Transition of care status – Consultation, Co-management (shared care, principle care, consuming illness), Technical procedure
        2. Specify preference for bi-directional communication (phone, letter, fax or e-mail) – how does specialist prefer to send information to PCP and how does specialist want to be contacted by PCP.
        3. Specify time frame for next appointment to PCP
        4. Specify time frame for next appointment to specialist.

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12. Federal Expert Work Group on Pediatric Subspecialty Capacity. Promising Approaches for Strengthening the Interface between Primary and Specialty Pediatric Care.

PROMISING APPROACHES FOR STRENGTHENING THE INTERFACE BETWEEN PRIMARY AND SPECIALTY PEDIATRIC CARE

Prepared by the

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March 2006

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INTRODUCTION

Across the United States, access to pediatric physician subspecialty care is worsening. Waiting times of 6 months or longer are not unusual for many pediatric subspecialty evaluations both among privately and publicly insured children and in urban and rural areas. Families, primary care providers, managed care organizations, hospitals, medical schools, and subspecialty societies are reporting persistent difficulties.

Several factors account for pediatric subspecialty capacity problems. In addition to the small numbers of physicians in almost all of the 30 pediatric subspecialties,[1] several chronic childhood conditions are increasingly prevalent, including diabetes and obesity, asthma, attention-deficit/hyperactivity disorder, autism, and depression. Further, medical and surgical advances have extended the survival of many children with rare and complex conditions. Moreover, other causes of childhood morbidity, such as low birth weight and prematurity, unintentional injury, violence and abuse, and suicide persist at very high levels. Changing patterns of care and family preferences have also resulted in significant increases in the proportion of care provided by pediatrician subspecialists.[2] In addition, numerous system and financing gaps contribute to the pediatric subspecialty problems that the United States is currently experiencing.

Despite impressive efforts over the last decade to improve the availability of comprehensive care within a medical home,[3] efforts to improve access to specialty pediatric care and collaboration with primary care have only recently been the subject of focused attention.[4] In 2004, the federal Maternal and Child Health Bureau formed an Expert Work Group on Pediatric Subspecialty Capacity, comprised of leaders from the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, the Association of American Medical Colleges, the American Board of Pediatrics, the Child Health Corporation of America, the National Association of Children's Hospitals, Family Voices, State Title V Programs for Children with Special Needs, federal and state agencies, and leading medical schools and universities. Its objectives are threefold: 1) to define the scope of current and projected pediatric subspecialty capacity problems and their effects on morbidity, productivity, quality, and costs; 2) to identify promising approaches for improving collaboration among pediatric subspecialists and medical homes, reimbursement, continuing education and training, and state/regional delivery system networks, and 3) to develop recommendations and a tactical plan to improve access to pediatric subspecialty care within the context of comprehensive, community-based medical homes.

The goal of this report is to identify promising approaches for strengthening the interface between primary care and specialty pediatric care. The Expert Work Group believes that through more effective collaboration with medical homes, the availability of pediatric subspecialty care will be improved and ultimately health outcomes for all children will be enhanced, especially for those with chronic conditions. Without effective collaboration, the availability of comprehensive and high quality

medical homes for children can be compromised. For example, child and family medical history and expertise can be overlooked; preventive and primary care needs can be missed; communication between physicians and families can be delayed or incomplete; clinical information and test results can be unavailable; valuable time and scarce resources can be wasted; medical errors can occur; and dissatisfaction among all parties can be anticipated.[5] The burden on families is particularly acute when information is not shared between primary care physicians and pediatric subspecialists.

To date, much of the literature on collaboration between primary and specialty pediatric care addresses access and referral problems,[6] frequency and type of referrals,[7] and communication issues.[8] Far less has been written about the actual process of collaboration or the necessary elements of a collaborative system of care that need to be in place to support effective and efficient interface. Importantly, a new report, entitled *Enhancing Collaboration Between Primary and Specialty Care Providers for Children and Youth with Special Health Care Needs,* by Antonelli, Stille, and Freeman, describes a new framework for collaborative models of pediatric care, including practical tools for implementing medical home care plans and effective communication strategies with specialists and families.[9] The authors of this report underscore the challenges associated with defining and evaluating collaboration.

> "We are several steps away from being able to adequately evaluate the quality of collaboration in the Medical Home and its impact on patient care and health. We must first agree on what the essential elements of good collaboration are, and then we must find a way to measure them: timely communication, cooperation to increase the proportion of "met needs" for families, and establishment of a care plan multiple providers….When measures are established, health outcomes must be determined or at least health care process measures, that are sensitive to the quality of collaboration."

The examples identified in this report are practical examples that are being used to address pediatric subspecialty capacity problems. These promising approaches were identified through a combination of methods. In addition to conducting a literature review and soliciting examples from the Expert Work Group and other pediatric experts, we sought promising approaches through various listservs, including several from the American Academy of Pediatrics, the Association of Maternal and Child Health Programs, the National Association of Children's Hospitals, and Family Voices. Each of the contributors was then interviewed by staff from the MCH Policy Research Center. The Expert Work Group made the final selection of promising approaches, recognizing that these are just a few examples of the many innovative primary/specialty collaborative approaches that are in place across the country.

Many other promising approaches for improving the interface between primary care providers and pediatric subspecialists are critically important but are not described in this report, including, but not limited to, telemedicine, care coordination/case management, expanded nurse roles, and informatics. We elected, instead, to focus on strategies that have not been widely written about.

The promising approaches in this report address referral approaches (transfer of care), consultation approaches (one-time or limited time), and collaborative management approaches (ongoing shared management and co-located services). They exemplify working examples used in various practice settings but should not be construed as a formal endorsement by the Expert Work Group, the American Academy of Pediatrics, or the Maternal and Child Health Bureau. Instead, they are presented as practical strategies to further the development of effective collaboration between families, primary care providers, and pediatric subspecialists. We encourage readers of this report to share other promising approaches or tools for referral, consultation, or shared management with the Maternal and Child Health Policy Research Center by visiting our website at www.mchpolicy.org or by contacting slimb@mchpolicy.org.

PROMISING REFERRAL PRACTICES

The promising referral approaches described below include examples of referral guidelines, pre-appointment management of referrals, referral management, and pre-visit contacts. For each approach, we provide a description and working examples.

1. Referral Guidelines

Referral guidelines generally define a recommended set of clinical thresholds that indicate the need for specialty care. They may also include specifications about initial diagnosis and management, ongoing management, and criteria for return to primary care. They are often developed by health plans and medical groups based on clinical standards of care and quality and utilization guidelines. As such, they may be specific to that system of care. Two referral guideline approaches are shown below – one for cerebral palsy from *Madigan Army Medical Center* in Tacoma, Washington, and the other for otitis media from the *Institute for Clinical Systems Improvement* (ICSI) in Bloomington, Minnesota. ICSI's health care guidelines are also available for patients and families. (For more information, contact Madigan Army Medical Center's Public Affairs Office at 253-698-1902.)

Madigan Army Medical Center

Clinical Standards | Referral Guidelines | Pharmacy Guidelines | Lab Test Information | Materiel Standards

Guideline Updated: 24 February 2004 Specialty: Developmental Pediatrics

Cerebral Palsy Referral Guideline

Diagnosis/Definition

- Cerebral Palsy describes a cluster of disorders of movement and posture resulting from a static injury to the central nervous system during the "developmental" period (0-18 years). Cerebral Palsy's diagnosis is clinical and highly dependent on a knowledge of normal developmental and its variants. It is not associated with a degeneration or regression of developmental skills.

Initial Diagnosis and Management

- Cerebral Palsy exhibits an evolving clinical picture over time. These clinical changes may be the result of the emergence of other associated deficits. Reevaluation and monitoring is important to differentiate Cerebral Palsy from progressive neurologic disorders, metabolic conditions and hereditary degenerative diseases. Historical identification of risk factors (prematurity, perinatal infection, etc.) and physical exam findings of upper motor neuron abnormalities (hyperreflexia, spasticity, persistence of primitive reflexes, asymmetric extremity use, hypotonia) and delayed developmental milestones may all be suggestive of Cerebral Palsy. This is often a difficult diagnosis to confirm in children less than 15-18 months of age.
- Interventions and treatments for children with Cerebral Palsy should focus on their beneficial functional impact on the child and the family, both now and in the future. Interventions or therapies are not "mandated" simply by the "label" of Cerebral Palsy. A functional approach may be utilized in describing the degree of Cerebral Palsy: "mild"-consistent physical findings with no limitations on ordinary activities; "moderate"-definite difficulties in daily activities often with a need for assistive devices or bracing; "severe"-moderate to great limitations in everyday activities. Though arbitrary, their use may contribute to a common language between primary care and specialty care providers.

Ongoing Management and Objectives

- Interventions or treatment for a particular problem cannot be developed in isolation: Their impact on the other aspects of the patient's functioning must be considered and reconsidered. Particular concerns should be for any loss of previously acquired developmental milestones.
- Findings other than the more obvious spasticity may affect management and decision making for a child with Cerebral Palsy: cognitive deficits, visual spatial deficits, poor balance, weakness, motor planning problems, impaired selective motor control, social and emotional problems, dystonia and dyskinesia.
- Initial assessments by the primary care physicians should address parental and physical concerns in each of these areas. - Evaluations of specific problems by the primary care provider (vision, hearing, seizures) and acute medical concerns should be pursued in parallel with a developmental pediatrics referral.

Indications for Specialty Care Referral

- The complex multisystem involvement of children with this potential diagnosis supports a referral for all children (<22 years old) initially suspected of having Cerebral Palsy, especially in children less than 2 years of age, to the Developmental Pediatrics service. These children may also require multidisciplinary evaluation in the Neuromuscular Clinic (Developmental Peds, Peds Neurology, Genetics, Peds Orthopedics, Peds PT, Peds SWS)
- Children with an established diagnosis of Cerebral Palsy may also be referred for review of current needs (medical care, equipment, educational services, referral to appropriate community agencies and coordination of necessary services/case management) on a 6-12 month basis.
- All referrals for Cerebral Palsy should be reviewed by Developmental Pediatrics clinic prior to release to outside agencies.

Criteria for Return to Primary Care

- Completed specialty care evaluation with established diagnosis and recommendations that can be accomplished at a primary care level.
- A level of involvement that can be managed by a primary care manager with ongoing monitoring by subspecialists.

ICSI

INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT

Health Care Guideline:
Diagnosis and Treatment of Otitis Media in Children

Eighth Edition
May 2004

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Facilitator
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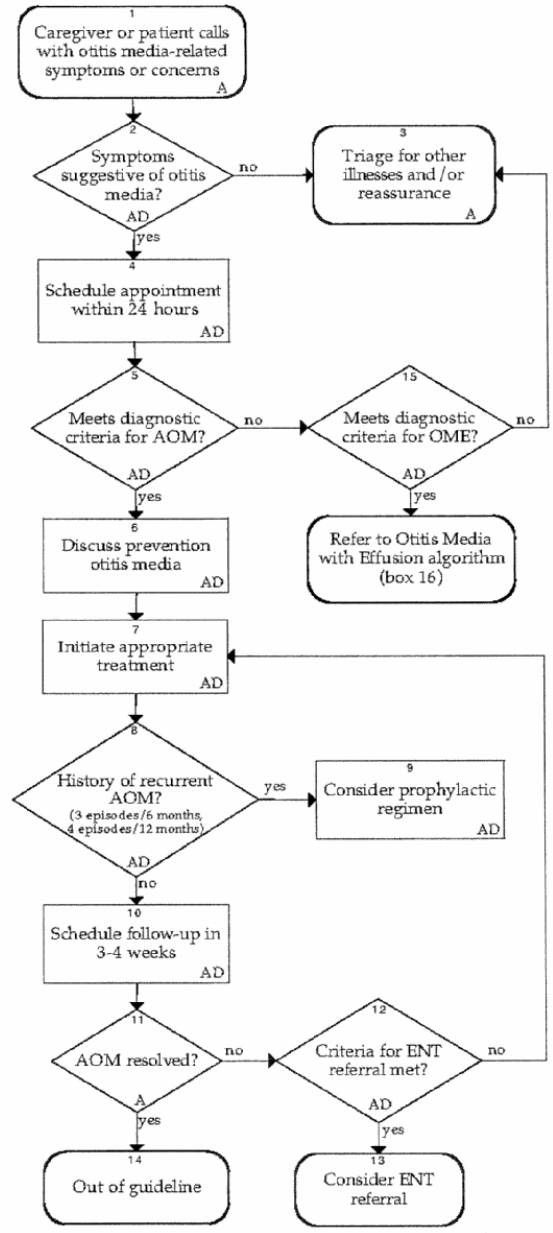
ICSI

These clinical guidelines are designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and are not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition. A guideline will rarely establish the only approach to a problem.



A = Annotation
D = Discussion

2
Symptoms Suggestive of Otitis Media

Children < 3 Years
- irritability
- fever
- night waking
- poor feeding
- coryza
- conjunctivitis
- balance problems
- hearing loss
- otalgia

Children 3 Years and Older
- otalgia
- otorrhea
- hearing loss
- ear popping
- ear fullness
- dizziness

5
Diagnostic Criteria for Acute Otitis Media (AOM)

- Middle ear effusion (seen on exam and/or confirmed by pneumatic otoscopy) with either:
  - local signs of inflammation; or
  - otalgia, otorrhea, irritability, restlessness, or poor feeding.

