

Teaching Systems-Based Practice

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Systems-Based Teaching & Practice

Start here: the only reason you would want to teach *anything* to a fellow is if it represented a key part of their future independent practice. We'll argue today that Hematology practice is systems-based in nature and can only be improved by better understanding and advancing how systems work. So, 15 years after the debut - - here's a recap of the least understood and valued competency.

The ACGME standard focuses on a provider's responsibility for working in a system rather than dealing with the subject of the system itself. This competency emerged as a core competency for medical practice in the 21st century as we began to understand that all health care is delivered by complex systems in physician's offices, hospitals, pharmacies, etc. within the context of economics, regulation, and politics that shape and control these systems.

The purpose of this lecture/workshop is to explore the concepts, attitudes and skills relevant to competency in working in and teaching System-Based Practice within Hematology Fellowship programs.

Competence in Systems-Based Practice

The ACGME core program requirement Section IV.A.5.g defines Systems-based Practice this way:

“Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

- 1) Work effectively in **various health care delivery settings and systems** relevant to their clinical specialty; [*Pediatrics Adds*: Residents are expected to know how types of medical practice and

delivery systems differ from one another, including methods of controlling healthcare cost, assuring quality, and allocating resources.]

- 2) **Coordinate patient care** within the health care system relevant to their clinical specialty;
- 3) Incorporate considerations of **cost awareness and risk benefit** analysis in patient and/or population-based care as appropriate;
- 4) **Advocate for quality** patient care and optimal patient care systems;
- 5) Work in **interprofessional teams** to enhance patient safety and improve patient care quality; and,
- 6) Participate in **identifying system errors** and implementing potential systems **solutions**.
- 7) [Added by Internal Medicine] Work in teams and effectively **transmit** necessary **clinical information** to ensure safe and proper care of patients including the transition of care between settings; and,

[Added by Pediatrics] know how to advocate for the promotion of health and the **prevention** of disease and injury in populations; the program must ensure structured educational experiences to address the following:

- a) Patient advocacy within the system (understanding the epidemiology of major health problems and health literacy awareness in the community);
- b) Risk management;
- c) Cost effectiveness, balancing cost and quality;
- d) Health care organization, financing, and practice management, including the organization and financing of health care services for children at the local, state, and national levels and the role of the pediatrician in the legislative process;
- e) The organization and financing of clinical practice, including personnel and business management, scheduling, billing and coding procedures, telephone and telemedicine management, and maintenance of an appropriate confidential patient record system; and,
- f) Systems approach to examining health care delivery practices, system errors and system solutions to error prevention.

- 8) [Added by Internal Medicine] Recognize and function effectively in high-quality care systems.”

Regarding how to teach and evaluate this competency, the ACGME requirement continues:

“The program must document teaching of this competency. These sessions may include, but are not limited to, traditional conferences or completion of case-based learning modules. The program must also document experiential learning for the element that addresses the system,

resident presentation at morbidity and mortality conference that focuses on potential system errors, or resident participation in an institutional process that identifies a system-based cause of an adverse patient outcome. Faculty should assess resident progress in this domain. In addition, evaluations by other health professions must be obtained to assess residents' ability to function as part of an interdisciplinary team."

What Is A System?

Arguably, with the exception for some art and crafts, all repetitive human work is produced by a **system** of people performing coordinated tasks in processes with the common aim to produce a service or product that adds value by increasing the quality of something in the beneficiaries' life in return for a willingness to pay for the service or product.

Systems of human work involve an **economy** (exchange of money for goods and services), **communication** (transfer of information), **interpersonal interactions** (politics) **rules and regulations** (patterns of control), **lived values and language** (culture), and **measurable outcomes** (value and satisfaction). These system elements apply to each of the stakeholders in a human work system: the **supplier** of materials or information, the **producers** (providers and staff in health care) transform the supplies into products or services, the **customers** who buy the product or the service, and the **investors or owners** of the enterprise who capitalize the production.

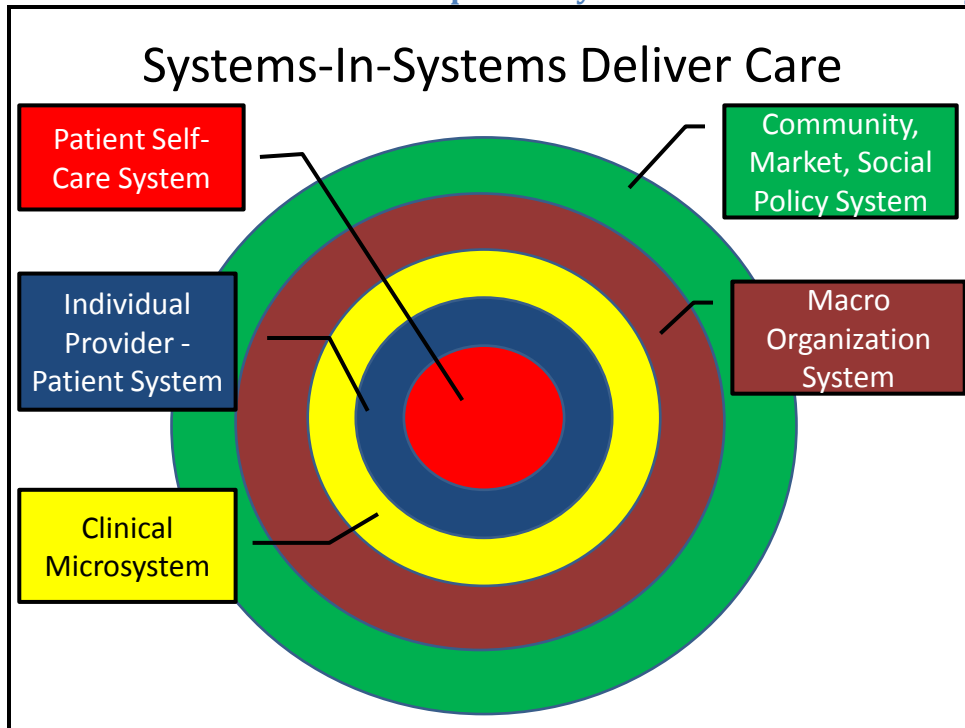
Therefore, every human work system impacts the human spirit, marketplace, and politics. The story of that integration shapes the culture of our work and how our work shapes our community. As stakeholders in the work, regardless of our role, we derive a large portion of our identity from the shape and functionality of the systems to which we commit our work effort.