Diagnostic Criteria for Otitis Media with Effusion (OME)

- Middle ear effusion (seen on exam and/or confirmed by pneumatic otoscopy) or abnormal tympanometry without signs or symptoms of AOM.

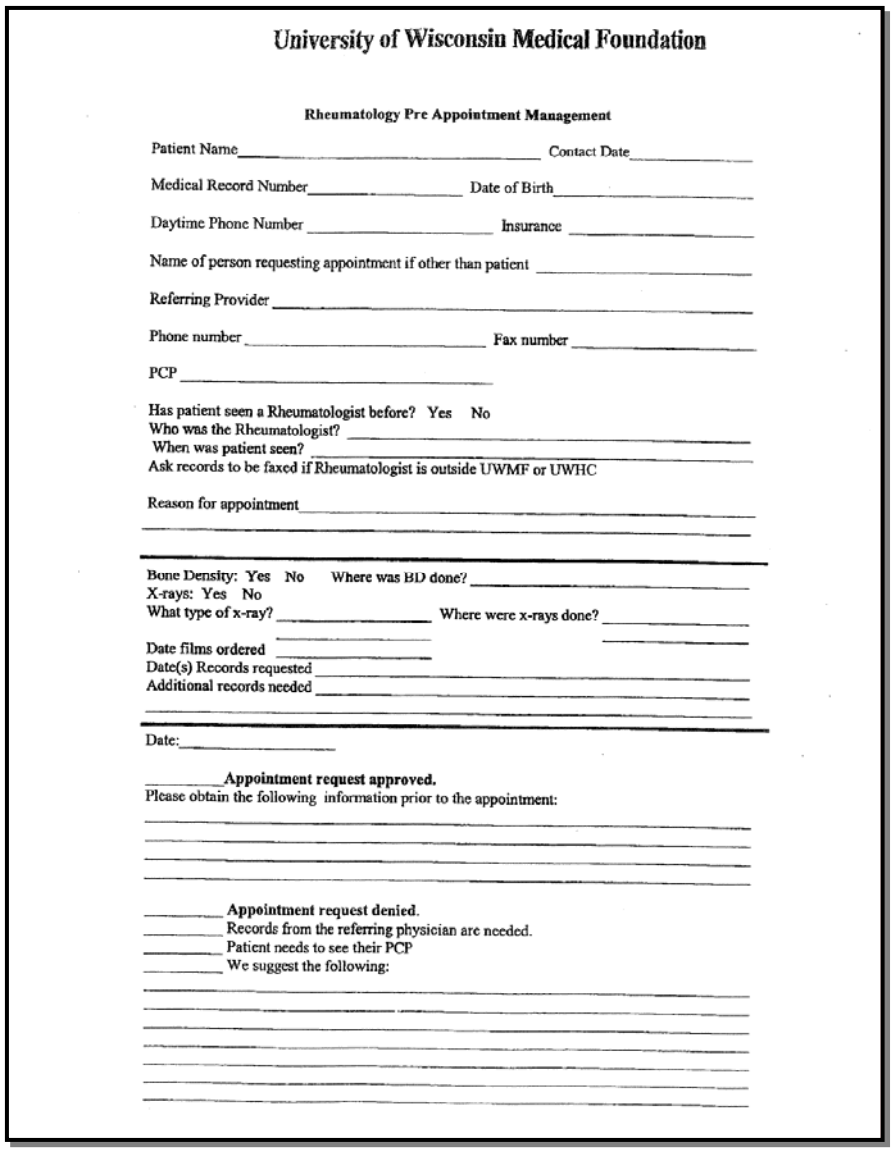
7
Appropriate Treatment

- Antibiotic regimen using criteria for first vs. second line antibiotics
  or
- Observation for mildly symptomatic children

www.icsi.org

2. Pre-Appointment Management of Referrals

Pre-appointment management of patient referrals involves review of prior medical records and other pertinent information before a first-time specialty appointment is scheduled in order to determine the most appropriate care. In the approach we selected, developed by the Rheumatology Department at the *University of Wisconsin Medical Foundation,* the rheumatologist reviews each newly referred patient's records prior to scheduling an appointment. Using a pre-appointment management intake form, office staff collect patient and referring provider information, reason for consultation, and location of pertinent records. This is supplemented with medical records, obtained via email or fax, and lab and x-rays, when necessary. The specialist reviews this information and selects one of the following options: 1) patient with appropriate indication is scheduled and appointments are classified as urgent or routine and also as brief, usual, or extended time; 2) further information may be requested before making a decision to schedule an appointment usually through consultation with the referring physician; 3) care may be continued with referring physician without specialty consultation typically through consultation with the patient and referring physician to provide coordinated care; 4) other more appropriate consultation may be arranged; and 5) appointment is not provided when a referral is inappropriate or records are not provided.



University of Wisconsin Medical Foundation

Rheumatology Pre Appointment Management

Patient Name_____ Contact Date_____

Medical Record Number_____ Date of Birth_____

Daytime Phone Number _____ Insurance _____

Name of person requesting appointment if other than patient _____

Referring Provider _____

Phone number _____ Fax number _____

PCP _____

Has patient seen a Rheumatologist before? Yes No
Who was the Rheumatologist? _____
When was patient seen? _____
Ask records to be faxed if Rheumatologist is outside UWMF or UWHC

Reason for appointment_____

Bone Density: Yes No Where was BD done? _____
X-rays: Yes No
What type of x-ray? _____ Where were x-rays done? _____

Date films ordered _____
Date(s) Records requested _____
Additional records needed _____

Date:_____

_____**Appointment request approved.**
Please obtain the following information prior to the appointment:

_____ **Appointment request denied.**
_____ Records from the referring physician are needed.
_____ Patient needs to see their PCP
_____ We suggest the following:

Evaluation results of pre-appointment management found that only 59% of new patients referred actually required a specialty appointment. Practice access and efficiency were improved. An estimated 45 minutes was initially spent each week by each of three specialists to complete pre-appointment management of more than 100 patients referred. Only about a third of the referrals required more than 3 minutes to review.[10] (For more information, contact Tim Harrington, MD, at Tim.Harrington@uwmf.wisc.edu).

3. Referral Management Initiative

The *Referral Management Initiative* (RMI) *at New York's Children's Health Project* (and also at the Children's Health Project in Washington, DC, Dallas, South Florida, and Los Angeles) is designed to assure that children in medically underserved communities have the necessary supports to access and complete a specialty referral. When a referral to a subspecialist is made, the primary care provider rates the severity of the referral problem on a 3-point scale so that immediate needs can be addressed within 24 hours, urgent needs within 2 weeks, and routine needs as soon as is possible given the availability of specialists. RMI case managers make the appointment with the specialist, and if a child with an urgent need is not able to receive an appointment quickly enough, the primary care provider contacts the specialist. Families also receive appointment reminders by phone, through the mail, or in-person by shelter staff. Prior to the visit, RMI staff ensure that there are no insurance obstacles. RMI covers the costs of transportation to the specialist or provides transportation when public transportation is unavailable, and an RMI staff person is available at the medical center to assist with navigation to the specialist's office. After the specialist visit, an RMI staff person obtains the notes and gives them to the primary care provider. Translation services are also made available to families, if necessary, to ensure that they understand the results of the specialist visit.

Evaluation of RMI found that adherence to medical specialty appointments among homeless families with children increased dramatically from 7% to 61%. Many children who had previously foregone care were able to receive services, and serious health consequences were averted. In addition, RMI resulted in reduced time between referral and appointment dates; fewer transportation, language, and insurance barriers; and fewer communication difficulties between primary and specialty providers.[11] (For more information, contact the Children's Health Fund, 212-535-9400.)

4. Pre-Visit Contacts

Pre-visit contacts are intended to prepare providers in advance of a scheduled preventive or chronic care visit so that the visit can be used to plan for the future, not to review past events. In the model we selected, developed by *Chapel Hill Pediatrics and Adolescents* in North Carolina, children with special health care needs are first identified and assigned a complexity score based on how many chronic conditions they have and their severity. (1= a well-controlled chronic condition; 2= an evolving, unstable chronic condition or 2 well-controlled chronic conditions; 3= 2 or more chronic conditions, one of which is unstable; 4= any technology-dependent patient or patient with moderate/severe cognitive delays; +1 for language barrier; +1 for behavioral disorder; +1 for family/social complications).

Chapel Hill Pediatrics and Adolescents Pre-Visit Contact

Date of contact:_____

Patient_____Chart _____

Phone where reached_____

In order to be best prepared for your child's upcoming visit, we'd like to know:

1. Has your child been to the Emergency Room since your last CHP visit? □ Yes □ No
If yes, where?_____
For what reason?_____
Records of hospital stay?_____
Ourcome/Recommendations?_____
_____

2. Has your child been hospitalized since your last CHP visit? □ Yes □ No
If yes, where?_____
For what reason?_____
Records of hospital stay?_____
Ourcome/Recommendations?_____
_____

3. Has your child seen any specialists since your last CHP visit? □ Yes □ No
Who?_____
Where?_____
Specialist note is in chart □ Yes □ No

4. Has your child had any lab data obtained or Xrays performed since last CHP visit?
What?_____
Where?_____
Results on chart □ Yes □ No

5. Are there any forms or letters you'll need to completed during this visit? □ Yes □ No

6. Do you anticipate your child needing lab work at your upcoming visit? □ Yes □ No

7. What are your three major areas of concern or topics you need addressed at this visit?
1.
2.
3.

Check Scheduling to be sure has adequate time!!!

The child's physician then decides if a pre-visit contact with the family would be helpful, taking into account the complexity score. If so, a care coordinator contacts the family prior to the visit to obtain information on emergency room or specialist visits, hospital stays, lab tests or x-rays that occurred since the last visit and to ask if lab tests are likely to be required during the upcoming visit. The care coordinator completes the pre-visit contact form by asking about issues the family would like to see discussed during the visit. The physician is given the form as well as any consultation notes, lab results, or x-ray reports from other visits prior to the appointment. If lab work is required, appropriate lab slips are prepared, and the child/parent is given the option of application of anesthetic cream to the arm prior to the blood draw.

Evaluation of the pre-visit contacts found high family satisfaction, with 80% reporting that the contact helped identify concerns to be addressed at the visit. More than 80% of families found the doctor's awareness of specialty visits to be helpful. Pre-visit contacts also increased the likelihood that the provider would code for the extra time spent with the child and the complexity of the conditions and that sufficient appointment time would be allocated for the visit. (For more information, contact Jennifer Lail Wartman, MD at jlailmd@earthlink.net)

PROMISING CONSULTATION APPROACHES

The promising consultation approaches described below include examples of child psychiatry consultation and liaison, Title V pediatric subspecialty consultation, and family practice pediatric consultation.

1. Child Psychiatry Consultation and Liaison

Child psychiatry consultation and liaison approaches are designed to assist primary care providers in addressing a broad range of behavioral health needs and can include various elements, such as anticipatory support when serious psychological reactions are expected; case-finding support to assist with early detection of problems; education and training support to provide direct supervision, case conferences, and regular education; emergency response support to address urgent problems; and continuing and collaborative care support to assist with children who have chronic behavioral health problems.

In the approach we selected, called *Targeted Child Psychiatry Services (TCPS)*, based at the *University of Massachusetts Medical Center*, in Worcester, Massachusetts, a regional team was established, comprised of two child psychiatrists, one pediatric mental health nurse clinical specialist with prescribing privileges, and one program coordinator. The team is responsible for providing consultation to primary care providers and, when indicated, transitional services into ongoing behavioral health care for children in central Massachusetts, so long as the point of entry is through the primary care provider. Twenty-two primary care practices participated and were able to obtain real-time psychiatric consultation by simply paging the child psychiatrist. Depending on the needs of the child and family, the consultation resulted in: 1) an answer to the primary care provider's question; 2) referral to the team child psychiatrist for an acute psychopharmacologic or diagnostic consultation, and short-term treatment; or 3) referral to the community mental health system. The team also visited all 22 primary care practices once a year to discuss administrative, patient care, and educational issues.[12]

Evaluation of TCPS found that 1) half of all the referred children could be managed through a telephone consultation with the child psychiatrist within 20 minutes; 2) 16% of the referred children were scheduled within 3 weeks for a 90-minute evaluation to the university's child psychiatry unit that resulted in a diagnosis and treatment plan and these children were then referred back to the primary care provider with consultation between the primary care provider and child psychiatrist to discuss the results of the evaluation and treatment recommendations; and 3) a third of children with more significant needs were referred to community mental health centers and other local behavioral services for ongoing care. In addition to access improvements, satisfaction among families and primary care providers increased.[13] The Massachusetts Behavioral Health Partnership that manages behavioral health services for the state's Medicaid primary care case management program is adopting portions of this demonstration to be implemented on a statewide basis. The new program is called the Massachusetts Child Psychiatry Access Project. (For more information about TCPS, contact Daniel Connor, MD at connor@psychiatry.uchc.edu.)

2. Title V Pediatric Subspecialty Consultation

Many state Title V Programs for Children with Special Needs support a broad array of specialty consultation arrangements and also multidisciplinary clinics to extend access to pediatric subspecialty care in underserved areas. The example we selected, *Pediatric Subspecialty Consultation/Education Support to Medical Home Providers*, comes from the *Illinois Division of Specialized Care for Children* (the state's Title V program for children with special health care needs) and makes available some 20 pediatric specialties for consultation -- medical genetics, cardiology, gastroenterology, hematology-oncology, neurology, developmental pediatrics, ophthalmology, orthopedics, otolaryngology, pulmonology, urology, physical medicine, and plastic surgery. Medical home providers can call any of these pediatric subspecialists to ask about the management of a specific chronic health condition. The specialists provide an educational support role to the primary care provider and are reimbursed $300 to respond to 7 phone consults. Primary care providers are reimbursed for telephone consults with the specialist if the child is enrolled in the Title V program. (For more information, contact Charles Onufer, MD at cnonufer@uic.edu.)[14]

3. Family Practice Pediatric Consultation

In many parts of the United States, particularly in rural areas, family physicians are the primary source of care for children with special health care needs. In the example we selected, *Ventura County Medical Center* operates a network of 8 family practice satellite clinics and a family practice residency program to provide a safety net of services for children throughout Ventura County, California. Using a pediatrician "anchor" and onsite specialist consultations from UCLA, Children's Hospital Los Angeles, and Cedars Sinai, they have been able to provide primary care provider consultation support in pediatric dermatology, endocrinology, cardiology, hematology, neurology, oncology, and pulmonology. Pediatric subspecialists visit monthly with follow-up by the pediatrician to provide ongoing support to family physicians serving as medical homes for children with special needs. (For more information, contact Chris Landon, MD at chris.landon@ventura.org.)[15]

PROMISING COLLABORATIVE MANAGEMENT APPROACHES

The promising shared management approaches described below include examples of service agreements, co-management and multidisciplinary arrangements, and co-located services. For each approach, we provide a description and working examples.

1. Service Agreements

Service agreements are developed in partnership between primary and specialty care to define what can be managed by the primary care provider and the process for making a prompt referral to specialty care and appropriate return to primary care. Service agreements have been used by the *Epilepsy Collaboratives of the National Institute for Children's Healthcare Quality (NICHQ),* the Veterans Administration, and others. They consist of 1) core clinical competencies which describe the conditions that can be handled and the core services that will be provided by the primary care provider and the specialist; 2) referral agreements which include referral guidelines, work-up requirements, and preferred communication processes, including shared care plans; 3) access agreements which define waiting times for emergency and routine referrals, ongoing chronic care management, and questions, considerations, and evaluations; 4) graduation criteria for sending patients back to the referring physician; and 5) quality assurance agreements that identify standards of care, training and education processes, and measures to monitor care standards. The process for developing a service agreement involves two meetings with an objective facilitator. In advance of the first meeting, the primary care provider and pediatric subspecialist complete a draft service agreement and the specialist considers appropriate referral guidelines. At the first meeting, which usually takes 2 hours, the 2 parties identify common ground and resolve any differences in the agreement. Following the meeting, the primary care provider and the specialist seek feedback on the draft service agreement from their office or department. The second meeting is usually quite short; any changes are reviewed, and the two parties sign off. The first 6 to 8 months following a service agreement, when audits and adjustments are made, can be the most challenging.

Evaluation results show benefits for both primary care providers and specialists. Primary care providers are assured that their patients will be seen promptly, and specialists are assured that they will see only those patients requiring their services. Further, service agreements result in reductions in specialty demand, reduced waiting times for the PCP's patients, and more timely feedback from the referral specialist.[16] (For more information, contact Catherine Tantau at ctantau@gv.net.)

2. Co-Management and Multidisciplinary Approaches

Co-management and multidisciplinary team approaches are most often used for the care of children with multiple complex chronic conditions, bringing together various specialty resources available at a children's hospital or academic medical center. In the example we selected, the *Special Needs Program (SNP)* at *Children's Hospital of Wisconsin and the Medical College of Wisconsin* functions as a tertiary

care/primary care medical home partnership for medically fragile children. These are children with uncertain or multiple diagnoses, involving 5 or more specialties, relying on multiple community services, and with frequent hospitalizations and tertiary clinic visits. Other factors considered are distance from tertiary center, major social problems, and transitions. The SNP consists of 4 nurses, 2 part-time physicians, one program coordinator, and one part-time administrative assistant. All patients have a pediatric nurse case manager to assist with communicating between the family and providers, accessing medical and non-medical services, and assuring seamless inpatient and outpatient care. A subset of patients also has a SNP physician responsible for coordinating with the PCP around the clock and preparing clinical care coordination summaries; providing inpatient, outpatient, and emergency room consultations; making home visits; and arbitrating among divergent specialist opinions and treatment options.

Evaluation results show fewer tertiary hospital admissions and shorter inpatient stays, increased clinic visits and specialist encounters, and increased emergency room visits due to SNP physician visits. Close to $5 million was saved in total hospital charges in 2004 among the 46 children served. Although specialist charges increased, hospital charges decreased substantially.[17] (For more information, contact John Gordon, MD at jgordon@mcw.edu.)

3. Co-Located Services

Co-located services are designed to remove access barriers by having both physical and mental health services available in one location. In the example we selected, the *Integrated Mental Health-Primary Care Program* provides primary care and behavioral health services at 5 community-based general pediatric clinics that serve a predominantly Hispanic population in New York City. Psychiatrists and psychologists from Columbia University maintain a practice at each of the 5 clinics and are able to see patients on site as soon as a need is identified by the primary care provider. Psychiatric evaluation and short-term treatment services are available at the medical home, eliminating the need for referral to an outside specialist. Pediatricians and psychiatrists share information through an electronic medical record.

Evaluation results show benefits for both families and primary care providers -- 86% of primary care providers reported improved access to psychiatric services, 95% reported being satisfied or very satisfied with the program, and 90% of families reported satisfaction with the program. Parent anxiety is reduced as is the need for emergency room or crisis services, and primary care providers receive continuing education as a result of their ongoing contact with the psychiatrists. (For more information, contact Daniel Hyman, MD at dah9024@nyp.org.)

[1] The 30 pediatric subspecialties are adolescent medicine, allergy and immunology, anesthesiology, cardiology, clinical genetics, critical care medicine, dermatology, developmental-behavioral pediatrics, emergency medicine, endocrinology, gastroenterology, hematology-oncology, infectious diseases, medical toxicology, neonatal-perinatal medicine, nephrology, neurodevelopmental disabilities, neurology, ophthalmology, orthopedics, otolaryngology, pathology, pulmonology, psychiatry, radiology, rehabilitation medicine, rheumatology, sports medicine, surgical specialties, and urology.

[2] Freed GL, Nahra TA, Venus PJ, Schech SD, Wheeler JRC. Changes in the proportion and volume of care provided to children by generalists and subspecialists. *Journal of Pediatrics*. 2005; 146: 14-19.

[3] A medical home, as defined by Antonelli, Stille, and Freeman, is "an approach to providing comprehensive primary care in a high-quality and cost-effective manner. In a medical home a primary care child health professional works in partnership with the family/patient to assure that all of the medical and non-medical needs of the patient are met. Through this partnership, the primary care child health professional can help the family/patient access and coordinate specialty care, educational services, out-of-home care, family support, and other public and private community services that are important to the overall health of the child/youth and family. The medical home is a model of providing care to patients and families that is accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective." Antonelli RC Stille CJ, Freeman LC. *Enhancing Collaboration Between Primary and Subspecialty Care Providers for Children and Youth with Special Health Care Needs*. Washington, DC: Georgetown University Center for Child and Human Development, 2005.

[4] For more information, see www.mchpolicy.org.

[5] Antonelli et al, 2005.

[6] Kraus MW. Gulley S, Sciegaj M, Wells N. Access to specialty medical care for children with mental retardation, autism, and other special health care needs. *Mental Retardation*. 2003; 41, 329-39. Limb SJ, McManus MA, Fox HB. *Pediatric Provider Capacity for Children with Special Health Care Needs: Results from a National Survey of State Title V Directors*. Washington, DC: MCH Policy Research Center, March 2001. Mayer ML, Mellins ED, Sandborg CI. Access to pediatric rheumatology care in the United States. *Arthritis and Rheumatology*. 2203; 49, 759-65.

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[8] Chatterjee A, Lackey SJ. Prospective study of telephone consultation and communication in pediatric infectious disease. *Pediatric Infectious Diseases Journal*. 2001; 20, 968-972. Forrest CB, Glade GB, Baker AE, Bocian A, von Schrader S, Starfield B. Coordination of Specialty Referrals and Physician Satisfaction with Referral Care. *Archives of Pediatric and Adolescent Medicine*. 2000; 154, 499-506. Stille CJ, Korobov N, Primack WA. Generalist-subspecialist communication about children with chronic conditions: an analysis of physician focus groups. *Ambulatory Pediatrics*. 2003; 3, 147-53. Stille CJ, Primack WA, Savageau JA. Generalist-subspecialist communication for children with chronic conditions: a regional physician survey. *Pediatrics*. 2003; 112, 1314-20.

[9] Antonelli, 2005.

[10] Information based on an interview with Dr. Timothy Harrington, July 2005. Also, Harrington JT, Walsh MB. Pre-appointment management of new patient referrals in rheumatology: a key strategy for improving health care delivery. *Arthritis and Rheumatism*. 2001:45,295-300.

[11] Information based on Redlener I, Grant R, Krol DM. Beyond primary care: ensuring access to subspecialists, special services, and health care systems for medically underserved children. *Advances in Pediatrics*. 2005; 52, 9-22.

[12] Information based on an interview with Dr. Daniel Connor, August 2005. Connor DF, et al. Targeted child psychiatry services: a new model of pediatric primary clinician-child psychiatry collaborative care. *Clinical Pediatrics*, forthcoming.

[13] Levin A. Psychiatrists' creativity closes rural treatment-gap. *Psychiatric News*. 2002; 40.

[14] Information base on an interview with Dr. Charles Onufer, July 2005.

[15] Information based on an interview with Dr. Chris Landon, July 2005.

[16] Information based on an interview with Catherine Tantau of Tantau and Associates, August 2005; Murray M. Reducing waits and delays in the referral process. *Family Practice Management*. March 2002.

[17] Information based on an interview with Dr. John Gordon, Medical Director of Special Needs Program and a presentation, "A Tertiary Care Center Special Needs Program Decreases Hospitalizations of Complex, Medically Fragile Children with Special Health Care Needs," presented at the Pediatric Academic Societies Meeting, May 2005.

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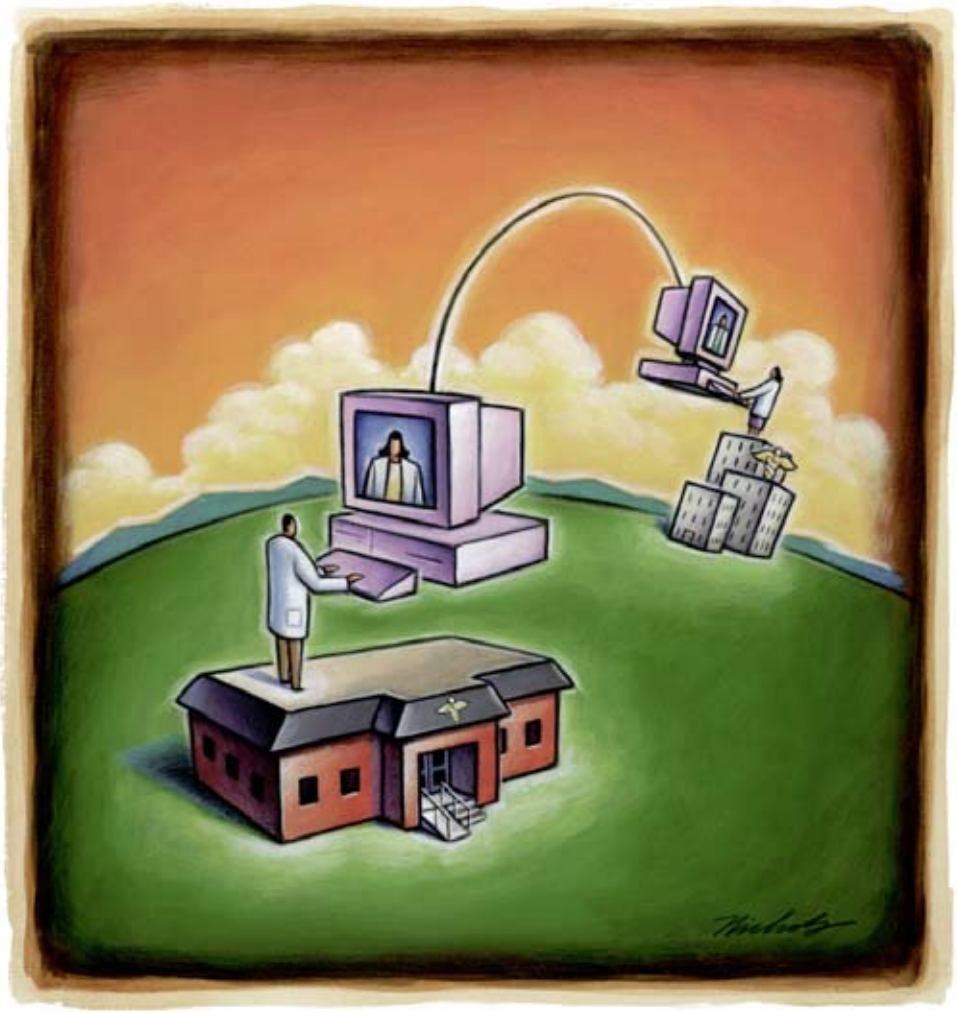
16. Bridging the Care Gap: Using Web Technology for Patient Referrals

http://www.chcf.org/publications/2008/09/bridging-the-care-gap-using-web-technology-for-patient-referrals

California HealthCare Foundation



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September 2008

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Prepared for
CALIFORNIA HEALTHCARE FOUNDATION

by
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September 2008

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About the Foundation

The **California HealthCare Foundation** is an independent philanthropy committed to improving the way health care is delivered and financed in California. By promoting innovations in care and broader access to information, our goal is to ensure that all Californians can get the care they need, when they need it, at a price they can afford. For more information on CHCF, visit us online at www.chcf.org.