Health Care System

As the founder of systems-based practice, Paul Batalden and his Dartmouth team describe the health care system as overlapping circles shown in figure 1. At the center of the system is the **patient-self-care system** which includes the knowledge, skills, tools and home help that are needed to participate in one's health care. Although often overlooked, this element of the health care system is essential every time health care is delivered or obtained.

The next layer is the **individual provider-patient system**. This is the layer we usually focus on when teaching medical or clinical skills. This is the level where the diagnosis and treatment plan is determined. The fee-for-service payment structure focuses on this layer paying the provider for the services delivered by this subsystem.

Figure 1 Batalden model of the component systems of the health care system



The third layer is the **clinical microsystem**, which will be the focus of this workshop. This element is the combined front-line staff, patient, provider, information technology, and processes of care that actually deliver the care to patients. This is the part of the system that provides patient satisfaction and quality of care.

The fourth layer is the **institutional macro-system**, which is the institution housing multiple clinical microsystems. The institution links microsystems through common policies, agreements, and information systems. The fate of one clinical microsystem in large part depends on the cooperation and smooth transition of care across multiple microsystems. The quality of care and the overall patient experience also depend on the smooth transitions across a macro-system's physicians' offices, laboratory, pharmacy, radiology, cardiology, hospital, emergency department, and so on.

The outer layer of the health care system is the **community, market, and social policy systems** which govern and regulate health care and drive the behavior of every player in the whole health care system. Large scale system reform occurs at this level; consider the **Patient Protection and Affordable Care Act (ACA)** of 2010 (“Obamacare”) is the biggest example of a society’s power to reform the system of care. When we use the term “health care system” it is the outer circle that usually comes to mind.

CLINICAL MICROSYSTEM

Let’s focus now on the clinical microsystem. Recall that these are the small front-line units of patients, providers, staff, equipment, and information technology that actually deliver care service. All Microsystems have certain high level elements. Clinical Microsystems begin by understanding the needs of patients seeking care from the microsystem. The purpose of the microsystem’s existence is to meet those needs. The input of a microsystem is **patients’ needs** and the output is **patient needs met**, represent the important function of a microsystem in identifying their population and sub-populations of patients. The organization of the remaining elements of the microsystem depends on classifying patient needs into manageable, efficient work assignments and processes that assure patients’ needs are met.

Specifying the output as “patients needs met” means that we have **measured the outcomes** of care to determine if the proportion of patients within a sub-population that experience the outcomes of care they and we desire. Our measures determine for each sub-population (1) improved function and reduced risk of future disease, (2) improved biological makers of disease or illness, (3) improved satisfaction with the experience of care, and (4) have high value as determined by high quality at an affordable price that also sustains the practice.

The **clinical work processes** are high level elements related to the care of every patient. In every microsystem, the patient enters care through **Access to Care** (phone, walk-in, appointments, and referrals) process. The access process has multiple tasks organized into sub-processes. Next the patients’ experiences the **Diagnostic Work-Up** (vital signs, history and physical examination, laboratory testing, imaging, etc). Again this process is made up of multiple tasks organized into sub-processes and performed by several people. Most clinical Microsystems progress the patient to **Treatment Plan** (medications, habit changes, treatments, etc.). New models of patient-centered care have highlighted the importance of the next process **Self-Care Support** that includes patient education, follow-up, self-

monitoring, planning, behavioral change, etc.). One key element of the Patient Centered Medical Home (PCMH) model of care is providing patients with a summary of the encounter to guide them in participating in their care.

Support processes uphold each microsystem.

Measurement and Improvement Processes provide information to the microsystem about how it is working to achieve its goals. This support function is currently undergoing the most radical changes at the microsystem level.

The second important support process is **Teamwork and Care Management**. The PCMH models of care have highlighted the critical importance of this process. Guided by a set of policies and procedures, all of the providers and staff have assigned roles to manage and coordinate the care the microsystem delivers. The principle underlying these supporting processes is that each member of the microsystem (including the patient) works at the “top of their license.” Interprofessional teamwork is a core element of the SBP competency and of next generation patient care.

TEAMWORK - A team is two or more individuals with specialized knowledge and skills and specific roles to make decisions and perform interdependent tasks, who are adaptable and share a common goal for their work. Teamwork competencies involve:

- **Situation monitoring** - Tracking fellow team members’ performance to ensure that the work is running as expected, that proper procedures are followed, and the aim of work is achieved.
- **Mutual support** - Providing feedback and coaching to improve each other’s performance, or when a lapse is detected assisting teammate in performing a task, and completing a task for team members when work overload is detected.
- **Leadership** - Ability to direct or coordinate team members, to assess team performance, allocate tasks, motivate subordinates, plan/organize and maintain a positive team environment.
- **Communication** – Use of a communication formula that includes: (1) initiation of a message by the sender, (2) receipt and acknowledgement of the message by the receiver, and (3) verification of the message by the sender.

The third functional process is **Clinical Information Management**. It includes the Electronic Medical Record and myriad other information system elements such as patient education materials, practice operating policies, agreements, consultation and referral tracking, registries for managing care and monitoring outcomes, reports, e-mails, and written communication across the microsystem and the larger meso- and macro-systems. The policies and procedures for conducting work processes in the clinical microsystem are now incorporated into the forms used in the EMR.

The last element of a clinical microsystem is the **Tests-Consults-Referrals-Rx**. This element specifies the policies, procedures, and processes that connect the microsystem to external microsystems that provide services, products, or information needed for the clinical microsystem to complete its work. Each of these connections sets up an expectation for two-way exchange of information: 1) the “order” originating from the requesting microsystem and 2) the “report” of the service performed and returned from the external microsystem. One of the problems with the current health system is the lack of consistency in the information transfer across microsystems connected through these operational processes. This difficulty is particularly problematic when the orders or requests cross meso-systems and use a different clinical information exchange (EMR) system.

The most common “Out-and-Back” microsystems are pharmacy (but we never know if the prescription was filled), imaging, laboratory, referrals and consultations. Hospitals and emergency departments and nursing homes are other external microsystems either inside or outside of the meso-system in which the requesting microsystem operates. The American College of Physicians has called attention to the importance of the referral culture of interrelationships between these various microsystems by identifying it as the **PCMH neighborhood**.