Contents

I. Introduction

Referring patients for follow-up or specialty care is an extremely disjointed process, regardless of whether the referring providers sit in a primary care practice, community health clinic, or a hospital emergency room. Typically, all participants—patients, referring and receiving providers and their administrative staff, and the payer—must rely on paper, telephone calls, and faxes for communication and coordination. The result is numerous opportunities for miscommunication (or lack of communication), delays in the referral or follow-up care, and the lack of a viable method for referring providers to check on progress.

For patients, the typical process means being sent off with a piece of paper and instructions about where to seek care on their own. They may not have an existing relationship with a primary care provider or specialist, and may need to contact a number of potential care sites before they find one that is taking new patients or has an appointment available within a reasonable amount time. Physicians and other clinicians who refer patients to another provider know that many of the referrals they initiate are likely to be delayed, and some may not happen at all. The resulting gaps in care are frustrating for both physicians and patients, can have serious health consequences—particularly when urgent follow-up is needed—and contribute to costs of care when patients with nowhere else to turn seek care in emergency rooms.

Innovative Approaches to Arranging Care

Provider organizations are increasingly turning to Web-based technology to assist them in transforming the unmanageable paper process into a more standardized program that is more likely to connect patients with the referral and follow-up care they need.

Introducing automation promises to bridge the communication gap between referring and receiving providers, and in some cases, the payers underwriting the patient's care. It can also give the providers involved information about the status of individual referrals, how well the program is working, and trends in the volumes and types of referrals being managed. For patients, the automated process can match them with a specific provider that not only has the capacity to provide care, but is also willing to accept their insurance or self-pay status. They can leave with a

successful connection, and sometimes, even an actual appointment.

When the Web-based applications include the ability to create rules that request and respond to information about individual referrals, the process can be further expedited to integrate clinical rules for appropriateness set by specialists and ensure that prior diagnostic work-ups are in place. This new capability provides the ability to transform the process by ensuring that referrals are appropriate, as well as by communicating patient-specific information between referring and receiving providers.

All in all, the goal is to have a more orderly, reliable, and successful referral process.

To introduce other provider organizations to these possibilities, the California HealthCare Foundation commissioned research to identify and describe the Web-based applications being used by all types of providers nationwide. Because this product niche is quite new, identifying all of the participating users proved challenging. The research team used Web research and outreach to many associations and individuals to identify organizations with operating programs and the vendors who have developed and, in most cases, sell Web-based applications designed for this purpose. However, given that this area has yet to evolve into a clearly defined segment of the software marketplace, the authors believe that while the identified products are illustrative, the portrait is probably not complete.

The purpose of the report that follows is to provide an overview of the Web-based applications for arranging referral and follow-up care and the types of practice sites they support. The results suggest that while this innovation has the potential for broad adoption, the initial steps have come from public health systems and other safety-net providers. These organizations are targeting two important types of patient hand-offs that often fail to occur: referrals by emergency departments for patients in need of follow-up care, and referrals by primary care providers for patients who need to see a specialist or ancillary care provider.

Eight Web-based applications are described in this report, five of which are now commercially available. All take advantage of Web technology, greatly reducing the need to purchase additional user devices for participating care sites. The systems are administered by an application service provider, which saves the purchasing organization from the technical challenge and expense of hosting the software on its own servers.

In addition to an overview of the software systems, this report includes an explanation of their functions, characteristics, and technology requirements; considerations for organizations that may wish to implement them; a summary of success and challenges experienced by early adopters; and four case studies from the field.

Further information about vendors and developers and the capabilities of the identified software solutions is provided in the appendices.

II. Overview

Each of the Web-based referral systems reviewed for this report is designed to more effectively link patients who need specialty, follow-up, and primary care with appropriate care sites and providers. This effort includes supplying the referring providers with tools they can use to:

- Initiate the referral while the patient is being seen;
- Track and review the referral process;
- Identify and control referrals by factors such as payer and plan, reason for referral, work-up, schedule openings, and other conditions;
- Facilitate communication with the receiving provider about the referral, and vice-versa; and
- Help patients understand and manage their referrals, using methods such as printed hand-outs at the point of referral, letter generators, and reminder notices to contact the patient.

Types of Referrals and Settings

The programs identified in this study were initially developed to address one or both of two referral situations:

- Emergency room providers referring patients to primary care clinics; and
- Primary care providers referring patients to a specialist physician or ancillary care provider (such as an imaging center).

Certainly, other referral situations—such as an attending physician referring a patient to primary care upon discharge from the hospital, or an emergency-room physician referring a patient to a specialist—could also benefit from a more organized approach to ensure access to follow-up care. However, although vendors and developers of Web-based applications mentioned such referral scenarios and their systems are able to facilitate them, examples from the field were not provided, and interviews and case studies could not be performed.

Applications Identified

Eight different Web-based software applications are discussed in this report. Six of the applications were initially developed to facilitate referral from primary care to specialty care. Of these, one was primarily developed for a telemedicine network (Eceptionist) and another has since expanded to include emergency department, hospital, or specialty referral back to the primary care provider (Cook County IRIS). Two applications were designed to accommodate referral from the emergency department to primary care providers (My Health Direct, ER Connect).

Additionally, the reviewed applications represent a variety of provider systems. Four programs (San Francisco eReferral, Los Angeles RPS, Cook County IRIS, Santa Clara Access Express) primarily facilitate referral from both public and nonprofit community clinics into public specialty clinics. These are essentially closed systems where public providers function as the primary source of specialty care for safety-net patients. In contrast, the Eceptionist and ERP/ERS systems are designed for coordination between private primary and specialty care providers. Lastly, the two emergency department referral systems are used to manage referrals between community hospitals and private community clinics or independent primary care providers.

Not surprisingly, distinctions in both the care setting and provider system characteristics often highlight differences in how the applications function and the way they were designed. Four of the reviewed systems are homegrown solutions developed to meet the needs of specific provider organizations; one is now available as a commercial product. The other four were purchased from commercial vendors and modified as needed.

Table 1. Applications and Products

PRODUCT	VENDOR OR DEVELOPER	REFERRAL SITUATION	PROVIDER CONNECTION
eReferral	Developed by San Francisco General Hospital	Primary care provider to specialist	Public and community clinics to public specialty clinics
RPS	Developed by Los Angeles County Department of Health Services	Primary care provider/specialist to specialist	Public and community clinics to public specialty clinics
IRIS	Developed for Cook County Health and Hospitals System by Proximare Health, Inc., now offered by Proximare Health, Inc.	Primary care provider to specialist/ancillary Emergency department/hospital to primary care provider	Public and community clinics to public specialty clinics
Access Express	Customized for Santa Clara Valley Health and Hospital System by Health Access Solutions, now offered by Health Access Solutions	Primary care provider to specialist	Public and community clinics to public specialty clinics
Eceptionist	Eceptionist, Inc.	Primary care provider to specialist/ancillary Primary care provider to telemedicine provider	Developed for telemedicine; now being used by large health systems and networks
ERP/ERS	inetMD, Inc.	Primary care provider to specialist	Community clinic to independent specialists
ER Connect Clinic Connect	Developed for Orange County Health Care Agency by NetChemistry, Inc.	Emergency department to primary care provider	Private hospitals to independent primary care providers and community clinics
My Health Direct	Global Health Direct, Inc.	Emergency department to primary care provider	Private hospitals to community clinics

III. Functions and Capabilities

This chapter reviews the functions and capabilities available in Web-based solutions for provider organizations. Some are common to all of the applications, others are defined by the variations in program design they support.

Details concerning the functions and capabilities in the eight identified applications are provided in Appendix B.

Referral Initiation

In all eight systems, a user initiates the referral by completing an online Web-based request form at the point of care. New patients must be registered, a step requiring entry of a small number of data elements (demographics and insurance information). Most vendors reported that the application can support downloading patient demographics from the local registration or billing system, but manual entry remains the most common method.

The applications reviewed in this report vary in the extent to which they allow referring providers to initiate a referral based on defined criteria. Most limit the available search terms to basic categories such as type of service or diagnosis. In some systems, the pick list can be further filtered according to the patient's insurance type or plan, home Zip code, access to public transportation, and any gender or language preference for their health care providers. The criteria are set for each participating receiving site, enabling the referral process to operate according to these terms of participation.

The desirable mix of filtering criteria depends upon the type of program and the setting. Within a single organization that provides both primary and specialty care under the same corporate umbrella or a community network of providers all committed to caring for any patient regardless of their insurance status, insurance type is not needed for matching. In applications designed to support appointment scheduling, search criteria also include an open appointment slot for the type of service being requested. The importance of match criteria such as distance from home and accessibility via public transportation depends on location and the patient population served.

Tracking and Notification

All of the eight systems create a referral record for each service request and provide some sort of notification at the receiving site. In addition, all are designed so that staff members at the receiving sites can be system users, reviewing incoming referrals electronically, sending and receiving referral-related messages and notifications, and viewing referral status information. However, the systems are also designed to communicate with some or all receiving sites via one-way fax or mailed paper copies of referrals. Providing this more basic option (which replicates the traditional manual process) is important to permit participation of receiving sites not able or willing to invest in the infrastructure necessary for online notification.

All of the products permit users to view the status of any particular referral, although the scope of tracking depends upon the information captured during the referral process. At the most basic level, the system records the time and date that each referral request was initiated. Depending upon the application and how many other referral-related tasks it automates, referrals can be tracked according to:

- Appointment booked;
- Appointment kept (or missed);
- Authorization obtained; and
- Report back to referring provider received.

For staff assigned to monitor referrals so that corrective action can remedy delays and roadblocks, the systems also provide lists of referrals in delayed status (i.e., appointments missed, referral not completed within 30 days, etc.). Some of the applications also notify participating service sites when the status of a referral has changed via an alert sent to the system inbox, sometimes with a parallel electronic mail notice to an external email system.

Patient notification is accomplished by printing personalized instructions that can include an appointment date and time or where to call, contact information for the receiving site, and sometimes directions, public transportation options, and instructions relating to the requested service. One system includes the option to notify patients of booked appointments via interactive voice response.

Clinical Review/Approval

Receiving providers (specialists in particular) typically review referrals before scheduling an appointment to ensure that the requested type of service or provider is appropriate and that all the relevant information will be available when the patient is seen. The Web-based applications described in this report offer different approaches to automating clinical review and approval in the referral process, and broadly reflect the unique provider culture and organizational arrangements that characterize their systems. In all cases, however, referral review and approval processes are standardized.

For example, whereas the two referral systems that link emergency departments with primary care providers (My Health Direct, ER Connect) do not include clinical review requirements, each of the six specialty referral systems have defined review processes. Four of these systems rely on manual review of referral requests by receiving providers, who can then select from a menu of options to accept, deny, or request additional information for referrals.

Two applications (Santa Clara Access Express, Cook County IRIS) have rules-based auto-approval, though they differ greatly in design. The IRIS system incorporates complex branching logic into the questions and answers used to capture information, whereas Access Express requires referring providers to respond to a uniform and limited number of questions for each specialty. The solutions permitting rules-based auto-approval also give referring providers the option to appeal denials and route the record to an electronic inbox where it is reviewed by a team or designated person of authority in the specialty practice.

In all the applications, the clinical review and approval requirements were designed to respond to the unique nature of the referral network and under the leadership of participating clinicians.

Information Exchange

As with the clinical review/approval process, all eight applications support standardized requirements and processes for referral submission and information exchange. All allow referring providers to submit free-text comments about the diagnosis or procedure for which the patient is being referred as part of the referral request. A few also allow other pertinent patient information, such as lab, medication, and claim data, to be linked to the referral.

Each of the Web-based systems is designed to facilitate a feedback loop between referring and receiving providers. In addition to responding to referrals with additional information or work-up requests and the posting of acceptance/denial decisions, most of the systems allow the referring provider to attach and electronically transmit free-text notes or document files (notes, images, test results) scanned, pasted, or downloaded from an electronic health record (EHR).

Scheduling

Though the systems reviewed here have contributed to more timely and transparent referral approvals, most do not yet offer real-time scheduling. More commonly, they support preliminary steps toward arranging care by facilitating referral approval, identifying the appropriate care site or provider, notifying both parties to the match, and indicating that one or the other is to initiate a telephone call to book the appointment. Two of the eight applications allow for real-time scheduling using a "stand-in" approach (discussed in the following chapter). Receiving care sites can post available appointment slots in the application for direct booking from the referral site. This makes it possible for patients to leave with a booked appointment.

Table 2. Core and Variable Functions of Web-based Referral Systems

FUNCTION	CORE	VARIABLE
Clinical Review/ Approval	• Review/approval process standardized in each setting	• Manual vs. rules-based review/ approval • Approval/denial/ redirect options • Provider communication/ feedback tools on initiated referrals
Information Exchange	• Receiving provider can request more information/work-up • Information submission requirements standardized in each setting • Referring providers can add free-text notes	• Format and level of information sent with referrals • Link to EHR • Format of progress note (scanned, pasted, downloaded from EHR)

Scheduling would be accomplished more easily if the referral management applications were electronically linked to the local scheduling system, allowing users to book appointments directly. This enhancement is on the high-priority wish list for one of the eight systems, but none now operate in this way.

Administrative Approval and Insurance Screening

The eight systems support a number of approaches to integrating insurance/payer screening directly into the referral process, generally based on the requirements of participating providers. The most basic matches each patient request with a receiving provider who will take the patient's type of insurance without involving the payer directly. In all other respects, the receiving site is then responsible for determining patient eligibility, coverage, and, if needed, authorization of the referral. At the other end of the range, some applications can route authorization requests electronically to the payer and allow posting of authorization status (by the insurer or someone in the provider site who obtains authorizations via telephone) so that it can be used as a way to track referrals.

Data Analysis and Reporting

The ability to generate referral reports is one of the most valued benefits of initiating a Web-based referral system. Each of the applications identified here has a library of available standard reports that users can request for a particular date range and other standard variables (e.g., referral type, receiving provider type). All but two also offer a report writer that provides more flexibility to tailor reports addressing a particular management concern. (The two currently lacking this capability have included it in their enhancement plans.)

IV. Technology Characteristics and Requirements

All of the applications reviewed in this report were developed to take advantage of Web technology. As a result, the vendors (or sponsoring agencies in the case of homegrown systems) offer the products as an application service provider (ASP), meaning that the vendor or sponsor provides and maintains the software on its own servers. All of the vendors are also willing to sell the application and turn hosting over to the customer, although remote hosting remains the prevailing model.

IT Requirements/Hardware

Because the applications are Web-based, IT requirements for referral and receiving sites are minimal. Sites where referrals are initiated need one or more computers with Internet access (preferably high-speed), and at least one printer. More computer workstations are required when physicians and other providers interact with the system directly to initiate and track referrals. If the referral process includes attaching information scanned from paper medical records, referring sites also need one or more scanners.

In sites that receive referred patients, workstations and printers are likewise needed if staff members manage the application online—that is, perform tasks such as posting available appointments or reviewing/approving incoming referral requests. In a number of the systems reviewed for this report, however, the only requirement for receiving providers is a fax machine.

Interfaces

Several vendors claim that their applications can support interfaces with external applications used in customer sites. However, with the exception of simple registration interfaces for downloading minimal patient demographics, customers operate the identified system in isolation. The difficulty of creating interfaces with legacy systems from disinterested vendors is often cited as the major barrier.

Registration

The most common interface among the eight systems reviewed for this report links the referral software to patient registration systems or modules. The interface both helps identify the patient as an eligible care recipient and reduces user workload by automatically

downloading demographic data (such as address, telephone number, etc.) that otherwise must be entered manually. It is possible to submit referrals without this interface, however doing so addresses one of the biggest user complaints: having to re-enter data that already exists in electronic form.

Scheduling Interfaces

Another useful interface that has yet to be incorporated into most Web-based applications is direct access to scheduling systems for real-time booking of patient referral appointments by either the referring or receiving provider. Except for one product that also incorporates a scheduling application, no systems reviewed for this study are being used with a scheduling interface.

It is important to note that the scheduling provided by applications described in this report refers to "second-hand" or "stand-in" scheduling, in which receiving providers manually post available appointment blocks, and then enter those that are filled back into their scheduling systems.

EMR/Patient Record Interfaces

Two types of EMR/patient record interfaces were identified in the programs and software applications reviewed for this study:

- One program includes a link to the hospital clinical information system used to report progress notes. It is used by referring providers (who are notified when the note is available) to review specialist consult notes and reports.
- The other is an option available with one application to provide direct access to the program from within ambulatory EMR systems, such as during order entry or charting. It is not being used by any providers examined for this study.

Clinical Guidelines

Direct access to clinical guideline content (such as Milliman and other commercial products) is available with one system. The vendor provides a link that users can employ during referral record creation and review. Commercial guidelines require a separate license fee.

Other systems include options to insert specific guideline content (developed by customer organizations) into modules such as rules-based questions and answers, and work-up questionnaires (for example, "Is the patient currently using a corticosteroid inhaler?").

Planned Enhancements

The most common enhancements on developers' drawing boards are new interfaces, including those for:

- Demographic data downloads;
- Direct appointing booking;
- System event downloads (such as kept and no-show appointments);
- Direct access to EMRs for patient record reporting; and
- Direct access from EMRs to facilitate the creation of referral records.

Other planned responses to user requests include report writers (to enhance standard reports and limited ad-hoc reporting tools), rules-based approval with branching-logic questions, and options to develop custom rules-based questions by payer and plan.

V. Considerations in Getting Started

The research for this report highlighted a number of important considerations for the development and implementation of Web-based referral systems:

- Most are designed to formalize existing provider relationships, rather than develop new affiliations;
- It is important that the systems be configured to help providers define and manage the terms of their participation according to patient volume, payer type, processes to ensure clinical appropriateness, and other considerations;
- Developing new clinical review/approval processes requires clinician buy-in and should reflect local perspectives and system characteristics; and
- Implementation is easy; however, developing provider networks, terms of participation, and clinical review/approval processes requires time and commitment.

Developing a Network

A key element of all eight Web-based referral programs was agreement about the roles to be played by referring and receiving sites and providers. In all of the examples identified, most if not all participants were part of the public/private safety net or had a long-standing history of working together on behalf of a shared patient population. The simplest path for other organizations considering a more formalized referral relationship is to start with the network of providers that is already closely affiliated.

To establish similar programs where such close affiliations and history of working together do not exist, the necessary partnerships involve:

- Agreements from primary care clinics and practices to provide primary care to patients diverted from emergency departments or referred for follow-up care by an emergency department; and
- Agreements from specialist and ancillary providers to provide referral care to patients referred from primary care clinics and practices.

Terms of Participation

For the Web-referral system users reviewed for this report, the challenge was less about finding providers willing to receive referred patients than establishing the details about the flow and pre-conditions: how many patients, what types of insurance, and how to ensure clinical appropriateness. Control of all of these aspects by the receiving sites and clinical departments proved to be essential, even among closely affiliated participants.

For example, when asked to make a designated portion of the clinic or practice schedule available to referring providers for direct booking of appointments, many are reluctant to participate. Doing so requires not only blocking the slots in the local scheduling system, but also updating the local schedule when a referring site books an appointment. To navigate this problem, successful partnerships in the identified programs found it crucial to leave control in the hands of the receiving site, allowing it to post appointments and make adjustments as necessary in the referral system.

Rules for Clinical Review/Approval

In persuading specialists to participate, several organizations found another key element was the ability to replace the traditional manual review with questions geared to gaining sufficient background information to determine the clinical appropriateness of a given referral, and to deny or defer referrals when clinical appropriateness could not be established. Building this into the program required a prolonged process to establish consensus regarding the guidelines to be used, as well as a software application that could incorporate them into the referral request transaction. In one organization, it took a full year to develop, review, and gain approval for the initial set of rules. These addressed the ten most common diagnoses/reasons for referral for each specialty department, and limited the considerations to be employed in approving or denying each type of referral to no more than three.

Considering the Provider Setting

An important consideration is the provider setting in which the system is being implemented. Not surprisingly, in those where receiving providers all fall within the same corporate umbrella (e.g., public specialty clinics), there are more opportunities to specifically define shared clinical guidelines and approval criteria. In an open referral setting, however, the systems are more likely to emphasize clear processes, appropriate availability of information, and provider control over terms of participation.

The Implementation Process

Except for the work required to establish clinical guidelines and rules, implementation was reported to be simple and fairly straightforward.

The use of Web-based applications simplified ensuring user access. Several interviewees reported that all participating sites already had computer workstations with broadband access. Others successfully funded necessary purchases with grants or temporarily instituted paper-based referrals where providers did not have the ability to enter referrals directly.

The fact that all commercial systems were offered as an ASP further simplified the implementations. Vendors typically performed both initial application configuration and set-up, support that largely obviates the need for IT-savvy staff in the customer sites.

System Interfaces

The other technical consideration is the ability to interface with external systems. For obtaining patient demographic and insurance information at the front end of the referral process, the desirable interfaces are with registration, practice management, and possibly EHR applications. Interfaces with scheduling systems allow receipt of information updates concerning booked and kept appointments (and potentially, direct scheduling). The ability to attach electronic clinical documentation from an EHR would also be desirable. Interfaces add

technical complexity and cost; they are limited in the identified referral programs to fairly simple links for downloading information such as a patient address and telephone number. One program also includes an interface to the enterprise patient care documentation system to permit referring providers to view consultation reports and other communications from specialists.

Costs

Costs for purchasing, implementing, and operating the systems vary according to multiple factors, including whether the system is homegrown or purchased and whether it is hosted remotely.

Application Licensing, Subscription, and Maintenance

All of the commercial systems identified in this report are offered in the ASP model, in which the customer avoids both high upfront costs for purchase, implementation, and technology infrastructure, as well as the risk of a prolonged implementation process. These characteristics make a big difference to organizations wishing to offer a more manageable and effective referral process to their providers and patients. This is particularly true for organizations in the safety net, which appear to be most engaged in this innovation so far.

The vendors of these systems charge a straight subscription fee or a one-time licensing or installation fee, plus subscription and/or maintenance costs (see Appendix B for details). Straight subscription fees are yearly charges for the entire network; subscriptions used in conjunction with licensing and other one-time fees are based on volume metrics such as number of users. The common industry maintenance fee is 18 percent of the license purchase price. Some vendors also include fees for special services, such as assistance with clinical rules development.

Hardware

Since the typical approach to application hosting is the ASP model, provider organizations need only ensure that sufficient Web-enabled workstations, printers, and faxes are available in user sites. Interviewees from the identified programs all reported that emergency departments, physician practices, and clinics almost always have these devices in place for other uses. One program, however, needed a sufficient quantity of additional user devices that external grant funding was arranged to cover the cost.

Implementation and Vendor Support

Costs for vendor support are associated with each of the implementation efforts discussed above. Associated vendor charges are typically bundled into fees for one-time installation support.

Other Implementation Costs

Provider organizations implementing one of the identified Web-based applications incur additional costs, primarily in staff resources devoted to set-up and training. Dedicated staff include a system administrator who is also heavily involved in all of the initial implementation activities such as functionality, user access assignment, and typically, arranging and delivering training. Long-term tasks for this staff role are less time-consuming, but include managing system upgrades and problem solving.

Clinicians from multiple departments and disciplines must also devote significant time and effort to the introduction of a Web-based referral system, particularly when clinical rules are being developed for specialty referrals.

Homegrown Solutions

In terms of functions, the most complex solutions identified for this report were custom-developed for specific provider organizations or communities. (Two of these are now also commercially available, and dissemination plans are underway for the others.) Although specific cost information is not available, it is presumed they were substantial. In at least two cases, significant grant funding helped to underwrite the development.

VI. Successes and Challenges

Sponsors of the referral programs reviewed in this report—public health systems and safety-net providers—have limited resources for research. In addition, the software applications themselves are relatively new. As a result, formal impact studies have not been undertaken, and information on successes and challenges is mostly anecdotal. However, the anecdotal evidence obtained from the case studies summarized here suggests some initial progress in meeting program goals. This chapter describes those successes from the perspectives of the program administrators, referring providers, and receiving providers. The challenges identified are more generic and are discussed from a single point of view—that of overall program management.

Program Sponsors

Improved data collection and reporting capability was a common benefit of the Web-based referral applications highlighted by program administrators. Several reported that prior to implementation of the referral applications, services were run without the accurate information on referral volumes, patient characteristics, and other information needed to understand the nature or quality of referral patterns, assess capacity shortages, or allocate resources. Generally, the only information source was paper-based logs, which were often incomplete, unreliable, and in some cases, rarely used.

Administrators reported that immediate access to reliable, up-to-date information has placed them in a much stronger position to identify and understand their referral patterns and target improvements in the referral process; use data to identify mismatches between demand and supply and justify requests for more resources; and track and demonstrate improved processes, efficiencies, and outcomes resulting from the program. As an example, the Santa Clara Valley Health and Hospital System identified previously unrecognized outlier utilization among patients and departments. These discoveries allowed them to target improvements in referral and scheduling practices that had been operating incorrectly for several years. Additionally, the San Francisco eReferral program has been able to track the number of referral requests to participating specialties over time, highlight the proportion of booked, over-booked and denied requests, and

identify a number of issues related to referral patterns and processes.