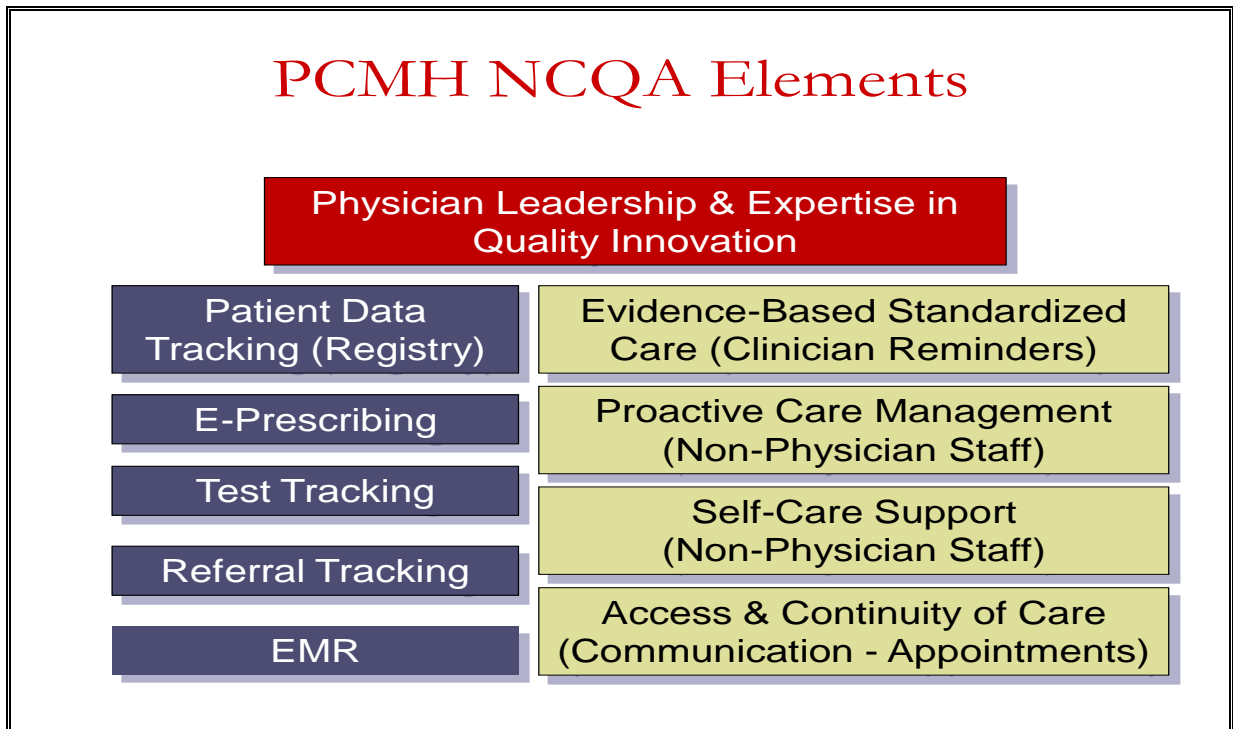
PATIENT-CENTERED MEDICAL HOME - - *relevant to the specialties?*

Throughout, we have referenced a model of primary care that captures the values of excellent care emerging over the past 10 years called the **patient-centered medical home (PCMH)**. Although its principles have been embraced by primary care providers since the early eighties, the model restates these in measurable and reproducible standards for systems-based practice. The PCMH standards codify the elements of primary care that patients’ value and lays the foundation for an effective healthcare system.

In 2011, the Patient Centered Primary Care Consortium summarized the elements of the PCMH as providing superb 24/7 access to care, patient engagement in care, clinical information systems, care coordination, team care, patient feedback and input to care, and publically available quality information.¹

Figure 2 shows the elements of the PCMH standards established by the **National Committee for Quality Assurance (NCQA)**. Are these desirable attributes of a specialty practice? If you are patient, yes.

Figure 2 NCQA Elements for PCMH Recognition



The standards begin with physician leadership and expertise in quality innovation. This is shown in the red box at the top of the diagram. The items on the left are the information technology elements: a registry for electronic patient data tracking, e-prescribing, test tracking, referral tracking, and an electronic medical record. The items in the tan boxes on the right are process and people changes the practice must adopt to provide proactive, planned, coordinated care. These include: using clinical reminders and forms in the EMR to assure practice uses evidence-based standards of care, assigning non-physician staff to provide proactive-care management and patient self-care support, and improving

¹ PCPCC March 2011 www.pcpcc.org

access and continuity of care through electronic communication between patients and the practice and provide appointments or visits that meet the needs of patients.

When OUP-T rolled out its PCMH project Dr. Duffy developed the slide below to compare current primary care practice with the PCMH model of practice. The slide illustrates this difference and helps us to understand how dramatically the transformation in primary care systems is becoming. For this audience and the case that we'll be studying, the Hematology practice actually acts as the medical home. Are we prepared to teach and practice in this way?