A few of the program administrators highlighted preliminary improvements in appropriate utilization. Some examples include:

- As described in the case study from Aurora Sinai Medical Center, the implementation of the My Health Direct system in the emergency department has resulted in a 45 percent decrease in emergency room visits, and 92 percent of patients referred to a primary care provider have not returned to the emergency department for routine medical treatment.
- The Orange County Health Care Association reports that referring emergency department patients to assigned home centers for follow-up care has resulted in an increase in community health center utilization.
- At the Cook County Health and Hospitals System, where an estimated at 20 to 25 percent of total referrals were previously sent to the wrong department or provider specialty, a Web-based system is credited with reducing misdirected referrals.

Referring Providers

For referring providers, the greatest reported value is the assurance that the patient is more likely to receive needed care. Even when the patient leaves without a specific appointment, an appropriate provider has been identified and the process leading to an appointment has been set in motion.

Other benefits include:

- **Communication with receiving providers.** This includes the option to send notes to clarify the reason for referral or relay something specific about the patient. Many systems also offer the option to review progress notes from the referral visit, which helps to facilitate follow-up care.
- **Tracking.** Every system includes tools for tracking the referral from the time the request is issued until long after the referral is completed. La Clinica de Familia uses its program to assign a nurse, medical assistant, or other staff to each referral as a way to ensure that the visits occur. It also provides a new source of online care history.

Receiving Providers

Receiving providers benefit in a number of ways. They can control the flow of referrals by specifying services, patient insurance, and, in some program models, patient volumes accepted. This not only affords local control, but also leads to a more orderly, predictable process.

All of the identified applications also provide a legible and complete referral request, either by fax or the software itself. The receiving provider may see:

- Information verifying patient insurance eligibility and insurance authorization (including the authorization number);
- Information about any special needs the patient may have, such as preferred language and interpreter;
- Pre-review according to established clinical appropriateness criteria, including completion of work-up testing and other interventions;
- The ability to send and receive electronic messages about specific patients in a secure manner; and
- Relevant imaging results and other medical record information appended by the referring provider.

In one case, the improved process was reported to have freed up capacity for specialty care when fewer repeat visits were needed, because patients arrived with completed work-ups and the right information available the first time. Specialists at another program also remarked that communication tools—their ability to send referring providers messages with questions, requests for further information, and reasons why a request is being denied—is having a noticeable effect on the quality of initial requests. That is, referring providers have learned to try important initial steps before requesting referrals,

order appropriate work-ups, and include comments and attachments that facilitate both the approval and priority assignment of the referral request.

Challenges

Both vendors and leaders of programs using Web-based solutions report that challenges remain. Areas where the referral process could still be improved include:

- **Entry of patient demographics.** As noted earlier in this report, users of systems without interfaces for downloading a patient's address, telephone number, and other demographic information place a high priority on replacing this manual task with downloads from other systems.
- **Scheduling.** Ideally, every patient referred for follow-up or specialty care would leave with an appointment in hand, but few programs are structured to make that possible. Accomplishing this requires a very close working relationship between the referring and receiving sites and overcoming a widely held reluctance to relinquish control over even a portion of the schedule. In cases where the circumstances are right, interfaces with scheduling systems would be much better than the current approach to "stand-in" scheduling. None of the systems examined now offer such links, but several are planning to develop them in the future.
- **Physician data entry.** Several programs, particularly those that use rules-based clinical approval modules, are designed with questions targeted at physicians, and therefore provide better results when physicians interact with the system to provide the responses. However, physicians at some sites are reluctant to add this task to their workload, while others lack adequate workstation access. Leaders in several programs identified in this report continue to work on this issue.
- **Training.** Training was listed as a major challenge by staff from two sites: one cited the need to overcome the problems resulting from physicians who do not directly enter data; the other singled out the continuing burden imposed by frequent staff turnover. Ensuring that all users attend training is also challenging. The approach at one site is to require training before users are assigned a username and password.
- **Developing rules.** Rules-based approval modules are appealing for delivery of predictable, automatic, and timely approval/denial judgments about specialty referrals. However, developing the necessary questions, answers, and criteria—and reaching consensus about them—requires significant time from the specialists. Once the system is live, the rules also require careful management to control new releases, keep version records, and provide a process for modification recommendation, review, and approval.
- **Event logging.** Tracking the status of individual referrals requires that each step in the process is recorded in the system. Accomplishing this is easiest at the initial stages, when requests are initiated, approved, or denied. The greater challenge is getting users to log follow-up events, such as when an appointment is booked, rescheduled, kept, or missed. One vendor planning a scheduling system interface intends to capture schedule status updates, as well as to permit direct appointment booking. Some sites report that receiving providers do not reliably post consult notes. Of the eight programs described in this report, two help enforce progress note posting by sending automatic reminder messages to receiving providers.

VII. Conclusion

Early adopters of Web-based solutions to facilitate referral and follow-up care all report good progress—both in reducing the barriers for patients and establishing a more orderly and manageable process for managing the complicated task of handing-off patients. Both provider organizations and vendors are gaining more experience and identifying ways to improve both the referral process and the technology solutions.

Awareness of both the magnitude of the care gap discussed in this report and the implications for cost of care and health outcomes is clearly increasing. A number of efforts are underway in California and the nation to facilitate more efficient specialty referral and redirect patient care from the emergency department to more appropriate settings.

Vendors identified in the study report a growing number of inquiries, and an increasing number of homegrown solutions are becoming available as products. All of this activity points to the growing interest in this product area and the increasing likelihood that it will become a recognized part of the vendor marketplace and the clinical landscape.

VIII. Case Studies

FOUR CASE STUDIES HAVE BEEN ASSEMBLED TO ILLUSTRATE not only how the use of a Web-based application enabled different provider organizations and communities to set up an improved referral process, but also the operational challenges that the system addressed. The cases profiled range from relatively small providers with a limited number of referrals to more complex organizations serving large patient populations.

Table 3. Case Study Participants

ORGANIZATION	PROGRAM MODEL	SOFTWARE APPLICATION
Aurora Sinai Medical Center, Milwaukee, Wisconsin		
• Emergency department in community hospital	• Post-triage • Follow-up care • Emergency department to primary care physician	My Health Direct
La Clinica de Familia, Las Cruces, New Mexico		
• 9 community health clinics	• Primary care physician to specialist/ancillary	inetMD
Santa Clara Valley Health and Hospital System, California		
• County health system • 10 primary care clinics • 25 community health centers	• Primary care physician to specialist	Health Access Solutions
Cook County Health and Hospitals System, Illinois		
• Cook County Health and Hospitals System • 3 hospitals • 16 community health centers	• Primary care physician to specialist • Emergency department and specialty clinics to primary care provider	IRIS

Aurora Sinai Medical Center – Emergency Department

Setting

Aurora Sinai Medical Center (Aurora Sinai) is a 195-bed, full-service community hospital in Milwaukee, Wisconsin, that is part of Aurora Health Care—the largest integrated health system in southeastern Wisconsin.

Value Proposition

Aurora Sinai's motivation for acquiring My Health Direct was to help staff find and schedule on-the-spot appointments for patients requesting ambulatory care at the hospital emergency room, and those needing ambulatory follow-up after receiving emergency care. In the years leading up to the My Health Direct implementation in 2006, Aurora Sinai was losing almost $25 million a year, with a large portion of the loss attributed to ambulatory care delivered in the emergency room, particularly to uninsured and Medicaid patients.

At the time, Aurora Sinai's emergency room averaged 80,000 patient visits per year. In an effort to reduce losses and overcrowding, in 2005 the hospital implemented an emergency room triage program designed to divert patients with routine care needs to ambulatory facilities. The program worked. However, it required turning patients away, a practice that led to criticism from the local press and declining morale among staff who found it difficult to say "no" to patients who needed care and often did not understand how to arrange for it elsewhere.

In the words of Emergency Department Medical Director Paul Coogan, M.D., providers and other emergency room staff were begging for a way to, "get 'em an appointment." However the hospital did not have the staff resources to provide that service quickly (a manual appointment process they attempted to operate was slow and inefficient).

Implementation

The appeal of using My Health Direct is that it has enabled staff to schedule an appointment while the patient waits, and do so quickly (within two to three minutes). As a result, instead of turning patients away, staff can provide them with confirmed appointments and printed directions to the ambulatory care site, and printed instructions. My Health Direct enables the hospital to supply similar assistance to patients who receive emergency care and need help booking follow-up appointments.

Several types of clinics are available for referrals: federally qualified health centers (FQHCs), independent community-based providers, and several Aurora ambulatory clinics. Aurora Sinai initially negotiated with Aurora clinics to accept Medicare, Medicaid, and commercially insured patients; and with the FQHCs to accept Title 19 and other uninsured populations, as well as Medicaid and Medicare patients. Shortly after the program began, it was decided to route most Medicare patients to Aurora clinics and most Medicaid patients to FQHCs because of favorable reimbursement in the different settings. Receiving clinics control the volume and type of patient routing by posting their schedules in My Health Direct. They also specify the type of services and insurance they will accept for each appointment slot they post.

Most emergency room clinicians, including physicians, use the My Health Direct system to arrange appointments for patients who do not require emergency care. After accessing My Health Direct via a PC with an Internet connection, the user first checks to see if the patient has a record in the system. If not, registering the patient requires manually entering a small number of demographic data elements such as name, date of birth, telephone number, and home address.

The user then starts the referral process by specifying the series of criteria to be used in matching the patient with an appropriate service provider and appointment: patient insurance type, service type, distance from home, day of the week, preferred language, and need for public transportation. Based on the open appointment slots entered by the participating receiving sites, My Health Direct displays those that meet each characteristic as it is specified; as more criteria are entered, the list of possible appointments is shortened to the matching subset. Sometimes, one or more criteria, such as distance from home, must be modified and another search performed if the first round does not yield a match acceptable to the patient.

After consulting with the patient, the user selects and confirms an appointment. This serves as a trigger for the system to automatically transmit a confirmation notification to the receiving provider, including the reason for referral, and remove the appointment slot from availability for booking. The user then prints a patient handout (in the patient's language of choice) that includes details about the referral such as appointment date and time, address of care site, contact information, and public transportation access. In addition to the reason for the referral and basic patient information, the referral record also includes a free-text field the referring provider can use for clinical or other notes to the receiving facility.

Referral records are retained in My Health Direct for subsequent query and reporting. This provides access to not only the referral history and details for any patient, but also tallies of referral volumes by service types, patient insurance types, receiving provider sites, etc. When the provider initially opens a patient record, for example, before looking for a new appointment, he or she can review all past appointments made for that patient.

Results and Benefits

Emergency department providers approved the implementation and quickly adopted the system as part of their every day routine. The major benefit of the new program enabled by My Health Direct is that emergency room staff can triage patients, rather than turning them away with nothing more than a list of recommended telephone numbers to call. For emergency department staff, this has been a huge morale booster. They report that the system is quick and easy to use and are happy to have a way to navigate between the financial realities of operating a hospital and the inevitable stream of ambulatory patients with nowhere else to turn, leaving them better able to focus on emergency care.

For hospital and emergency room administration, the Web-based referral enabled effective use of the triaging program to improve emergency room utilization and operation. Annual emergency department visits have been reduced from almost 80,000 to fewer than 43,000, staffing has been appropriately reduced, and patient wait times are shorter. Emergency room improvements also have contributed to reducing overall hospital losses, from the previous levels of almost $25 million per year to the "low single-digit(s)."

In addition to shorter wait times, patients who come to the emergency department needing ambulatory care get the unexpected (and welcome) service of referral to a care site where they can be seen not only for their immediate complaint but also find a medical home for regular care. Though Aurora Sinai has not done extensive utilization analysis, staff there have determined that:

- Ninety-two percent of patients referred via My Health Direct are not returning to the emergency department with ambulatory care needs; and
- Four times as many My Health Direct appointments are kept after patients leave the emergency department (compared with appointments scheduled using the old, non-electronic methods).

Emergency room staff use My Health Direct to schedule approximately 4,000 appointments per year at Aurora Sinai.

Challenges

The major challenge Aurora Sinai has encountered with implementing and using My Health Direct is provider (and other user) dissatisfaction at having to manually enter patient demographic data (address, telephone numbers, etc.) when registering new patients, rather than simply downloading it from the hospital system. My Health Direct has developed an interface that works with other systems. Aurora is in the process of consolidating their patient databases and plans to provide an interface to My Health Direct by the end of 2008.

La Clinica de Familia

Setting

La Clinica de Familia (LCDF) operates nine community health centers providing medical, dental, and social services to a largely rural area of southern New Mexico near the Mexican border. Clinic staff include 20 physicians and five nurse practitioners. Many of the patients served are indigent and must travel quite a distance from small communities to receive care.

Value Proposition

The majority of the medical services provided by LCDF are focused around primary care, so patients are typically referred to external providers for most specialty care, as well as diagnostic services such as imaging. Because the patient population has a high disease burden, especially diabetes, primary care visits often generate one or more referrals. The goal at LCDF is that patients needing a referral leave with a scheduled appointment and without any unresolved reimbursement issues. To accomplish this, clerks in the medical clinics make all the necessary telephone calls while the patient is still in the clinic.