Figure 3 Transition to Medical Home Care

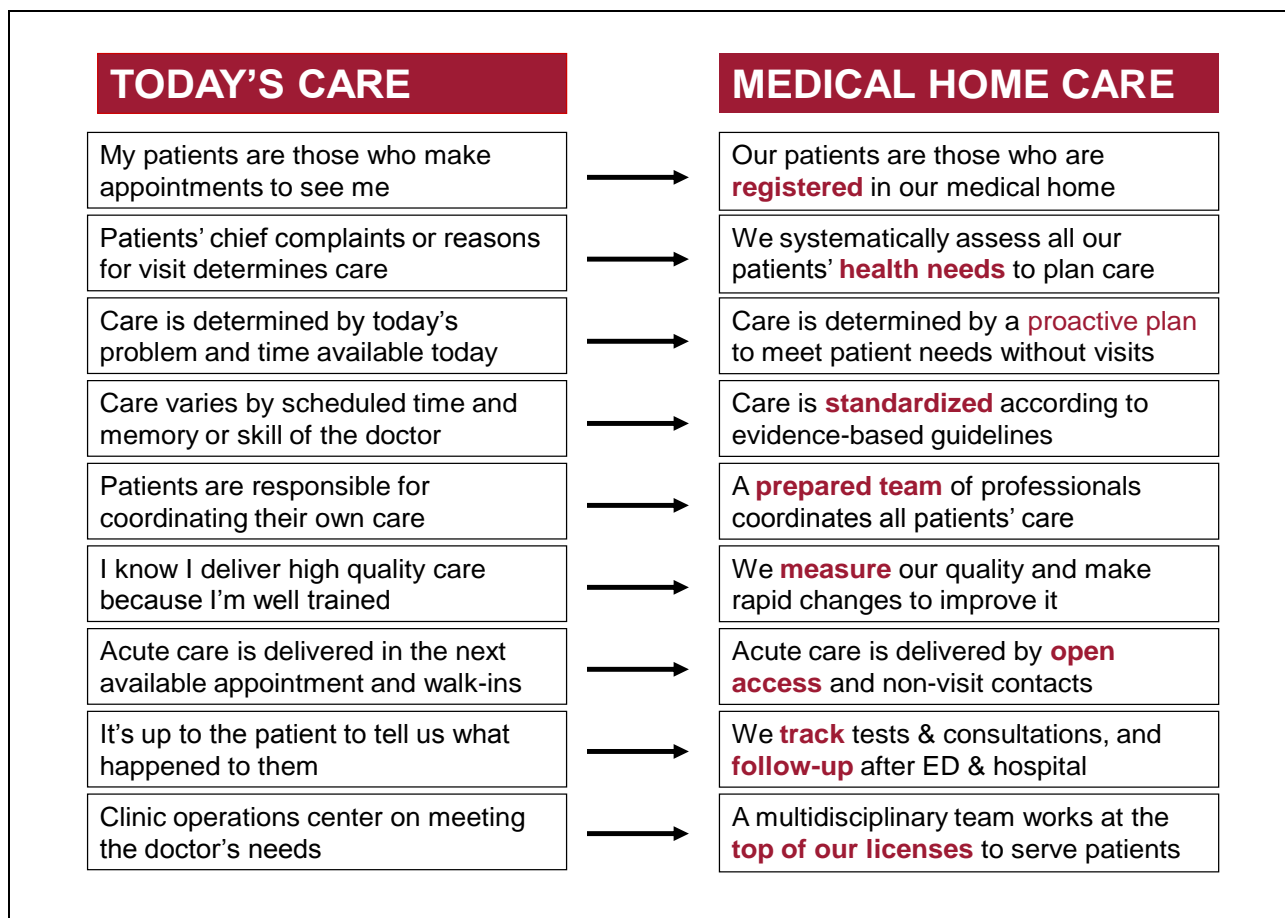
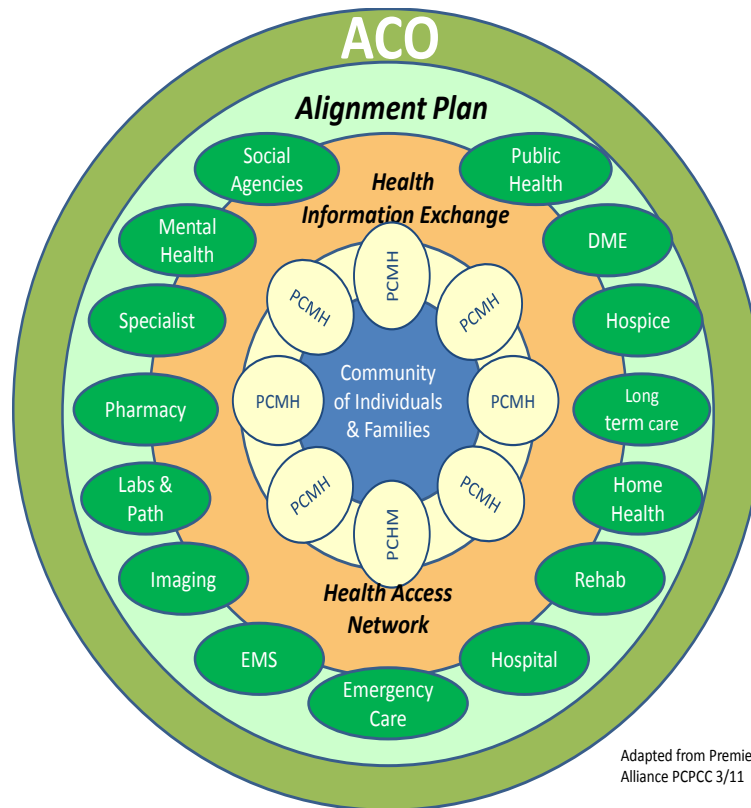


Figure 4 Components of the PCMH Neighborhood



Zooming out to a larger perspective, figure 4 depicts how elements of an Accountable Care Organization (ACO) health care system interconnect. Multiple individual *Patient-Centered Medical Homes (PCMH)* clinical microsystems connect the community of individuals and families to health care by developing a personal relationship and commitment to management the individual's and family's access point to getting their health care needs met and coordinating services across the complex system.

The PCMH's are each connected in turn through a community level *health information exchange* (in Tulsa this is the MyHealth Access Network) and a *health access network* with the multiple other microsystems needed to provide contemporary health care to the patients served by the PCMH. The *non-primary care microsystems* include services such as emergency care, hospital care, rehabilitation, pharmacy, *specialist consultation or referral care*, mental health care, hospice, social services agencies, home health public health, and many more.

Likewise, the **non-primary care microsystems** connect to myriad PCMH microsystems and to each other through the **Health Access Network** and **Health Information Exchange** each microsystem organizes its work according to the policies and procedures contained in the agreements of the **alignment plan**.

One example of a format for developing the alignment plan is the American College of Physicians' policy for the PCMH Neighborhood. This policy provides guidance and formats for agreements across microsystems for co-management, referral, and coordination of care between the patient's PCMH and specialty microsystems.

The ACP position paper on Patient-Centered Medical Home Neighbors is helpful. We quote liberally from this document below. It maintains the primary care practice as a patient home but specifies specialty practices as neighbors in a neighborhood of care. In general, there are various relationships and exchanges possible between pediatric or adult primary practices and their specialty colleagues:

- 1) Pre-consultation exchange - - intended to expedite/prioritize care
- 2) Formal consultation - - to deal with a discrete question/procedure
- 3) Co-management arrangements
 - *Co-management with Shared Management for the disease:* The specialty practice will provide guidance and ongoing follow-up of the patient for one specific condition. Both the PCMH and specialty practice are responsible for clear delineation of expectations for the other. Within this model, the specialty practice will typically provide expert advice but will not manage the illness day to day.

"A PCMH physician has a patient with chronic lymphocytic leukemia. The patient has been evaluated by the PCMH-N hematology/oncology physician, is determined to be very stable, and does not require any intervention. The patient will need to be followed with periodic laboratory and physical exams. As the patient has active diabetes and hypertension requiring frequent visits to PCMH, it is determined that the PCMH will provide periodic assessments of the CLL, and the hematologist will simply follow up annually."

- *Co-management with Principal Care for the disease:* Both the PCMH and specialty practice are concurrently actively involved in the patient's treatment, but the specialty practice's responsibilities are limited to a discrete problem group or set of problems. The PCMH maintains control over all other aspects of care.