LCDF now uses inetMD as the information and communication backbone of the referral program. Managing the process on paper created numerous problems. Clerks were filling out forms for each referral and, because of the high volume, were often not able to keep up with such paperwork during the clinic day. Once the patient had departed, it was extremely difficult to track individual referrals and ensure they were completed successfully. For some high-priority types of referrals, such as mammograms, relying on file folders or log sheets was not only time-consuming but often ineffective. And because LCDF also had no information on either the total volume of referrals or the number of patients referred to individual receiving providers and sites, it could not accurately assess the overall performance of the referral program (e.g., turnaround time, referrals without reports received). Basically LCDF decided to invest in the Web-based system as a way to make the process more standardized and manageable.

Implementation

inetMD is used in all of the medical clinics to process referrals to a specialist or dental provider in another LCDF clinic, or to an external specialist or ancillary provider such as an imaging center. The physician or nurse practitioner initiates the process by writing one or more referrals for the patient. Office clerks work with patients to arrange follow-up care. They first enter the request into inetMD, where they can check the patient's past referral history to see if the patient has already been referred for the same service, and then select an appropriate site after consulting with the patient about distances, transportation, and other compatibility criteria.

Many patients' care is covered by the county indigent care program or a special grant-funded program, such as the one in place for mammograms and other breast care. All of the referral sites and providers listed in inetMD accept these payers, as well as Medicaid, Medicare, and commercial plans, so that the clerk knows that patients will not face insurance-related issues. Reimbursement counselors are available in each LCDF site to sort out eligibility and enroll the patient in plans and special programs as necessary. The office clerk enters the type of insurance to be employed, and, when required by the insurance carrier, calls to obtain authorization. The clerk also calls the care site to obtain an appointment and enters the information about both the appointment date/time and insurance authorization number into the system.

Patients leave with a printed copy of information about scheduled referrals, including contact information in the event they cannot keep the appointment. The inetMD system automatically faxes to the receiving site.

When the receiving provider transmits an imaging report, a consult report, or other record communicating results back to the referring clinic,

the medical records staff logs the receipt and the result (i.e., normal or abnormal) into the system. Some types of referrals, such as mammograms and Pap smears, are tracked very closely—ensuring both that the testing happens and patients with abnormal findings receive timely and appropriate follow-up care. Medical record clerks can run reports in inetMD providing lists of outstanding referrals (e.g., scheduled two weeks ago, but no report received) for outreach to the referral sites and the patients involved (if, for example, the patient needs to schedule another appointment). The clerks record any status updates in inetMD so that the referral can continue to be tracked. They can also set up an electronic reminder to check in on a particular patient's referral status at a future date. Patients with an abnormal mammogram become the responsibility of a care coordinator who manages the breast care program, using inetMD to arrange and track follow-up care through further evaluation and treatment.

Results and Benefits

The major benefit for LCDF is that the referral process is now a manageable "closed loop." Patients appreciate walking out with an appointment, and LCDF has been able to institute an organized process for tracking referrals to completion. Staff in medical records can easily obtain patient lists to use in outreach to patients and receiving providers without maintaining manual logs. For the first time, LCDF management can obtain complete tallies of the volumes and types of referrals from the clinics and identify where bottlenecks are occurring in completing all referrals in a timely fashion. The process also works well for receiving providers—they have a legible referral request that includes the patient's insurance information and any prior authorization.

Challenges

According to the program director, one of the major challenges is constant staff turnover in the clinics. Front-office staff, nurses, and medical records technicians all use the system, and he makes monthly rounds to provide training for new staff and refresher training as needed. LCDF ultimately plans to expand the use of inetMD to include all referrals that emanate from the dental clinics, which now participate only as "receiving sites."

Santa Clara Valley Health and Hospital System

Setting

The Santa Clara Valley Health and Hospital System (SCVHHS) is an integrated health care delivery system for residents of Santa Clara County, California. Facilities include Valley Medical Center, with 435 beds and 500,000 annual outpatient and emergency room visits, approximately 150 specialists, 10 primary care clinics, and several affiliated community health centers. Many of the patients served have Medi-Cal insurance or are uninsured.

Value Proposition

Prior to implementing the program, patient referrals within the health system were managed as paper requests forwarded to a central authorization center where they were manually reviewed, approved or denied, and scheduled. There were numerous problems with this process:

- Requests frequently were lost in transit or within the authorization center;
- Forms were often illegible and/or incomplete (i.e., missing diagnosis, reason for visit);
- There was no way to track individual referrals, and referring providers sometimes initiated multiple requests for the same patient and problem;
- Referring providers did not have adequate guidelines to make their decisions;
- Referring providers often did not receive reports, progress notes, or other feedback from the receiving provider;

- Receiving providers did not always know who had referred the patient and where to send consult reports or refer the patient for follow-up;
- Referrals were frequently misdirected; and
- SCVHHS often did not receive reimbursement for services provided to patients with insurance coverage other than the county insurance programs.

Valley Express was implemented to make it possible to improve referral management in all of these areas.

Implementation

All SCVHHS referrals are now processed using the Valley Express referral management system, which was purchased from Health Access Solutions and implemented in July 2007. The system had been used previously in other settings and the vendor made numerous modifications to accommodate the SCVHHS environment.

The process involves the following steps:

- Referring providers at the point of care initiate referral requests by entering patient identification information, the requested place of service, the specialty and/or a receiving provider, a diagnosis code (ICD or CPT), and a reason for referral. Coverage information is automatically populated via interface with the registration system.
- Specialty-specific questions (up to three) are generated and yes/no responses are used to automatically accept or deny the request. When the request is denied, the reason is displayed. For example, if the referring provider answers "no" to "has patient failed at least two courses of antibiotics?" the reply is, "at least two courses of antibiotics should be tried before ENT referral." Questions and reasons for denial were developed by each specialty department to ensure clinical appropriateness.
- For patients with coverage from Medi-Cal or another county program, requests that pass clinical appropriateness rules are also automatically authorized at the point of referral, and the patient either leaves the referring clinic with printed instructions for scheduling the visit, or (for pediatric referrals) with an appointment that is scheduled before they leave.
- Requests for patients with other coverage are held for payer approval and then forwarded. Referring providers also can request manual review of special cases that do not meet clinical criteria.
- Available online referral guidelines and clinical practice guidelines can be directly accessed during referral request entry.
- Staff in receiving provider sites review requests in their work queues in the system. Although they do not further triage approved requests, they use the system to route questions or requests for pre-visit work-ups back to the referring provider or forward special handling messages (such as "first available slot") to scheduling staff.

Valley Express also enables electronic communication among the referring, receiving, and other providers. The system tracks the status and progress of requests, sending automatic event messages (such as "referral approved") to appropriate providers (including the primary care clinician). Providers can use free-text note fields to describe patient conditions and ask or answer questions. They also can attach scanned and other electronic documents to referral records and print instructions for the patient.

SCVHHS and clinic staff credit several tactics for the successful implementation of the Valley Express system:

- Discontinuing the practice of triage in the specialty clinics has speeded the referral process and clarified clinical appropriateness guidelines—although it took 12 months for the specialty departments to reach consensus on a small number of guidelines (the maximum is three for each diagnosis/condition). The process was closely managed. Each department received a template, a list of the top ten diagnoses noted for referrals,

and specific guidelines about how to state denial responses. Questions were sent to referring providers for review and are continuously reviewed as part of optimization efforts.

- A "big-bang" implementation strategy was used; i.e., all referring and receiving departments went live at the same time, forcing an immediate transition from the paper-based process.
- User training is mandatory. All clinic users (providers, nurses, medical assistants, and referral coordinators) receive a 1.5-hour training course in how to use the system and maximize its potential.

Results and Benefits

SCVHHS staff have not been able to perform a formal study, however they have assembled considerable anecdotal evidence of the system's success. The first positive reports came from referring primary care providers who immediately noticed that their requests were no longer being lost, and that auto-approval enabled them to confirm (or in the case of pediatric referrals confirm and schedule) referral approval with patients and give them printed instructions to take with them. This also has improved patient satisfaction because they now know that the referral has been approved and have instructions about where to call for an appointment.

Specialists were initially dissatisfied (primarily because they were accustomed to triaging requests manually) but have come to value the tools the system provides for tracking and managing approved referrals.

The other immediate benefit is reporting, which already helps staff identify utilization and other situations that need attention. Examples include:

- Outlier patient utilization trends, such as one patient who has been approved for 60 referral visits in less than 12 months;
- Ophthalmologist referrals to optometry (which are not covered by insurance);
- Patient referral requests with no apparent insurance coverage (which further research revealed indicate financial counseling had not occurred or failure to refer patients to their home counties);
- Emergency department referrals for chronic conditions (such as low back pain, which should be directed to primary care clinics instead of treated in the emergency department); and
- Real numbers of submitted, approved, and denied referral requests (by receiving departments, patient demographics, and payer/plan), as well as the extent of backlogs, durations, locations, and seasonal shifts.

Users suspect that recent reductions in no-show rates result from giving patients scheduling instructions or scheduling the referral visit at the point of care, as opposed to notifying the patient several days or weeks later that an appointment has been scheduled.

Challenges

SCVHHS offers the following lessons from their experience:

- Having physicians directly enter referral requests is the most effective approach. Initially, some physicians were reluctant to learn or take time out of their schedules to play this role. Training has helped, but some clinics continue to use paper forms and data entry by referral coordinators.
- Grants contributed funding to add numerous workstations in clinics, but SCVHHS continues to work on ensuring sufficient high-speed access everywhere.

SCVHHS uses an enterprise scheduling system that, ideally, would be interfaced with Valley Express. This would ensure that information about appointments booked and kept is always complete for purposes of referral tracking. So far, creating such an interface has not proven to be possible.

Cook County Health and Hospitals System

Setting

The Cook County Health and Hospitals System (CCHHS) in Illinois is one of the largest public health systems in the United States. It serves more than 5 million citizens, operates three hospitals and 30 community health centers, coordinates specialty care delivery throughout the network, and maintains partnerships and affiliations with other major medical centers and government agencies. CCHHS also contracts to provide specialty care to patients of local independent FQHCs.

Value Proposition

In 2001, CCHHS contracted with Proximare Health, Inc. to develop and implement the Internet Referral Information System (IRIS) as part of an effort to improve management of patient referrals within CCHHS provider organizations. Prior to IRIS, referral requests were submitted as paper forms, and the system used to manage the forms resulted in numerous problems and shortcomings, including:

- Lack of reliable and accurate utilization statistics CCHHS staff need to identify gaps in service and otherwise manage referral programs;
- Misdirected and inappropriate referrals;
- Inadequate fail-safe measures to ensure that patients with serious conditions were escalated for priority care;
- No central source or process for referring and receiving providers to track referrals (to monitor approval and/or scheduling statuses);
- No standard method or process for referring eligible patients (including Medicaid and uninsured) to primary care clinics; and
- No processes to help reduce ambulatory patient visits to emergency rooms.

Implementation

IRIS is designed to manage several kinds of referrals, including:

- Primary care (and to a lesser extent hospital) providers referring patients for specialty care; and
- Emergency room, specialist, and hospital providers referring patients to (or back to) primary care clinics.

Early on, it was decided that the system would automatically approve or deny each referral request based on clinical rules set by the receiving department. Those rules are applied via a department- and disease-specific branching logic question-and-answer process included as part of the online referral request. Rules development was a major undertaking and required department providers working with Proximare Health developers to specify questions, acceptable answers, branching options, and criteria for approval and denial, including reasons for denial.

The following describes the typical referral request, approval, scheduling, and visit workflow:

- The referring provider completes an online referral request form. Patient demographic data are automatically downloaded via interface with the CCHHS patient registration system. After the provider enters the reason for referral, diagnostic service, and department name and site, the system automatically initiates the rules-based question-and-answer process. Departments and sites are selected from pick lists that are screened by the referring provider and the place of service. In addition to branching questions and approval/denial status, receiving providers can also configure the rules with recommended and required work-ups, which are displayed in a red font. Denials include explanations. For example, if a provider referring a patient for asthma responds that the patient is not using corticosteroid inhalers, the provider is instructed to initiate that treatment before referring the patient.

- Referring providers who disagree with reasons for denial can appeal the decision, in which case the request is routed to a nurse care manager inbox for review. The system also flags request records with entries the receiving provider determines to be high-priority and automatically routes those requests to the nurse care manager inbox for special handling.
- The system manages appointment scheduling in one of two ways:

  "Stand-in" scheduling. Receiving provider departments that agree to participate in a "stand-in" appointment service post available appointment dates and times in the IRIS system by service and payer type. As soon as the slot is selected, it is closed to other IRIS users. The system automatically forwards a message to the receiving provider, and instructions are printed and handed to the patient.

  Central appointments. Referrals to receiving departments that do not participate in the stand-in program are automatically routed to an inbox in the Central Appointments department. When Central Appointments staff book and log the appointment date and time in IRIS, the system automatically sends messages to the referring provider, the receiving provider, and an intelligent voice response unit (IVR) used to notify the patient of the appointment date, time, and place.
- Receiving providers log each kept appointment and referral visit. They also can paste a progress note into the record, which they are strongly encouraged to do. Messages of these logged events also are sent to the referring provider.
- Referring and receiving providers can review the status of any referral, including: those pending a review or request for further information; approved but not scheduled (and the intervening elapsed time); approved and scheduled; appointments cancelled or not kept; visits completed; and visits completed but with communication of results or consult report still to come.

Specialist and emergency department provider referrals (and referrals back) to primary care providers are also initiated by completion of an online referral request form. However, when primary care is selected as the receiving service, the system either:

- Displays a list of clinics that initiated a referral for the patient during the previous 24 months for selection and further processing; or
- Displays clinics with appointment openings (posted by the clinic) and within a geographical range defined by the patient's Zip code.

Results and Benefits

Using IRIS has helped CCHHS improve referral management in many different ways:

- Administrators now have real information about demand/capacity gaps to use in allocating resources. As a result, referral backlogs have been reduced for mammography, colonoscopy, and gynecology services.
- Referring providers have a reliable way to check the status of each referral they request, including whether patients are making and/or keeping appointments for referrals.
- Receiving providers appreciate the controls the IRIS process automatically imposes on incoming referrals. Applying rules-based guidelines has almost completely eliminated the 20 to 25 percent rate of misdirected referrals. According to the medical director, it has enabled the CCHHS to "use specialists as specialists"—meaning that it has reduced the time specialists use making decisions about where patients should be seen and increased the time they spend delivering care. Inappropriate referrals (inadequate work-up or failure to try standard therapies first) are also substantially reduced.

- The system provides a framework that enables CCHHS to reliably manage more than 15,000 referrals per month.

Using IRIS has made it possible to refer patients from the emergency department or hospital to primary care providers able to take new patients, and in the process helped clinics appropriately ramp up their utilization rates and helped emergency departments reduce patient demand and waiting time.

Challenges

The biggest challenge has been convincing providers to make consistent use of the system. Because the referral approval process is rules-based, it requires a clinical understanding of the questions being asked and what the responses mean, and therefore, is most effective when referring physicians do their own data entry. Similarly, since it includes a feedback loop for receiving providers to log kept visits, attach progress notes, and refer the patient back to the primary care provider for follow-up, it is most effective when both providers follow and track each referral and are sure to log events, including no-shows and cancellations.

Another challenge is the level of effort required to develop and maintain clinical rules. Use of rules also requires careful version control, including version labeling, saved copies of each version, review and testing, and controlled release.

Appendix A: Developer/Vendor Contact Information

Homegrown Systems

ER Connect Clinic Connect
DEVELOPED BY:
NetChemistry, Inc.
Chris Cruttenden, president
www.netchemistry.com

DEVELOPED FOR:
Orange County Health Care Agency
Dan Castillo, administrator
www.ochealthinfo.com

eReferral
UCSF/San Francisco General Hospital
Hal Yee, Jr., M.D., Ph.D.
medicine.ucsf.edu/campuses/sfgh.html

RPS (Referral Processing System)
Los Angeles Department of Heath Services
Hayley Buchbinder, staff analyst
www.ladhs.org

Commercial Products

Access Express
DEVELOPED BY:
Health Access Solutions
Dottie Robinson, executive director
www.healthaccesssolutions.com

DEVELOPED FOR:
Santa Clara Valley Health and Hospital System
Christine Tyler, director of special projects
www.sccgov.org/portal/site/hhs

Eceptionist
Eceptionist, Inc.
Trey Havlick
www.Eceptionist.com

ERP/ERS
inetMD, Inc.
Khan Phi, president
www.inetMD.net

IRIS
DEVELOPED BY:
Proximare Health, Inc.
Joe Sullivan, president
www.proxhealth.com

DEVELOPED FOR:
Cook Country Health and Hospitals System (CCHHS)
Enrique Martinez, M.D., chief medical officer
www.ccbhs.org

My Health Direct
Global Health Direct, Inc.
Tom Reilly, VP
Community Solutions
www.globalhealthdirect.com

Appendix B: System Overview and Feature Review

	MY HEALTH DIRECT	eREFERRAL	RPS	IRIS	ACCESS EXPRESS	ER CONNECT CLINIC CONNECT	ECEPTIONIST	ERP/ERS
General Overview								
Product History	Commercial	Homegrown	Homegrown	Homegrown, now Commercial	Commercial	Homegrown	Commercial	Commercial
Company or Developer	Global Health Direct, Inc.	UCSF/San Francisco General Hospital	Los Angeles County Department of Health Services	Proximare Health, Inc.	Health Access Solutions	Orange County Health Care Agency	Eceptionist, Inc.	inetMD, Inc.
Typical Referral Scenario(s)	ED to PCP[1]	PCP to specialist/ ancillary	PCP to specialist/ ancillary, specialist to specialist	PCP to specialist/ ancillary, and ED/hospital to PCP[2]	PCP to specialist	ED to PCP[3]	PCP to remote telemedicine receiving provider, and PCP to specialist/ancillary, any-to-any referral	PCP to specialist/ ancillary
Typical Customer Today	Hospital or Health System	Primary/Specialty Care Health System	Public Health Network	Public Health Network	Public Health Network	Public Health Network	Hospital or Health System	Community Health Center or Network
Pricing Model	$50,000 per year, per hospital	N/A	N/A	$50,000 per year, per IDN (system configuration/ management extra)	One-time: • $85,000, plus • 2 cents per covered patient		Custom pricing	One-time: • $4,650/PCP clinic • $750/spec clinic, plus Subscription: • $75/mo/PCP • $45/mo/specialist
Technology Overview								
Technology Required/ Accommodated	PC, Web access, printer, fax	PC, Web access, VPN key	PC, Web access, printer, scanner	PC, Web access, printer, fax	PC, Web access, printer, scanner	PC, Web access, printer	PC, Web access, printer, scanner	PC, Web access, printer, scanner, fax
System Interfaces in Use	N/A	ADT/registration, receiving provider EMR	ADT/registration	ADT/registration	ADT/registration	RHIO data repository	Integrated scheduling	N/A

1. Clinics are screened by dates available, distance from patient home, patient language, and payer type/plan accepted.
2. Clinics screened for selection are those that have referred the patient within past 24 months, or (if no referrals) those with openings closest to patient home.
3. Clinics are pre-assigned via a separate OCHCA patient center assignment program.

	MY HEALTH DIRECT	eREFERRAL	RPS	IRIS	ACCESS EXPRESS	ER CONNECT CLINIC CONNECT	ECEPTIONIST	ERP/ERS
Functions/Features: Referral and Scheduling								
Referral Initiation	Online PCP scheduling with search by: • Provider • Language • Provider gender • Location • Payer type/plan • Date/time • Religion • Service type • Public transportation	Online clinical referral request with search by: • Department • Service	Online clinical referral request with search by: • Department • Service	Online clinical referral request with search by: • Department • Service • Diagnosis, plus Online PCP scheduling with search by: • Care history • Location	Online clinical referral request with search by: • Department • Service • Diagnosis	Online PCP referral request with search by: • Patient's assigned clinic[4]	Online clinical referral request with search by: • Department • Service	Online clinical referral request with search by: • Department • Service
Administrative Approval	N/A	N/A	Referral request records routed to authorization work queue	Optional online payer authorization	Optional online payer authorization	N/A	Optional online payer authorization	Optional online payer authorization
Scheduling	Referring provider selects from appointments posted by receiving provider[5]	Receiving provider schedules appointment based on urgency	Receiving provider books appointment	Referring provider selects from appointments posted by receiving provider, or approved referrals are routed to Central appointments	Patient calls receiving provider to book appointment	Notified receiving PCP office calls patient to book appointment	Notified receiving provider contacts patient to book appointment (Eceptionist supports multiple scheduling models)	Referring provider attempts to book before patient leaves, or patient is instructed to call receiving provider to book
Schedule Access Control	Receiving provider posts: • Dates/times • Payers • Services	Receiving provider can prioritize appointments	N/A	"Stand-in" receiving providers post: • Dates/times • Payers • Services	N/A	N/A	N/A	N/A
Patient Notification	Referring provider prints patient handout	Patient receives a computer generated appointment notification letter and subsequent reminder letter	• Receiving provider mails or faxes letter • Referring provider tracks and informs	• Referring provider prints patient handout, and • IVR[6]	Referring provider mails or faxes approval with scheduling instructions	Referring provider prints handout with receiving clinic contact information	• Referring provider mails, emails, faxes, or hands letter with contact information • A patient portal and email/text message based patient notification and reminder tools also are available	Referring provider mails or faxes letter with contact or appointment information

4. Clinics are pre-assigned via a separate OCHCA patient center assignment program

5. Selection of limited scheduling slots manually entered by receiving provider—system is not interfaced to a full-featured scheduling system.

6. Intelligent Voice Response unit: an automated telephone system that notifies patients of new appointments (in selected languages).

	MY HEALTH DIRECT	eREFERRAL	RPS	IRIS	ACCESS EXPRESS	ER CONNECT CLINIC CONNECT	ECEPTIONIST	ERP/ERS
Functions/Features: Referral and Scheduling, continued								
Receiving Provider Notification	Receiving provider receives message[7] or fax	Receiving provider receives computer-generated email	Completed referral request posted to receiving provider inbox	Completed referral records (with appointment updates) posted to receiving provider inbox and provider receives message	Approved referral status posted to receiving provider inbox and provider receives message	Completed referral record posted to receiving provider inbox	Completed referral request posted to receiving provider inbox	Completed referral request is posted to receiving provider inbox or faxed
Referral Status Tracking	Providers review all scheduled referrals	Providers track status via EMR	Providers review referral inbox for approval and appointment status changes	Providers review referral inbox for approval and appointment status changes. Also can track pending progress notes	Providers review referral inbox for approval and appointment status changes	Providers review customized work queue for referrals to PCP clinic	Providers review referral inbox for approval and appointment status changes	Providers review referral inbox for approval and appointment status changes. Also can track pending progress notes
Referring Provider Notification	N/A	Automatic message when approval or schedule status is updated	Approval and appointment are posted in referral record	Automatic message when schedule status is updated	Automatic message when schedule status is updated	N/A	Automatic message when approval or schedule status is updated	Automatic message when approval or schedule status is updated
Functions/Features: Clinical Review and Approval								
Clinical Information Sent with Referral	Referring provider documents with free text	Referring provider: • Documents with free text • Responds to department specific queries • Specialty-pertinent lab and radiology data automatically populates referral record	Referring provider: • Documents with free text • Attaches scanned and other files	Referring provider: • Documents via responses to branching rules queries	Referring provider: • Documents via responses to rules queries • Documents with free text • Attaches scanned and other files	Access to patient's hospital visit and claims-based lab, other diagnostic, and medication history	Referring provider: • Documents via template • Documents with free text • Attaches scanned and other files	Referring provider: • Documents with free text • Attaches scanned and other files
Clinical Review	N/A	Receiving provider reviews referral record	Receiving provider reviews referral record	Automatic approval based on rules[8]	Automatic approval based on rules[9]	N/A	Receiving provider reviews referral record	Receiving provider reviews referral record
Referral Guidelines	N/A	N/A	Receiving provider can configure pop-up requisites in request entry	Receiving provider can configure rules with red-text prerequisites	Direct access (button) to online IDN guidelines	N/A	Client can configure custom referral protocols	Receiving provider can configure request entry prerequisites

7. Messages are postings to referral record and/or system messages, usually accompanied by an email or fax alerting provider that new information is available.

8. Referring providers can appeal denied referrals for manual review by a nurse care manager team

9. Referring providers can appeal denied referrals for manual review by the Chief of Referral Services

	MY HEALTH DIRECT	eREFERRAL	RPS	IRIS	ACCESS EXPRESS	ER CONNECT CLINIC CONNECT	ECEPTIONIST	ERP/ERS
Functions/Features: Other Information Exchange								
Feedback Loop to Referring Provider	N/A	• Information requests • Work-up requests • Denial reason(s) • Appointment kept, cancel, no-show • Link to EMR progress note	• Information requests • Work-up requests • Denial reason(s) • Appointment kept, cancel, no-show • Scanned progress notes	• Information requests • Work-up requests • Recommend redirect, e.g. for different test • Appointment kept, cancel, no-show • Attached progress notes	• Information requests • Work-up requests • Appointment kept, cancel, no-show • Attach progress note	PCP progress notes posted to the record are available for review during subsequent ED visits	• Information requests • Work-up requests • Denial reasons • Appointment kept, cancel, no-show • Attached progress notes	• Information requests • Work-up requests • Denial reasons • Appointment kept, cancel, no-show • Attached progress notes
Link to Patient Records	N/A	Receiving provider posts link to EMR progress note	Receiving provider can attach progress notes, reports	Receiving provider can attach progress notes, reports	Receiving provider can attach progress notes, reports	RHIO ED progress note is available for review by PCP	Receiving provider can attach progress notes, reports	Receiving provider can attach progress notes, reports
Functions/Features: Data Tracking and Analysis								
Management Reports	Library of standard reports	Library of standard reports and report writer	Library of standard reports	Library of standard reports and report writer	Library of standard reports	Library of standard reports and report writer	Library of standard reports and report writer	Library of standard reports and report writer
Functions/Features: Planned Enhancements								
Planned Enhancements	• IDN MPI interface pilot • Automated appointment reminders • Receiving clinic scheduling system interface	N/A	• Scheduling system interface • EMR interface – progress note • Report writer	• Duplicate order checking • Branding (custom rules for different payers/plans)	• Scheduling system interface • Report writer • Branching logic rules • Ambulatory EMR interface	N/A	N/A	N/A

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Available Online