"A PCMH physician requests a consultation with PCMH-N oncology concerning a woman with ductal carcinoma in situ (noninvasive breast cancer - - DCIS). The oncologist ensures that management is complete, provides risk assessment, and gives his opinion about any preventative strategies. The patient may continue to have occasional follow-up with oncology; however, recommendations for mammography and other screening and preventative strategies will be coordinated via the PCMH."

- *Co-management with Principle Care of the patient for a consuming illness for a limited period:* Because of the significant nature and impact of the disorder, the specialty practice needs to temporarily become the first contact for care for the patient. However, the PCMH still receives ongoing treatment information, retains input on secondary referrals, and may provide certain, well-defined areas of care.

"A patient with Diffuse Large B-Cell Lymphoma is seen by a PCMH-N hematologist in the hospital post-operatively. Staging information is gathered; from which it is determined that he will need 18 weeks of CHOP-rituximab chemotherapy. The hematologist will provide chemotherapy and all care related to the delivery of chemotherapy drugs/monitoring toxicities, and prioritizing importance of care for other health issues. The hematologist will guide the patient to PCMH for other issues - - his ongoing hypertension or hyperlipidemia management. However, over the 4 months of active therapy the hematologist will probably be the first contact for all issues. After completing the active course of chemotherapy the patient will continue to follow-up with the hematologist, though after a time, any needed study will be coordinated with PCMH."

- *Transfer of patient to specialty PCMH for the entirety of care:* This refers to situations in which the specialty practice assumes the role of the PCMH. Thus, the specialty practice would be expected to meet the requirements of an approved third-party PCMH recognition process (e.g., the NCQA PPC-PCMH recognition), and affirm the willingness to provide care consistent with the "Joint Principles," including delivery of first-contact, whole-person, comprehensive care. *This situation is best represented by a specialty practice that is seeing a patient frequently over a relatively long period for the treatment of a complex condition that affects aspects of their physical and general functioning.*

"A 25-year-old patient with no other medical issues is diagnosed with acute lymphoblastic leukemia. This patient's care will be completely coordinated with the PCMH-N hematology specialty practice who

sees the patient at least monthly for 2 years of active therapy. The hematology practice assumes all responsibilities for care and is first call/first responder to any health issue."

For what type of patient should a hematology practice assume complete or near-complete care?

- acute leukemia/BMT
- sickle cell anemia
- **severe hemophilia**

References

American College of Physicians. The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home with Specialty/Subspecialty Practices. Philadelphia: American College of Physicians; 2010: Policy Paper. (Available from ACP, 190 N. Independence Mall West, Philadelphia, PA 19106.)

The Case of Jonathan - - the transition of care for a patient with severe hemophilia A

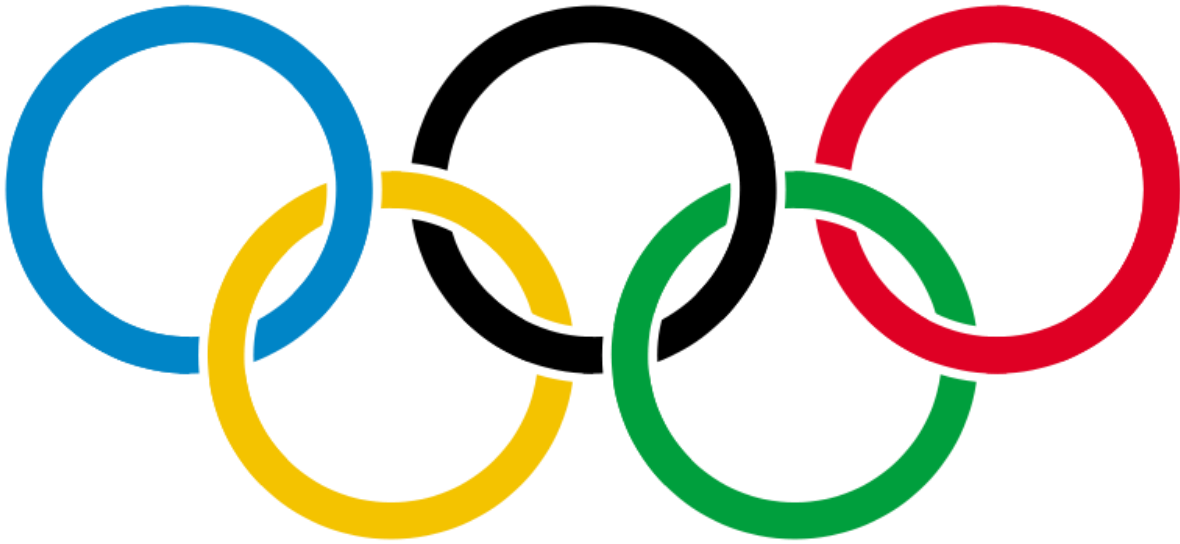
Today we'll have a case management conference to arrange the transfer of Jonathan from pediatric to adult hematology. Each table will be divided into seven roles - - each with unique insight and capability concerning Jonathan. Here are the roles:

- Jonathan - - 17 1/2 years old, patient with severe hemophilia A
- Pediatric hematology fellow - - has worked with Jonathan for the last 2 years
- Adult hematology fellow - - will work with Jonathan for the next 2 years
- Pediatric RN/Case Manager - - has worked with Jonathan & parents for the last 10 years
- Adult RN/Case Manager - - will work with Jonathan for the next 10 years
- Pediatric Social Worker - - has worked with Jonathan & parents for the last 10 years
- Adult Social Worker - - will work with Jonathan for the next 10 years

Each participant will receive a shared history and unique information appropriate to the role they are playing in the conference. The task of the group is to accomplish a high quality transfer of care as Jonathan moves from one microsystem to the next. What will guide the group? That's part of the challenge. We've included the transitions document from the consortium of hemophilia treatment centers that addresses patients aged 16-18 and mentions the transition to adult practice. It is correct to recognize this as an issue, but could this group come up with some useful tools and practices to share? We think so. You will craft the transition of care document for Jonathan and patients like him. Acknowledge Jonathan's needs and the capabilities and perspectives that each team member brings. An aspirational goal: could one of your teams come up with a tool that could be used and disseminated? What about your fellows? How would they do? We'll debrief at the end and use an SBP milestones document to assess your interprofessional performance and to model assessment of SBP in general.

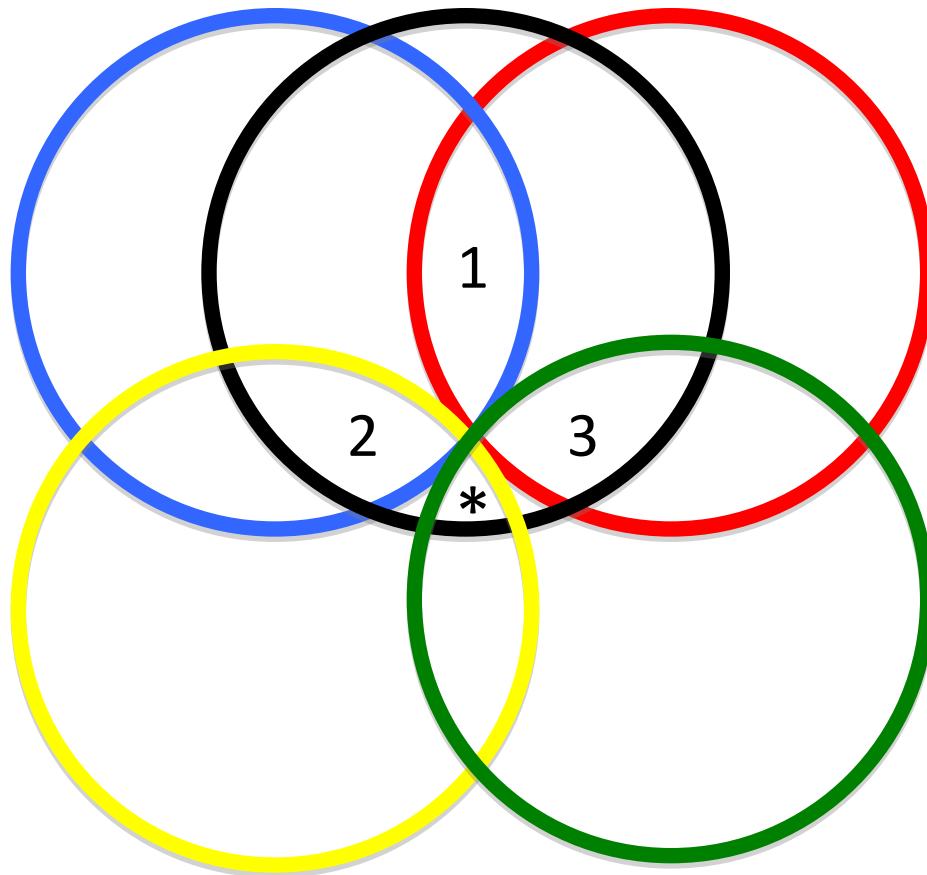
The following diagrams will help you to conceptualize the systems and interactions interactions necessary to accomplish Jonathan's goals.

Conceptualizing the systems that Jonathan needs



- Black ring - - patient at the center (Jonathan)
- Blue ring - - pediatric hematology home (sending)
- Red ring - - adult hematology home (receiving)
- Gold ring - - pediatric hemophilia treatment center
- Green ring - - adult hemophilia treatment center

Which interactions benefit the patient in transition? (the rings must be closer)



- 1 - - pediatric hematology transfers Jonathan's care to adult hematology (our case)
- 2 - - pediatric hematology and referral care to HTC-P concerning Jonathan (previous)
- 3 - - adult hematology and referral care to HTC-A concerning Jonathan (future)
- * - - HTC-P and HTC-A transfer quaternary care concerning Jonathan

The fact that all these interactions occur in the patient-center is not accidental.

Shared History - - Jonathan is a 17 1/2 year old young man with severe hemophilia A. He was diagnosed at circumcision. Jonathan experienced his first spontaneous bleed at the age of 4 and began prophylactic factor VIII infusion thereafter. Since childhood he has been cared for in a pediatric hematology practice in an academic medical center (AMC) less than one hour from his home. He visits a pediatric Hemophilia Treatment Center (HTC) that is 2 hours away annually. Jonathan has signs of early arthropathy in his right knee but does not have other target joints. This meeting involves the transfer of care from pediatric to adult hematology in the same AMC. Jonathan will attend college on the undergraduate campus in less than a year.

Information Specific to each Role:

Jonathan - - I'm excited about going to college and living in the dorms, but a little nervous as well. I received a scholarship that will cover tuition, room & board. That's needed, because my Dad just lost his job and things are tight on only Mom's income. I've been self-infusing factors since elementary school and I've been pretty lucky. I've had a major bleed only every couple of years - - mainly in my right knee. I want to be a nurse or social worker helping kids with hemophilia. I could also get a job at the company that sells the factors. Our representative Phillip has hemophilia and has been cool with me. I'm a little uneasy about changing doctors and nurses. I've been with this team as long as I can remember.

Pediatric Hematology Fellow - - I'm in my last year of fellowship. I actually met Jonathan when I was a resident at this center - - he was just 13. I asked to follow him as soon as fellowship began. Once a year I send Jonathan to our state's HTC for update and evaluation. They have orthopedic and oral surgeons experienced in the care of hemophiliacs. Jonathan could need arthroscopic or radiosynovectomy of the right knee in the next five years. Also, his wisdom teeth haven't started coming in yet.

Adult Hematology Fellow - - I'm a first year fellow and I'm here to receive Jonathan into my panel of patients. We have junior fellows accept transfers so that we'll be able to build a longer-term relationship. I'm not sure to what extent I'll practice classical hematology. Many of my classmates have not even taken the Hematology boards. I do like the idea of a team taking care of a complicated patient, and I'm eager to work with Jonathan. I'll be responsible for Jonathan's care here and I'll arrange the annual consultative visits with the adult HTC.

Pediatric RN/Case Manager - - I've known Jonathan since he was six. It feels like I'm sending my own kid off to college. I remember him crying when he couldn't join the soccer team then trying to do it

anyway. He came in with a huge hematoma. He settled down and came to enjoy swimming. For the most part Jonathan is compliant and is becoming more and more self-reliant. But - - he's still 17.

Adult RN/Case Manager - - I find adolescent/young adult transitions to be challenging. In fact, we've only been doing these conferences for the past year. One birthday does not make you an adult, so I tend to view the transition as a process. I ask early if a young patient wants us to communicate with him alone or if parents should stay in the loop. Privacy is a very different in adult medicine our practice emphasizes HIPPA awareness and compliance.

Pediatric Social Worker - - Jonathan has great family support. His parents have worked hard to make things as normal for him as possible. They decided not to have any more children after Jonathan was diagnosed. Something I am worried about: Jonathan's Dad just lost his job and Mom's insurance benefits are less generous. Jonathan ages out of Medicaid in less than 6 months.

Adult Social Worker - - I'm looking forward to working with Jonathan. I handle the insurance issues for our patients and I know Philip, the liaison to the specialty pharmacy. I'm glad that we have notice about Jonathan's situation. I'm also a licensed counselor, and I'm willing to help Jonathan with the general transition to college if he needs it.

The Task - -

1. conduct a simulated transfer of care conference centered on Jonathan
2. recognize and utilize the roles and capabilities of each participant
3. generate a transitions of care form/pathway to guide future conference

Rules

1. 25 minutes
2. Collaboration is key
3. Try to improve upon existing TOC guides - - prepare to share - - could this be a resource to the hemophilia community?

Appendix

- 1) Draft of ABIM Milestones concerning SBP - - we'll be using one of these for our evaluations
- 2) Hemophilia Treatment Centers transition guidelines for patients 16-18 as reference

Resident PGY level: _____

General Competency: Systems-Based Practice

Sub-Competency	Critical Deficiencies	Milestones														
						Ready for unsupervised practice				Aspirational						
8 - Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel).	Doesn't recognize how other interprofessional team members contribute to the care of a patient. Non-responsive to inquires from other team members. Frustrates team members with inefficiency and errors in communication that create extra work for others.	Identifies roles of other team members but does not recognize how/when to utilize them as resources. Has difficulty communicating needs to other team members. Frequently requires reminders from team to complete physician responsibilities (i.e. talk to family, enter orders).	Understands the roles and responsibilities of all team members but struggles to use them effectively. Participates in interprofessional discussions when required but does not actively seek input from other team members. Respectful of all members of the team yet views responsibilities only from physician perspective.	Understands the roles and responsibilities of all team members and effectively uses them as resources. Actively engages in interprofessional team meetings and collaborative decision-making. Effectively communicates needs to other team members. Considers alternative solutions provided by other team members.	Integrates all members of the interprofessional team into the care of patients, such that each is able to maximize their skills in the care of the patient. Active leader of team meetings.	Efficiently coordinates activities of other I team members to optimize care. Provides feedback to other team members, including leadership and administration, in order to optimize patient care. Viewed by other team members as a leader in the delivery of care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments:																

Resident PGY level: _____

Sub-Competency	Critical Deficiencies	Milestones										
				Ready for unsupervised practice				Aspirational				
9 - Recognizes system error and advocates for system improvement.	<p>Recognizes but ignores a potential risk for error within the system that may impact the care of a patient.</p> <p>Does not accept feedback or demonstrate a willingness to change behavior in order to reduce the risk for error.</p>	<p>Does not recognize the potential for system error.</p> <p>Makes patient care decisions that increase the potential for error that may cause a patient harm.</p> <p>Resistant to feedback about patient care decisions that may lead to error or otherwise cause harm.</p>	<p>Recognizes the potential for error within the system.</p> <p>Identifies obvious or critical causes of error and notifies supervisor accordingly.</p> <p>Makes decisions that could lead to error which are otherwise corrected by the system or supervision.</p> <p>Willing to receive feedback about patient care decisions that may lead to error or otherwise cause harm.</p>	<p>Identifies systemic causes of medical error and navigates them to provide safe patient care.</p> <p>Recognizes the potential risk for error in the immediate system and takes necessary steps to mitigate that risk.</p> <p>Reflects upon and learns from own critical incidents that may lead to medical error.</p>	<p>Engages with other team members to identify and propose quality improvement interventions designed to prevent or reduce medical error.</p> <p>Activates formal system resources to investigate and mitigate real or potential medical error.</p>	<p>Actively engages in a formal quality improvement activity.</p> <p>Requests system leadership to formally engage in quality assurance and quality improvement activities.</p> <p>Viewed as a leader in identifying and advocating for the prevention of medical error.</p> <p>Teaches others regarding the importance of recognizing and mitigating system error.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Resident PGY level: _____

Sub-Competency	Critical Deficiencies	Milestones										
				Ready for unsupervised practice				Aspirational				
10 - Identifies forces that impact the cost of health care, advocates for, and practices cost-effective care.	Frequently demonstrates a "blame the patient" attitude. Uses minimal effort to overcome barriers to cost-effective care.	Lacks awareness of external factors (e.g. socio-economic, cultural, literacy, insurance status) that impact the cost of health care and the role that external stakeholders (e.g. providers, suppliers, financiers, purchasers) have on the cost of care. Does not consider limited health care resources when ordering diagnostic or therapeutic interventions.	Lacks awareness of how external factors play a significant role in a patient's utilization of health care resources. Minimizes unnecessary diagnostic and therapeutic tests in order to reduce cost. Limited understanding of cost-awareness principles for a population of patients (e.g. screening tests).	Recognizes that external factors play a significant role in a patient's utilization of health care resources and often act as a barrier to cost-effective care. Advocates for cost-conscious utilization of resources (i.e. emergency dept visits, hospital readmissions). Incorporates cost-awareness principles into standard clinical judgments and decision-making, including screening tests.	Advocates for patients by working to remove common barriers to cost-effective care. Teaches patients and healthcare team members regarding appropriate utilization of resources and cost-reduction. Actively participates in initiatives and care delivery models (e.g. PCMH) designed to overcome or mitigate barriers to cost-effective high quality care.	Provides leadership by educating others regarding the common barriers to cost-effective care. Advocates for limited use of resources and cost reduction in all care settings. Strives to balance testing with clinical acumen. Uses quality improvement principles to lead efforts to overcome systemic barriers that lead to inappropriate utilization of resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Comments:											

Resident PGY level: _____

Sub-Competency	Critical Deficiencies	Milestones									
						Ready for unsupervised practice		Aspirational			
11 - Transitions patients effectively within and across health delivery systems.	<p>Does not utilize available resources to coordinate and ensure safe and effective patient care within and across delivery systems.</p> <p>Communication with future caregivers is inefficient or inaccurate and frequently requires clarification or correction.</p> <p>Does not respond to requests of caregivers in other delivery systems.</p>	<p>Struggles to utilize available resources to coordinate and ensure safe and effective patient care within and across delivery systems.</p> <p>Written and verbal care plans during times of transition are incomplete or absent.</p> <p>Inefficient transitions of care lead to unnecessary expense or risk to a patient (e.g. duplication of tests readmission).</p>	<p>Recognizes importance of communication during times of transition but does not consistently include or recognize important caregivers or specifics of patient care plan.</p> <p>Communication with future caregivers is present but with lapses in pertinent information.</p> <p>Responds quickly to requests and inquiries of caregivers in other delivery systems.</p>	<p>Appropriately utilizes available resources to coordinate care and ensure safe and effective patient care within and across delivery systems.</p> <p>Proactively communicates with future care givers to ensure continuity of care.</p> <p>Recommends appropriate utilization of resources to future care providers in other delivery systems.</p>	<p>Coordinates care within and across health delivery systems to optimize patient safety, increase efficiency and ensure high quality patient outcomes.</p> <p>Anticipates needs of patient, caregivers and future care providers and takes appropriate steps to mitigate those needs.</p> <p>Role models and teaches effective communication at transitions of care.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:											

Systems-Based Practice

The resident is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in training. He/she is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, timely, equitable, effective and patient-centered care.

_____ Yes _____ No _____ Marginal

Name:

DOB:

TRANSITION GUIDELINES 16-18 Years Old

Social Support

Goals & Objectives	Strategies	16	17	18
Young adult identifies supports.	Discuss sources of support as needed.			
Young adult meets and socializes with others with bleeding disorders.	Recommend Hemophilia Camp/HTC involvement through group or volunteer opportunities.			

Health and Lifestyles

Goals & Objectives	Strategies	16	17	18
Young adult understands concept of healthy lifestyle behaviors, including diet, exercise and problem solving.	Discuss physical fitness /available community resources.			
	Continue to discuss conflict resolution .			
Young adult understands consequences of activities/adaptations related to bleeding disorder.	Discuss consequences of joint, muscle and major bleeds .			
	Discuss appropriate sports/protective equipment .			
Young adult understands impact of alcohol, tobacco and drug use.	Discuss consequences of impaired judgment .			
Young adult understands long-term health goals, including transition to adult care.	Discuss importance of maintaining health care/adherence to treatment regimens.			
	Discuss transfer to primary adult care , staff, location and confidentiality issues.			
Young adult understands the impact of bleeding disorder on body image.	Discuss concerns re: body image .			

Educational/Vocational/Financial Planning

Goals & Objectives	Strategies	16	17	18
Young adult describes interests, aspirations and post high school plans	Review young adults interests/abilities with parental input.			
	Review post-secondary school choices for appropriateness re: bleeding disorder and availability of HTC.			
	Continue to recommend contact with school counselor re: appropriate course work.			
	Provide information/applications re: available resources to assist with post-secondary education including voc/rehab.			
	Suggest summer employment /shadowing in areas of interest.			
Young adult will plan and seek out health care benefits for future.	Recommend young adult/parents explore insurance options for college.			
Young adult describes realistic plans for employment and the future.	Educate re: employment rights (ADA).			
	Provide information/applications etc.			

Name:

DOB:

**TRANSITION GUIDELINES
16-18 Years Old**

Self Advocacy & Self Esteem

Goals & Objectives	Strategies	16	17	18
Young adult expresses medical, physical and social needs to others.	Discuss bleeding disorder/impact on daily living and plans for future.			
	Young adult should demonstrate knowledge of physical abilities .			
	Self-infusion , documentation and interaction with staff expected.			
Young adult will be able to advocate and negotiate for health care.	Ensure young adult has skills to negotiate needs (travel letter, E.R. care, P.T. referral).			
Young adult understands rights and responsibilities for health care.	Discuss what is expected of the young adult and what can be expected from the health care staff.			
	Continue discussion re: problems with peers or awkward situations (i.e. infusions at school).			
Young adult seeks information/services to ensure ongoing health.	Discuss educational support (regional, NHF, WFH, Internet).			
Young adult understands utilization of the adult health care system.	Discuss plans for transition to adult care (primary care/bleeding disorder care). Provide written material as needed.			
	HTC staff should facilitate introductory visit .			
	Pediatric staff support may be offered for the first few months of transition.			

Sexual Health

Goals & Objectives	Strategies	16	17	18
Parents demonstrate understanding of their young adult's bleeding disorder and its relation to sexuality.	Continue to offer assistance to parents re: initiating and continuing discussion about sexual health with their young adult (refusal skills, safe sex, sexual identity and behaviors).			
Young adult understands impact of impending adulthood on his/her bleeding disorder.	Discuss sexual behaviors, contraception, pregnancy, sexual identity and rights as a sexual person . Continue to discuss questions, concerns/fears re: the changes occurring , physically/emotionally;			
Young adult seeks answers to questions about sexual health.	Continue to discussion re: decision making under pressure and safe sex .			
	Continue discussion re: STD's (Hep C transmission), menstruation and impact of bleeding disorder on sexual activity (groin bleeds, joint bleeds) .			
Young adult identifies sexual health services in the community.	Provide information re: sexual health services/providers .			

Name:

DOB:

**TRANSITION GUIDELINES
16-18 Years Old**

Independent Health Care Behaviors

Goals & Objectives	Strategies	16	17	18
Young adult demonstrates understanding of healthcare needs by participating in treatment/decision-making.	Assess/reinforce young adults understanding of treatment regimen/comprehensive care . Assess adherence.			
	Assess/reinforce young adult's understanding of benefits/adherence with home exercise/PT program and RICE .			
	Reinforce need to contact medical providers if home exercise program causes problems/concerns .			
Young adult participates in health care management by keeping records and communicating with healthcare providers.	Ensure young adult communicates with HTC providers (appointments, prescriptions).			
	Ensure young adult tracks home therapy/medical supplies/medications .			
	Stress reporting complications/problems to HTC.			
	Increase young adults personal time with HTC staff during clinic visits. Encourage young adult to list questions.			
	Ensure females record menstrual bleeding (duration, amount and discomfort) for review at clinic.			
	Discuss who to call for what .			
Young adult, family and healthcare providers negotiate decisions, roles and responsibilities for healthcare.	Ensure young adult completes personal care record/emergency care plan for school/home .			
	Ensure young adult knows address/phone number of treatment center.			
	Continue CVAD/venipuncture transition (if applicable).			
	Continue discussion of developmental tasks re: young adult/disclosure.			
	Discuss changing roles as young adult accepts responsibility for care .			
Family and young adult utilizes preventative and supportive care services in their community.	Encourage youth to consult PT re: bleeds/joint protection or joint protection and fitness.			
	Discuss access to community resources (local fitness center, walking trails, parks, etc.) to promote a health lifestyle.			
Young adult understands genetic implications of his/her bleeding disorders.	Ensure young adult understands genetic variables/implications of his/her diagnosis.			
	Provide written materials (family tree).			
	Offer genetic referral as needed.			
Young adult understands implications of carrier status.	Ensure young adult understands carrier status and its implications . Provide written materials.			
	Educate at risk family members re: carrier testing .			
Young adult understands implications of symptomatic carrier status.	Ensure symptomatic carrier understands the diagnosis, when and where to seek hematological care, refer to GYN care if necessary, etc.			

Comments/Literature Provided:
