Patient Safety and Clinical Pharmacy Services Collaborative (PSPC)

Change Package

September 2010
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**PSPC AIM:** Committed to saving and enhancing thousands of lives a year by achieving optimal health outcomes and eliminating adverse drug events through increased clinical pharmacy services for the patients we serve
What is the PSPC Change Package?

The “Change Package” details the leading practices that together address the Aim and Goals of the PSPC. They are executed by the teams as they strive for transformation of their organization's delivery of health care. The Change Package has been developed through site visits to high performing organizations that have achieved outstanding results (see Appendix B). It has been reviewed and vetted by a panel of national experts and serves as the catalogue of leading practices that teams will adapt using an accelerated improvement process.

The Change Package is an evolving document that has been honed as teams test and refine the leading practices in their patient care settings. It continues to improve as we move forward together in a learning community of practice.

The PSPC faculty is drawn from the high-performing organizations and current PSPC teams. Throughout the 12 months of the Collaborative, the faculty provides guidance on how teams can test and implement these strategies to achieve breakthrough improvements. Change concepts and specific action steps will be sufficiently defined so that teams can initially test recommended changes in their delivery system and track them within their Population of Focus. Throughout the collaborative, the faculty, successful teams, and consultants serve a major role in supporting the PSPC3.0 teams as they work and learn together to implement a patient-centered, inter-professional team approach in the delivery of clinical pharmacy services and practices that improve patient safety.

What are the PSPC strategies and change concepts?

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How can I use the PSPC Change Package?

The PSPC Change Package is a dynamic document that is intended to be used in conjunction with other materials developed for the PSPC. The ‘Readiness Actions’ and ‘First Things First’ pages were created to help teams advance through the different stages of developing and implementing clinical pharmacy services. We heard from many teams from the first cohort that these action items helped them lay the foundation for their PSPC work.

The PSPC Change Package is organized into five color-coded strategies to achieve accountability for results:

- Leadership Commitment
- Measurable Improvement
- Integrated Care Delivery
- Safe Medication Use Systems
- Patient Centered Care

Each strategy includes change concepts and each of which is accompanied by action items (see illustration to the right). Action items are referenced to specific organization(s) that were identified in 2007 (see appendices A and B). These cross-references are provided only for the purposes of example and do not imply that the action items are limited to a particular organization.

The PSPC Change Package includes ‘Putting the “Action” into action items’, which are examples of the action items at work from the PSPC teams across the country.

Finally, helpful tools, resources and definitions are also included in the PSPC Change Package. Together, all these elements provide an easy-to-understand document that will help teams advance the PSPC Aim.

http://www.hrsa.gov/patientsafety
READINESS ACTIONS

The “Readiness Stage” is the first stage in the development of clinical pharmacy services (CPS). In the Readiness Stage, the health system is committed to providing CPS and are organizing their resources to implement, but they are not yet ready. In this stage, there is little or no use of PDSA’s.

1. **Perform quick self-assessment using change package**  
   *(Please see the HRSA Healthcare Communities for the PSPC Self-Assessment tool)*
   - What are the relationships I need to develop to perform on each strategy?
   - Who should we partner with?
   - What are the assets we have to carry out each strategy?
   - What are the assets we need to line up?
   - Who are the people to move this forward?
   - What will show it is working?

2. **Organize information on the need for, and the benefits of, CPS**
   - Have a case for the need for change
   - Use success story from another community
   - Identify acknowledged problem situations that would be improved by CPS
   - Use readily available data to make case for CPS.

3. **Reach out and set communications with other interested parties up front**
   - Use training to engage Senior Leaders
   - Identify individual provider interests
   - Talk to IT early and understand capacity for improvement through IT
   - Identify physician champions
   - Introduce case for CPS in strategic and operational planning
   - Ask leadership to charter the effort

4. **Move partners and champions into place (organizations and providers)**
   - Convene people that “want a change, have ideas for change”
   - Involve interested providers
   - Involve patients and families on a planning committee
   - Discuss information on benefits to CPS
   - Document and share needs and interests
   - Prepare for “first things first”

5. **Identify potential high-risk populations of focus and map CPS**
   - Survey staff on what health status and medication risks to focus on
   - Develop estimates of baseline patient flows.
   - Draft referral criteria
   - Draw CPS as a workflow integrated into current practice.
FIRST THINGS FIRST

The “First Things First Stage” is the second stage in the development of clinical pharmacy services (CPS). In the First Things First Stage, the health system begins with the first PDSA cycles. The inter-profession health care team convenes on a regular schedule, working with the Change Package and installing CPS. This stage begins when patients are receiving CPS. In this stage, the CPS process is defined and both the services and results are being tracked.

1. Have organizational leadership in action
   - Have leadership call for change
   - Have leadership charter the team
   - Have leadership make commitments to support the team

2. Speak of measurable improvement
   - Develop a “story”
   - Create sense of urgency with examples and data
   - Show base line data
   - Tell how others do it
   - Show partners “what’s in it for me”
   - Promise retention of providers and patients

3. Convene the action team
   - Bring the right people together
   - Meet weekly
   - Use a rapid improvement model
   - Decide on system of documentation/rules
   - Start small but plan big
   - Plan first PDSAs using change package

4. Begin integrating services through education of players
   - Educate leadership on opportunities and interest
   - Involve IT very early as a partner
   - Education providers on CPS potential and opportunities
   - Engage and enroll clinicians on the team vision for CPS

5. Present a picture of the CPS as a well-defined operation
   - Create a vision of CPS as a way to reduce errors and improve health outcomes
   - Communicate the vision in an exciting way
   - Define the population of focus
   - Establish the patient referral triggers/protocols to CPS
   - Produce the flow chart of the CPS operation (planned and actual)

6. Get patients engaged early
   - Educate patients to increase engagement with CPS
   - Include patient in QI work
   - Develop community support for CPS
LEADERSHIP COMMITMENT:
Develop organizational relationships that promote safe medication-use systems and optimal health outcomes

A. Foster a culture of quality and safety with a vision of integrated clinical pharmacy services to improve safety and health outcomes.¹

A1. Assess organizational needs for quality, safety, and health outcomes improvements (e.g., by conducting surveys on patient satisfaction, provider satisfaction, and safety culture, respectively; by conducting needs assessments, and by utilizing error reporting data).²

A2. Identify areas for improvements, by seeking input through staff meetings, patient safety committees, and community members; and use findings to guide process changes.³

A3. Set clear organizational goals for quality, safety, and efficiency improvements by focusing on identified needs and areas for improvement.⁴

A4. Provide staff with tools needed to accomplish organizational goals for quality, safety, and efficiency (e.g., Lean, plan-do-study-act [PDSA], failure mode effects analyses [FMEA]).⁵

A5. Communicate and reinforce consistent messages of goals and expectations throughout the organization (e.g., display organization mission and goals prominently such as in posters, employee badges, and include it in job descriptions).⁶

A6. Put the focus on “patient and safety” in the organizational mission and vision.⁷

A7. Establish a culture of safety by examining and changing system processes rather than by blaming individuals involved in reported error events.⁸

A8. Train all employees in safety and quality (e.g., set aside one day a month for staff development, in-service training, and education; conduct annual assessment of competencies).⁹

A9. Establish an organizational chart that gives each provider group equal access to leadership and decision-making (e.g., incorporate the chief of pharmacy services in the highest leadership/management level of the organization).¹⁰

A10. Develop a learning network with leaders from other organizations to improve quality (e.g., meet regularly with regional and local leaders to share successes and failures).¹¹

A11. Identify and eliminate interruptions at the workplace (e.g., remove telephones from areas where working requires concentration).¹²

A12. Assess the qualities of new team members by asking creative and effective questions during recruitment, and build a team that:
- is bilingual or multilingual,¹³
- is locally trained or has grown up in the local community,¹⁴
- has a residency background in primary care settings,¹⁵
- understands the challenges faced by the poor,¹⁶
- is willing to work with and help the poor,¹⁷
- has a sense of idealism and cooperation,¹⁸ and
- is flexible and willing to work with a variety of people.¹⁹
PSPC AIM: Committed to saving and enhancing thousands of lives a year by achieving optimal health outcomes and eliminating adverse drug events through increased clinical pharmacy services for the patients we serve

Putting the “Action” into action items

- University of Southern California (USC) (Los Angeles, CA) started by searching for ideal clinic partners, those with leadership committed to improving quality of care and open to creative solutions. Next, USC identified faculty with expertise in areas of interest to community clinics including formulary and dispensary management for the uninsured and disease state / medication therapy management of common chronic illnesses. As more clinics were added and funding became available for pharmacists, USC was able to hire its own residency graduates, all of whom are at least bilingual and have had training in cultural competency and health literacy. With these patients and providers, the pharmacist were able to document and show improvement with this initial group. The department heads then became the champions for the pharmacist when recruiting other providers to start referring patients to the pharmacy-based diabetes program.

- Holyoke Health Center’s (Holyoke, MA) PSPC team members provide monthly in-services and one-to-one training as needed to staff in their respective departments. Training is focused on newly implemented organization wide safe medication use practices and the benefits of clinical pharmacy integration with primary care.

- Mercy Family Pharmacy (Dubuque, IA) identified different demands and workflow created by providing direct patient care activities created the need for pharmacist to prioritize their daily tasks. This created a system where pharmacist prioritized daily activities, concentrating on tasks within structured dispensing system, often interfering with long term goals of improving patient centered care. To help create an expectation which allows accomplishment of specific care activities, pharmacist were provided scheduled time to provide each unique care activity. This created a structured workflow to hold pharmacist accountable for patient care and provide the needed care to their patients.

- Siouxland Community Health Center (SCHC) (Siouxland, IA) has a Quality Improvement Committee that has representation from every department of the organization. This committee utilizes feedback from departmental meetings, patient satisfaction surveys, patient concerns, and medication errors. The Committee identifies trends through these different mechanisms and reports concerning trends to the management team and the Board of Directors along with an opportunity for improvement.

B. Form partnerships to achieve a shared compelling vision by aligning and leveraging resources.

B1. Participate in a network of providers to share effective strategies to streamline care processes.  
B2. Involve the organization in local or national patient safety initiatives (e.g., “5 million lives” campaign, FLEX program, Executive Leadership Training, statewide patient safety initiatives).  
B3. Form an advisory group consisting of community members to recommend improvements from a patient perspective.  
B4. Establish partnerships and collaborations with nearby Schools of Pharmacy to provide technical assistance and educational opportunities.  
B5. Participate in pharmacy residency programs through clinical pharmacy training opportunities and/or student volunteer programs in safety-net settings.
Putting the “Action” into action items

- **El Rio Community Health Center (Tucson, AZ)** started recruiting patients by contacting the department heads of Internal Medicine and Family Practice encouraging them to send 10 of their most complicated patients. By working closely with these patients and providers, the pharmacist were able to document and show improvement with this initial group. The department heads then became the champions for the pharmacist when recruiting other providers to start referring patients to the pharmacy-based diabetes program.

- **USC (Los Angeles, CA)** has partnered with 4 different safety net provider networks, allowing a sharing of knowledge and experience between the sites. As a result, “reinventing the wheel” is avoided, and new clinic partners are able to see rapid growth of their CPS programs.

- **Holyoke Health Center (Holyoke, MA)** has partnered with Massachusetts College of Pharmacy to provide an on-site Pharm D faculty member and students. Advanced ambulatory students round with primary care providers, provide drug information to patients and providers, and assist with pharmacy based MTM clinics.

- **SCHC (Siouxland, IA)** partnered with the University of Nebraska Medical Center College of Pharmacy to develop a 50-50 co-funded position for a clinical pharmacist. The clinical pharmacist serves as Adjunct Clinical Assistant Professor and the majority of his time at the health center managing patients with diabetes and teaching 2 fourth-year pharmacy students every month.

C. Build the business case and foundation for the sustainability of integrated clinical pharmacy services.

C1. Collect data on safety, cost, and health outcomes, and use findings to support the business case by demonstrating value in clinical pharmacy services (e.g., compare outcomes for patients who do and do not see a clinical pharmacist).\(^{24}\)

C2. Seek funding for quality improvement opportunities from local or national sources, and identify a plan for sustainability early in the implementation process \(^{25}\) (e.g., consider sharing cost of clinical pharmacist’s salary with a nearby School of Pharmacy in exchange for overseeing clinical rotations; \(^{26}\) seek reimbursement for services from an employer-based health plan by demonstrating improved health outcomes; \(^{27}\) use MTM services, savings from 340B drugs, and a community fundraising program \(^{28}\)).

C3. Maximize the clinic’s 340 B drug-pricing program by creating opportunities for pharmacists and other providers to learn about drug pricing, and educate staff and patients about the most cost effective therapeutic plan.\(^{29}\)

C4. Use external resources to develop or help inform the business plan (e.g., American College of Clinical Pharmacy).\(^{30}\)

C5. Use cost savings and outcomes data to build a business case to assist the organizational leadership in decision-making to support clinical pharmacy services.\(^{31}\)

C6. Document and track business-specific data, including soft and hard dollars (e.g., illustrate time savings to physicians resulting from clinical pharmacy services and medication Reconciliation\(^{32}\) and avoided hospitalizations).\(^{33}\)

C7. Identify and utilize research opportunities (e.g., involving residents) that provide the evidence and outcomes to support the business case for patient safety and clinical pharmacy services.\(^{34}\)
Putting the “Action” into action items

- **Harris County Hospital District (HCHD) (Houston, TX)** used cost savings from a diabetes service to show how only 1/2 day of CPS intervention reduced ER and hospital admissions.
- **When HCHD (Houston, TX) encountered barriers among stakeholders to expand services, the team used an ACCP guidance on business plan development to convince opponents of the value of CPS. The team received expert input during the development of the business plan to ensure its viability.**
- **USC’s (Los Angeles, CA) campus pharmacy manager reviewed the medication formulary and identified opportunities to maximize the use of generic medications purchased through the 340B program, as well as free medications through the Patient Assistance Program. The total annual medication purchase cost savings was approximately $700,000 in 3 clinics partnering with USC.**
- **Holyoke Health Center (Holyoke, MA) has partnered with Boston Medical Center Health Net Plan (BMC: a Medicaid managed care organization) to trace pre and post MTM per member per month spending and health care outcomes on 50 BMC patients.**

Tools & Resources


MEASURABLE IMPROVEMENT:
Achieving change using the value and power of data-driven improvements

D. Collect, analyze, and disseminate the data that are necessary to guide improvement in process and results.

D1. Develop a plan for capturing data on process improvements (e.g., use an ACCESS or FileMaker Pro software if electronic medical records (EMR) or a patient registry is unavailable; if EMR is available, ensure that IT systems design allows for performance and outcomes monitoring and user-friendly data extraction).35

D2. Perform random or peer-to-peer audits of charts documenting provider performance monthly, and review the results with entire care team to investigate the identified lapses in care processes (e.g., patient outcomes not improving as expected, tests missing; lack of follow-up or adequate documentation; and suboptimal choice of medications, dosages, or treatment plans).36
D. Collect, analyze, and disseminate the data that are necessary to guide improvement in process and results (cont.)

D3. Assess the gaps in safety and efficiency to improve the processes of care by using methods such as root-cause analysis, PDSA, FMEA, Lean, Six Sigma, or Cause and Effect Diagram.

D4. Analyze data trends and compare your performance with other similar organizations for benchmarking and establishing baselines or trending data over time and after the tests of improvements.

Putting the “Action” into action items

- CPS services provided by USC (Los Angeles, CA) pharmacists are documented in a shared commercial database file that resides securely on USC’s server. Access to this file is available from any computer with internet access. The file also serves as an EMR for pharmacists.

- El Rio Community Health Center (Tuscon, AZ) developed a data collection sheet to help track intervention to users in population of focus. As a result, errors were more easily tracked, CPS improved and it helped identify ADEs and pADEs.

- Holyoke Health Center (Holyoke, MA) performs quarterly audits to verify the accuracy of information documented in the PECS registry system vs. the medical chart.

E. Manage the delivery system on safety improvement by implementing safe practices and tracking safety outcomes.

E1. Develop a plan for capturing patient-safety data (e.g., develop or use an existing system to identify medication errors).

E2. Establish systems to facilitate error reporting and identification (e.g., place error reports adjacent to patient medical records; provide electronic templates; embed in EMR; standardize paper forms; implement patient-safety walk-arounds, and ask staff for their input about areas prone to errors).

E3. Practice transparency by implementing a standardized error-reporting system, encouraging reporting of adverse drug events (ADE) and medication error, sharing results with staff and organizational leadership regularly (pharmacy and therapeutics [P & T] committee, Board of Directors, monthly staff meetings), and putting employee protections in place to encourage staff to report these events without fear of persecution.

E4. Classify errors by severity of harm (i.e., low severity of harm including circumstances or events that have the capacity to cause error, or circumstances under which errors occurred but the medication did not reach the patient and/or did not cause harm; high-severity harm considered to be errors that occurred and resulted in need for treatment or intervention and caused temporary or permanent harm, near-death effect, or resulted in patient death) and put systems and protocols in place to address errors by such classifications (e.g., review and discuss low-harm errors with staff; conduct root-cause analysis or FMEA for severe errors).

E5. Review errors continuously, and develop policies to address them within a specified time (e.g., within 5 days).
E. Manage the delivery system on safety improvement by implementing safe practices and tracking safety outcomes (cont.)

E6. Adopt a preventive approach to error reporting, each time asking what could be done to prevent the reported error from happening again.49

E7. Capture near misses and share those reports with staff and relevant committees to implement system-level improvements.50

E8. Share the ownership of risk, and aim for initially high rates of near misses, with the understanding that initially high rates (or increases) of near misses indicate accurate reporting and a culture of safety.51

E9. Develop a process for identifying solutions for prevention of near misses (e.g., by documenting and exploring the sources and probable causes of near misses or by conducting FMEA and root-cause analyses).52

E10. Involve patients in the adverse event-reporting process, and use the data to inform process change by providing visible and easy-to-use reporting forms that are accompanied by educational materials (e.g., incorporate questions about medication safety in patient satisfaction surveys).53

E11. Monitor and track system errors (e.g., establish an internal quality assurance process, anonymous reporting, a blameless system-based approach to error reporting, and an electronic reporting system where feasible).54

E12. Conduct a root-cause analysis for high-severity errors to help improve processes and to avoid future medication errors.56

E13. If electronic medical records are in place, utilize EMR to prospectively identify three levels of cross-checking: drug-drug, drug-allergy, and drug-diagnosis interactions.57

Putting the “Action” into action items

- **Family HealthCare Center (Fargo, ND)** staff members, as part of their Culture of Safety, are encouraged to report medication errors or potential/actual ADE’s without fear of blame. Root Cause Analysis by a multidisciplinary team have been performed on several potential serious medication errors, with action plans developed and implemented to prevent reoccurrence of these possible errors. *Standard ADE/pADE tracking* has been implemented in the onsite contract pharmacy, with a 25% increase over the past year in the number of pADE’s detected and reported. All Performance Improvement activities, including safe medication management, are reviewed by the organization’s administration and Board of Directors semi-annually.

- **Holyoke Health Center (Holyoke, MA)** has developed and implemented an organization wide adverse drug event reporting system.

- **Crescent Community Health Center (Dubuque, IA)** started tracking adverse drug events by creating a shared definition of an adverse drug event. We decided this was an event related to taking medication that resulted in a patient needing to contact the health care system, through a phone call, an additional physician visit, need for additional medication. During the trial implementation, practitioners to identified and documented adverse drug events within patient chart. Once providers were comfortable identifying adverse drug events, we created a consistent documentation tool for providers to use and allow for tracking. We continue to see growth in adverse drug events as our documentation improves, and are looking forward to developing a similar process to identify and documentation of prevented adverse drug events.
F. Manage the delivery system for improvements in health outcomes for high-risk patients.

F1. Develop a system for ongoing data collection of patient outcomes for high-risk patients (e.g., patient registries, EMR, or ACCESS database if EMR is unavailable), and use the data to monitor the effectiveness of interventions (e.g., track HbA1C for diabetic patients, review data with team, and prominently display aggregate data for patients to view success).

F2. Identify high-risk patients and put a process in place to make sure they return for follow-up appointments (e.g., if you have access to registries or EMR, automate follow-up visit reminders to high-risk patients).

F3. Review outcome data and share the rates and trends within the organization to monitor achievement of goals and targets.

Putting the “Action” into action items

- **Holyoke Health Center (Holyoke, MA)** Community Health Workers (CHWs) manage provider referrals for high risk patients and ensure that patients follow their MTM appointment schedules.
- **Siouxland Community Health Center (Siouxland, IA)** created a monthly “report-card” that is shared with providers that contains health outcomes data for diabetes, cardiovascular disease, asthma, and depression.

**Tools & Resources**

G. Develop an integrated multi-professional care team that includes pharmacy services.

G1. Establish trust and good communication among the participating providers by creating a standard protocol for collaborative practice agreements for clinical pharmacy services within and across organizations. 

G2. Practice effective and appropriate referrals, and leverage provider time (e.g., refer patients who are on simple medication regimens to nurses, dieticians, nutritionists, educators; refer complex or polypharmacy patients to a clinical pharmacist). 

G3. Promote internal collaborations to build teamwork among nurses, physicians, pharmacists, and other providers (e.g., bring interdisciplinary teams together to develop, implement, evaluate, and improve initiatives; create a Medication Safety Committee with pharmacists, physicians, and nurses to monitor patient safety reports and to set policy; when making new hires, seek to hire staff who have been trained to work in a collaborative environment). 

G4. Rotate dispensing and clinical pharmacist duties to reduce burn-out, maintain the skill set, and reduce the opportunity for errors. 

G5. Conduct an annual competency assessment of providers, incorporating assessment on patient safety measures.

Putting the “Action” into action items

- Holyoke Health Center (Holyoke, MA) has established a new employee orientation module that educates new staff about the onsite 340B pharmacy and the culture and practice of integrated clinical pharmacy services.

H. Develop a delivery system with an established primary health care home and linkages with other providers and settings.

H1. Help patients to identify a primary health care home and agree about the place of central access (i.e., mental health center, FQHC, rural health center, HIV/AIDS clinic, women’s healthcare clinic, or a private medical practice).

H2. Educate patients about the importance of identifying and establishing a primary health care home and how such goals can be achieved, so that they become advocates of the primary health care home concept (i.e., request that other specialists or providers coordinate any changes in their treatment plan with their regular provider).

H3. Educate patients on the importance of coordination and communication with their primary health care home regarding visits to other providers (e.g., urgent care visit, emergency room visit, referrals).
H4. Establish care teams and ensure that all members of the team share the same understanding of their roles within the primary health care home.  

H5. Once the patient has identified a provider, make sure that the provider or a member of provider’s team (i.e., another physician, a nurse, social worker, pharmacist) is accessible and available (i.e., utilize open access scheduling model which assures the availability to provider and to the team).  

H6. Seek to ensure that patients see the same provider each time they have a visit and that the provider is the key point of contact at admission, discharge, hospitalization, and care coordination with other facilities (i.e., specialty care clinic, dentist, mental health facility, county hospital, pharmacy).  

H7. Ensure that patients are seeing their primary care provider regularly while receiving medication management services from a pharmacist.  

H8. Establish a source of accurate patient information that is available to all persons involved in the primary health care of an individual (i.e., enable shared access to information for other team members, including agreement between the patient and provider and the individualized care plan for preventive, acute, and episodic care).  

H9. Hold regular team meetings to discuss patients that received consultation from pharmacy, medical care, substance abuse, mental health, oral health care and other relevant perspectives.  

H10. Build trust and collaboration with other care settings in the community to enable effective hand-offs.  

H11. Strive to establish a primary health care home and a pharmacy home that is based on the following key elements:  

   - Coordinated and tracked services;  
   - Integrated healthcare information across providers and settings (i.e., through the use of technology);  
   - Presence of electronic plan of care that is developed in coordination with the patient, practitioner, and vendor;  
   - Availability and access to psychosocial, behavioral, and caregiver support;  
   - Availability of care during after-work hours;  
   - Central location where patients see their provider, where their charts and records are available, and care protocols are followed.  

**Putting the “Action” into action items**  

- **Holyoke Health Center’s (Holyoke, MA)** PSPC home team is comprised of providers, nurses, pharmacists, administrators, CQI management and education and support service members. The 8 person team meets for 1 hour weekly to plan and analyze PDSA cycles and outcomes data.  

- **Family HealthCare Center (FHC) (Fargo, ND)** provides patient services utilizing the Care Team model. Every patient at FHC chooses their primary care provider (PCP). The patient is seen by their PCP for all acute care, chronic disease management, and preventive care visits. Advance Access scheduling allows patients same or next day access to their PCP. Each Care Team consists of two medical providers, their rooming LPN’s or MA’s, an RN Case Manager, and a pharmacist. By the team working together with a defined patient panel, they are able to establish close relationships with their patients. Each patient has a support system within the clinic, including their assigned pharmacist who they know they can call with any medication related problem.
I. Coordinate care transitions among providers and settings, with medication reconciliation at each care transition. 

11. Create a seamless process of medication management as patient transitions across care settings within or across organizations (e.g., include clinical pharmacist at admission and discharge, perform medication reconciliation upon admission and discharge; work with a hospitalist or a nurse who serves as a sole point of contact for admission, care management, and discharge at the local hospital; hire clinic providers who are credentialed to practice in the local hospital; utilize a discharge pharmacist, contact high-risk patients (e.g., patients on anti-coagulation drugs) by phone within 24 to 48 hours after hospital discharge.

12. Establish clear methods of communication among providers within and across settings (share an EMR system and generate reports on newly discharged patients); integrate inpatient and outpatient medical records; provide data access to/from various settings of your organization (i.e., hospital and ambulatory); share data among hospitals, clinics, and pharmacies to improve the continuity of care; practice e-prescribing.

13. Reconcile patient medication lists at each visit and at care transitions, including asking patients about over-the-counter medications and herbal supplements.

14. Reconcile medications for all new patients (e.g., new patient clinic; calls to patients prior to first visit; use patient wait time for initial provider visit to review medications).

15. Provide patients with a medication reconciliation form that includes an updated medication list, and teach them to bring their medication reconciliation form to each visit.

16. Involve pharmacists, physicians, nurses, and patients in medication reconciliation, and incorporate the medication reconciliation form into the physician order form.

17. Use a consistent and agreed-upon medication reconciliation form across all providers and units of the organization, including emergency room admission.

18. Provide patients with their list of current, over-the-counter, and discontinued medications at the entry and exit of each visit and educate them about those medications.

19. Ask patients to bring to each visit all medications that they are taking in original bottles, including over-the-counter medications, herbal, and supplements; include this request in an appointment reminder call and an appointment card, and reinforce this request at each visit.

Putting the “Action” into action items

- Holyoke Health Center (Holyoke, MA) has implemented a process where patients are given a medication bag and directed to bring in all medications from all providers to all appointments. All clinical staff have been trained to update the electronic prescribing system with the patient’s medication list. The updated medication list is used by the clinical staff to manage the patient. The printed list is given to the patient.

- White River Rural Health Center (Augusta, AK) wanted to make sure the patients’ medication list in the EMR was correct. The EMR medication lists of 5 patients were compared to the pharmacy medication list, and staff recorded patients’ self descriptions of their medication use. Upon comparison, only one patient’s list was consistent across all three records. This exercise helped White River develop a plan to address medication reconciliation. Physicians now give the patient’s a zip-lock bag with the company logo on it to store all of their medicines. Patient reminders to bring in all medications are provided through the automated phone system, exam room posters, and reminder slips handed out at check-out and in the pharmacy.
SAFE MEDICATION USE SYSTEMS:
Develop and operate by safe medication-use practices

J. Systematically introduce and institutionalize safe medication-use practices and monitoring procedures.

J1. Eliminate the practice of providing free samples, or establish a strict set of guidelines for acceptance and monitoring of samples based on a rational formula for the organization.

J2. Require double-checking, especially during the times when pharmacist is unavailable (e.g., develop and utilize policies requiring two nurses to verify the right drug when nurses access medication storage).

J3. Write notes in a standardized way based on locally developed guidelines shared among providers; for example, list “do not use” abbreviations on the medication form.

J4. Store medications in a standardized manner within a system of multiple pharmacies.

J5. Develop protocols to ensure that the right patient is getting the right medication at the right time (e.g., see-through bag; use of scanning technology; purpose of prescription indicated on each label; use of two point identifiers and verification of patient’s name and date of birth at every encounter).

J6. Facilitate patient access to prescriptions by using strategies that ensure prescription pick-up (e.g., home delivery, mail service, dispensing window at a clinic without a pharmacy; partnerships with community pharmacies).

J7. Practice an 18-month rule for review of drugs by a Pharmacy and Therapeutics (P&T) committee to make sure that the new drugs are safe (i.e., have been on the market long enough and interactions are well known).
J. Systematically introduce and institutionalize safe medication-use practices and monitoring procedures (cont.)

J8. Assess the appropriateness of medication for the elderly using the BEERS criteria.\textsuperscript{107}

J9. Do not use medication abbreviations or verbal orders.\textsuperscript{108}

J10. Store look-alike/sound-alike medications separately (e.g., with clearly labeled and color-coded medication bins, by medication class, and using “Tall man-short man” lettering techniques in labeling).\textsuperscript{109}

J11. Use safety practices, such as the following, for high-alert drugs:
   - Have available only one strength of heparin for flushing IVs.\textsuperscript{110}
   - Have a pharmacist review every medication order before it is dispensed to the patient.\textsuperscript{111}
   - Remove all but one concentrated electrolyte (leave in calcium gluconate).\textsuperscript{112}
   - Require a pharmacist to mix concentrated electrolytes.\textsuperscript{113}
   - Provide pre-mixed IV bags or develop IV bag mixing kits.\textsuperscript{114}
   - Develop high-risk drug nursing information sheets for ER and inpatient units.\textsuperscript{115}
   - Identify high-alert drugs, using colorful labels and clearly printed names on containers.\textsuperscript{116}
   - Require double-checking of all insulin and pediatric doses at all times.\textsuperscript{117}

Putting the “Action” into action items

- **Holyoke Health Center (Holyoke, MA)** has developed a workflow process and standardized forms to provide medication therapy management to patients. The process and forms include initial patient outreach, pre-visit work ups, the MTM encounter and the provider consultation.
- Visits with the **Eastern Virginia Medical School (EVMS) (Norfolk, VA)** PharmD were added as routine service stops at every return to care appointment. Processes were standardized so that all patients in the Population of Focus are consistently flowed through nursing, physicians, pharmacist, health education and discharge. A flowsheet and an electronic medication tracking system were utilized to increase communication across the clinic disciplines, and to mitigate poly-pharmacy and poly-dispensing problems in a rural area.

K. Establish on-site clinical pharmacy services.\textsuperscript{1}

K1. Establish clinical pharmacy services slowly, and allow them to evolve as a process with increasing levels of pharmacist responsibility (e.g., discussing the process with a team in advance, demonstrating value by showing cost savings on medications for the patients, using innovative strategies to get physician buy-in such as being a resource for medication-related information,\textsuperscript{118} conducting rounds with physicians on their patients to establish rapport and trust,\textsuperscript{119} offering to address the needs of the most complex patients).\textsuperscript{120}

K2. Implement clinical pharmacy services by initiating a pilot, collecting and tracking outcomes data from the onset, and using those data to convince the team of the pharmacist’s benefit to the patient and to the practice.\textsuperscript{121}

K3. Integrate the pharmacist as an equal member of clinical teams (e.g., co-locate pharmacists in the clinical area, involve the pharmacist in patient safety and quality improvement initiatives).\textsuperscript{122}

K4. Explore a variety of sources for developing a clinical pharmacy service and recruiting trained clinical pharmacists (e.g., Colleges of Pharmacy, VA, and Kaiser systems;\textsuperscript{123} pharmacy programs at the local universities to provide technical assistance and educational classes;\textsuperscript{124} and pharmacy students and residents being included in rural provider recruitment and retention strategies\textsuperscript{125}).
K. Establish on-site clinical pharmacy services\(^1\) (cont.)

K5. Actively involve the pharmacist as an integral part of the health care delivery team by including clinical pharmacy services in chronic care management (e.g., if state regulations allow, permit the pharmacist to make therapeutic changes in medication regimen or dose; use protocols to enable the pharmacist to adjust medications such as insulin or Coumadin\(^{126}\)).

K6. Identify high-risk patients and target clinical pharmacy services to address their complex needs (e.g., new patients, patients on anti-coagulation therapy, patients with multiple co-morbidities, poly-pharmacy patients, patients with disabilities, and patients with HIV/AIDS)\(^{127}\).

K7. Encourage clinical pharmacists to provide peer-to-peer education on medications, disease management, and new guidelines and regulatory requirements to other providers in person or through newsletters and education seminars, especially on new and high-alert medications\(^{128}\).

K8. Provide all eligible patients with access to formulary and 340B drugs for cost savings\(^{129}\).

K9. Provide pharmacists sufficient time with new patients to discuss medication management; allow the pharmacist to modify drug regimen to find a suitable formulary alternative for the patients and develop protocols to inform prescribers of the changes\(^{130}\).

K10. Identify a physician champion and get physician buy-in early so that physicians are comfortable delegating responsibility to the pharmacist and accepting the pharmacist as part of the clinical care team\(^{131}\).

K11. Provide the clinical pharmacist with access to medical records to profile all patients, lab values, and standard mode of communication with the rest of the team\(^{132}\).

K12. Utilize pharmacist expertise in providing patient education and counseling in the management of chronic illness (e.g., diabetes, hypertension, asthma, anticoagulation, pain)\(^{133}\).

Putting the “Action” into action items

- **Holyoke Health Center (Holyoke, MA)** operates an onsite 340B program and offers clinical pharmacy services to its patients and providers through pharmacist rounding as part of the primary care team and pharmacy based, medication therapy management visits.

- **USC (Los Angeles, CA)** was able to identify a provider champion at every partnering clinic who supported the pharmacist’s scope of practice and helped convince other providers of the value of integrating CPS into the health care team. USC pharmacists also made themselves readily available for drug therapy consultations with physicians, which accelerated trust in the pharmacists and the CPS.

- At the **Family Healthcenter (Paterson, NJ)** an anticoagulation clinic was started in February 2009 through the efforts of the anticoagulation task force (co-chaired by a physician and pharmacist) to oversee the implementation of safe medication practices related to anticoagulants for inpatients and outpatients. The focus of the clinic is to monitor patients receiving warfarin therapy using a point of care testing device and providing counseling to ensure compliance and safe use of this agent. The pharmacist and pharmacy resident provide patient counseling, screen for drug interactions and make recommendations for dosage adjustments.

- At the **Comprehensive Care Center (HIV Clinic) (Paterson, NJ)**, the infectious disease clinical pharmacist from the medical center started participating in the clinic September 2008 for 3 hours every week. To date, the pharmacist has intervened on 84 patients. The focus of the pharmacist at the clinic is to monitor HIV patients receiving HAART therapy for drug interactions, ADEs, medication adherence, recommendations for obtaining labs for monitoring and counseling patients and providers to ensure compliance and safe and effective use of their medications.
PSPC AIM: Committed to saving and enhancing thousands of lives a year by achieving optimal health outcomes and eliminating adverse drug events through increased clinical pharmacy services for the patients we serve

Putting the “Action” into action items (cont.)

- The Emergency Department Clinical Pharmacist and the Medication Safety Coordinator from the medical center participate in the Harbor House Mental Health Clinic (Paterson, NJ). The pharmacist was charged with reviewing use of all the patient’s medications in the clinic with the initial goal of seeking 200 patients at least once. However, a new system was established after acknowledging the current system did not allow for follow-up. The pharmacist narrowed the review to 10 patients with co-morbid condition of diabetes and now performs medication reconciliation, patient counseling, lifestyle (diet and exercise) counseling, smoking cessation counseling, and general guidelines for safe medication use.
- The EVMS (Norfolk, VA) collaborative identified a private contractor to provide CPS at the Gloucester County Health Department HIV clinics. The clinics, in part supported by Ryan White B funding, received additional resources from the Virginia Department of Health to provide CPS by a PharmD as part of ambulatory outpatient care to our Population of Focus.

L. Implement pharmacy services and safe medication practices in the absence of an on-site pharmacist.

If access to a clinical pharmacist is not a feasible option for your organization, consider alternative strategies:
L1. Establish or join existing telepharmacy networks to obtain access to a pharmacist who will review medication orders and provide consultation on medications.\(^\text{134}\)
L2. Partner with a community pharmacy that provides clinical pharmacy services.\(^\text{135}\)
L3. Designate a dedicated nurse specializing in patient education and counseling that can focus on medication needs of high-risk patients.\(^\text{136}\)

Putting the “Action” into action items

- The Zufall (Dover, NJ) MET includes the health center and the 340B community pharmacy as members. The team established a way to communicate ADEs and potential ADEs identified at the pharmacy. Errors captured by the pharmacists are handled on a daily basis via telephone contact with the providers. These are collated monthly and reported to the team via a shared Excel spreadsheet. The pharmacist attends QA meetings and provider meetings on occasion to identify areas for improvement.
- At Zufall (Dover, NJ), Medical Assistants provided one component of clinical pharmacy services during an adult visit by educating patients to bring in their bottles of medications and over the counter supplements to every visit. If the patient did not know or had forgotten, a bag with the health center’s logo was given to the patient to bring with them to the next visit. In the bag, there is a bilingual flyer reminding patients to bring in their meds and a card with the information of the 340B contract pharmacy that is participating with the center. If the patient brought in their medication, the bottles were lined up for the provider to review with the patient, go over how they were taking the medications, review side effects or other barriers (e.g., too costly), and write out a medication list on the medical record.
**Putting the “Action” into action items (cont.)**

- Based upon the success of providing CPS at the Gloucester Health Department, the **EVMS (Norfolk, VA)** Collaborative expanded its outreach to HIV clinics operating on the Eastern Shore of Virginia. In the absence of an on-site pharmacist protocols were established to respond to emergent CPS needs via teleconferencing. Additional funding from the Virginia Department of Health will support on-site CPS services effective October 2009.

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**Tools & Resources**


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**PATIENT-CENTERED CARE:**

**Build a patient-centered medication-use system**

M. Engage patients and families in achieving safe care and optimal health outcomes.

M1. Use techniques to ensure that patient education is effective (e.g., after explanation, ask patient to demonstrate the use of medications and equipment).\(^{137}\)

M2. Directly involve patients in organizational structure and management to provide input on medication use and safety within the organization (e.g., provide opportunity for patients to speak at Board of Directors meetings, a patient seat on the patient safety committee, or patient advisory group).\(^{138}\)

M3. Use visual educational materials (e.g., posters, brochures) illustrating the effects of specific behaviors on health outcomes (e.g., smoking on diabetes) and discuss their meaning and implications with patients.\(^{139}\)
M4. Encourage patient access and input into their health records by providing medical records at each encounter to promote patient participation in their care and to obtain the most accurate medical history.140

M5. Engage the community and build trust with your patient population (e.g., organize or participate in community outreach activities such as health fairs, brown bag seminars, and wellness education forums; conduct seminars on chronic disease management; participate in “brown bag” days to review medications; and include community members on advisory committees).141

M6. Practice a patient-provider relationship that places patients in the center of decision-making, is based on an equal partnership, and helps patients find solutions (e.g., treat every patient with respect, ask effective questions that involve motivational interviewing techniques, such as “how many pills did you miss this week?” spend adequate visit time, and maintain direct eye contact with the patient).142

M7. Counsel every patient on each filled medication, related outcomes, side effects, and proper administration.143

M8. If electronic medical records are in place, embed patient-education tools and materials in electronic medical systems so that they can be generated automatically and handed out and reviewed with patients when they receive a prescription.144

Putting the “Action” into action items

- **Holyoke Health Center (Holyoke, MA)**, patients are encouraged to bring a family member or personal care assistant to all provider visits. The patient and their representatives are counseled on the use, side effects and proper administration each medication. Patients and caregivers are offered ample time to ask questions and demonstrate understanding.

- **USC (Los Angeles, CA)** pharmacists use techniques developed by the Indian Health Service to ensure that patient education is effective. Whether during medication counseling or in the course of medication therapy management, patients are “challenged” to provide all the information they know of about their medication, including proper use of medication-related devices. Misconceptions, errors, or knowledge gaps are addressed by the pharmacists.

- **SCHC (Siouxland, IA)** uses the patient-provider partnership to assist patients with poorly controlled diseases. An example of this approach is the diabetes specialists’ work with a young patient with type 1 DM. The specialist asked the patient “what he wanted to get out of the visit”, and the patient said, “I want to feel better and get my sugars under 200”. By using a patient-centered care approach, the specialist and patient worked on a plan to achieve this. The patient called 5 days later and told the specialist “thank you” and stated that he really appreciated the help.
N. Establish patient self-management as a practice that is tracked and improved over time

N1. Develop, regularly administer, analyze, benchmark, and respond to comprehensive patient satisfaction surveys that address both the quality of access and communication with staff and patient-specific providers. (El Rio Health Centers).145

N2. Assess patients’ cognitive function, literacy level, and ability to self-manage medications (e.g., by utilizing cognitive functioning assessment tools such as clock draw and Vulnerable Elderly Survey) and tailor your communication with the patients in a way that meets their level of functioning.146

N3. Use reminder systems for medication adherence (e.g., key chain reminders, pill boxes, reminder stickers on calendars and routinely used items).147

N4. Adopt creative approaches to patient-centered care, for example, by putting in place group visits, allocating adequate length of time for 1:1 visits, and scheduling clinic days specifically focusing on disease management and/or medication safety.148

N5. Practice creative ways to help patients with disabilities and limited health literacy to differentiate medications (e.g., use plastic bags for one type of medication and paper bags for another; use color-coded and clearly labeled stickers with easy-to-understand symbols; develop medication guides for less literate patients with disabilities, using pictures of common symbols to associate different pills with certain times of the day); establish a medication schedule based on the patient’s daily schedule (e.g., taking into account when they go to bed).149

N6. Ask about patient falls at each visit for geriatric patients150

N7. Ensure that patients manage their medications and equipment correctly by establishing discharge pharmacy services or by conducting phone calls or home visits following the discharge from the hospital, when patients seem to have difficulty in managing the medications, when their outcomes are not improving as expected, or when making medication changes.151

N8. Use patient activation tools (e.g., personal wallet-sized cards listing a patient’s current medications and allergies, pill boxes, photo novellas, group visits).152

Putting the “Action” into action items

- **USC (Los Angeles, CA)** pharmacists employ a variety of strategies to improve patient self-management and adherence to medication therapy. Examples include providing patients with a chart that summarizes, in lay terms, the purpose and dosing for each medication prescribed, and providing pre-filled medication organizer boxes and pre-filled insulin syringes for select non-adherent patients.

- **Holyoke Health Center (Holyoke, MA)** patients enrolled in the pharmacy MTM program have their reconciled medications “blister packed” in weekly cassettes to assist patients in following their medication schedule.

- **El Rio Community Health Center (Tuscon, AZ)** wanted to determine the level of satisfaction of patients receiving clinical pharmacy services. To do this they worked with students from the University of Arizona to develop a survey tool in English and Spanish. The survey tool asked a series of questions that patients could rate in relation to their perception of improved knowledge and understanding of their health condition and medications following visits with the pharmacist. The survey demonstrated that patients were highly satisfied with the clinical pharmacy services provided.
O. Provide culturally appropriate services by developing the understanding and competencies that providers need to engage their patients

Organizational level:
O1. Adapt the method of care delivery to the population of service (provide services in the evening and on weekends, speak the patient’s language or provide translation services for the languages spoken, offer services for other needs that are essential to the patient’s overall well-being, such as counseling, mental health services, and housing).\(^{153}\)

O2. Incorporate programs that improve patient access to care (e.g., an “advanced access” or open scheduling programs that allow for same-day appointments, extended hours during evenings and weekends, group visits).\(^{154}\)

O3. Provide community brown bag seminars on medication safety and chronic disease management.\(^{155}\)

O4. Involve patient advocates, peer educators, case managers, outreach staff, or social workers in care delivery 156 (e.g., provide cultural sensitivity training opportunities).\(^{157}\)

O5. Use tools and strategies to improve cultural competencies of organizations (e.g., welcoming environment, reminder systems, translation services, culturally appropriate educational materials).\(^{158}\)

O6. Establish protocols dealing with no-show appointments and follow-up (i.e., phone calls, letters, home visits).\(^{159}\)

O7. Use patient assistance and similar (Medicaid, ADAP, Ryan White, Medicare part D) programs, and designate trained staff (i.e., pharmacy technicians) and time to determine eligibility, track, and assist patients with the application process.\(^{160}\)

Provider level:
O8. Make an effort to understand the patient population, including their cultural beliefs, practices, stigmas, and myths; and incorporate that knowledge in care delivery (e.g., build a general rapport with the patient before discussing medical care needs; seek to understand the patients’ stories and why they are sick;\(^{161}\) ask about alternative medical treatments they use;\(^{162}\) address health behaviors, such as diet and exercise, and cultural myths and stigmas).\(^{163}\)

O9. Require training to improve cultural competencies of all providers and staff that interact with patients.\(^{164}\)

O10. Elicit patient preferences and include family members and caregivers in review of medications and decision-making process during patient-provider interactions.\(^{165}\)

O11. Assess and incorporate patient’s medication-related beliefs and goals in the plan of care and treatment (e.g., patient’s spirituality, healing practices, family considerations, and economic well-being).\(^{166}\)

Putting the “Action” into action items
- Community Health Workers (also called Promotoras) are an integral part of the Holyoke Health Center’s (Holyoke, MA) diabetes MTM program. Promotoras are patients (or family members of patients) who have successfully managed their diabetes. The Promotoras provide culturally appropriate outreach, translation services and assistance with preventative care referrals.
Putting the “Action” into action items (cont.)

- Community Health Workers (also called Promotoras) are an integral part of the Holyoke Health Center’s (Holyoke, MA) diabetes MTM program. Promotoras are patients (or family members of patients) who have successfully managed their diabetes. The Promotoras provide culturally appropriate outreach, translation services and assistance with preventative care referrals.

- Nationwide Children’s Hospital FACES (Columbus, OH) program’s population of focus includes HIV patients who are non-adherent to their HIV medication therapy. The team developed a joint pharmacy-social work intervention after identifying several social factors that impacted patient adherence to medication therapy. In this intervention the social worker meets with the patient to review a series of questions in order to determine barriers to adherence in the patient. The pharmacist then meets with the patient for medication and adherence education. The education is focused based on needs identified by the social worker and is individualized to the patients’ specific needs. The session is focused on educating the patient so that they can make better choices for their care.

- A Hmong pharmacist at West Side Community Health Services (St. Paul, MN) provides patient care to Hmong patients who are non-adherent to medication therapy. The pharmacist is able to help address cultural beliefs and practices that are potential barriers to medication adherence and office visits. Once patients begin receiving clinical pharmacy services, patient education is reinforced and reminder calls and follow-up appointments are made.

- A USC (Los Angeles, CA) College of Pharmacy faculty member has developed a series of Fotonovelas (Spanish language soap operas in magazines) designed to educate patients on a variety of chronic conditions. Patients and local community leaders provided input into the content of the Fotonovelas, addressing key myths and misconceptions.

Tools & Resources


5. What You Can Do to Avoid Medication Errors Fact Sheet (IOM) [http://www.iom.edu/CMS/3809/22526/35939/35945.aspx](http://www.iom.edu/CMS/3809/22526/35939/35945.aspx)


7. Strategies to Improve Communication between Pharmacy Staff and Patients: A Training Program for Pharmacy Staff (AHRQ) [http://www.ahrq.gov/qual/pharmlit/pharmtrain2.htm#overview](http://www.ahrq.gov/qual/pharmlit/pharmtrain2.htm#overview)

APPENDIX A
Action Item Footnotes (To see organizations cited—view Appendix B)

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## APPENDIX B

### High performing organizations

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* denotes telephone interview
Corresponding References to NQF Safe Practices and Joint Commission’s Patient Safety Goals

a. NQF Safe Practice 1: Create a health care culture of safety. There is a need to promote a culture that overtly encourages and supports the reporting of any situation or circumstance that threatens, or potentially threatens, the safety of patients or caregivers and that views the occurrence of errors and adverse events as opportunities to make the health care system better.


c. Joint Commission 2008 National Patient Safety Goal 2C: Measure and assess, and if appropriate, take action to improve the timeliness of reporting, and the timeliness of receipt by the responsible licensed caregiver, of critical test results and values.

NQF Safe Practice 8: Patient care summaries or other similar records should not be prepared from memory.

d. NQF Safe Practice 27: Keep workspaces where medications are prepared clean, orderly, well lit, and free of clutter, distraction, and noise.

e. Joint Commission 2008 National Patient Safety Goal 8: Accurately and completely reconcile medications across the continuum of care.

Joint Commission 2008 National Patient Safety Goal 8B: A complete list of the patient’s medications is communicated to the next provider of service when a patient is referred or transferred to another setting, service, practitioner or level of care within or outside the organization. The complete list of medications is also provided to the patient on discharge from the facility.

f. NQF Safe Practice 9: Ensure that care information, especially changes in orders and new diagnostic information, is transmitted in a timely and clearly understandable form to all of the patient's current health care providers who need that information to provide care.

g. Joint Commission 2008 National Patient Safety Goal 3: Improve the safety of using medications

Joint Commission 2008 National Patient Safety Goal 3E: Reduce the likelihood of patient harm associated with the use of anticoagulation therapy.

Joint Commission 2008 National Patient Safety Goal 2B: Standardize a list of abbreviations, acronyms, symbols, and dose designations that are not to be used throughout the organization.

h. NQF Safe Practice 30: Dispense medications in unit-dose or, when appropriate, unit-of-use form, whenever possible.

i. NQF Safe Practice 5: Pharmacists should actively participate in the medication-use process, including, at a minimum, being available for consultation with prescribers on medication ordering, interpretation and review of medication orders, preparation of medications, dispensing of medications, and administration and monitoring of medications.
j. NQF Safe Practice 28: Standardize the methods for labeling, packaging, and storing medications.

   JCAHO 2008 National Patient Safety Goal 3D: Label all medications, medication containers (for example, syringes, medicine cups, basins), or other solutions on and off the sterile field.

   NQF Safe Practice 7: Use only standardized abbreviations and dose designations.


   Joint Commission 2008 National Patient Safety Goal 1A: Use at least two patient identifiers when providing care, treatment or services.

l. NQF Safe Practice 6: Verbal orders should be recorded whenever possible and immediately read back to the prescriber; that is, a health care provider receiving a verbal order should read or repeat back the information that the prescriber conveys in order to verify the accuracy of what was heard.

   Joint Commission 2008 National Patient Safety Goal 2A: For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test result by having the person receiving the information record and "read-back" the complete order or test result.

m. Joint Commission 2008 National Patient Safety Goal 3C: Identify and, at a minimum, annually review a list of look-alike/sound-alike drugs used by the organization, and take action to prevent errors involving the interchange of these drugs.

n. NQF Safe Practice 29: Identify all "high alert" drugs (for example, intravenous adrenergic agonists and antagonists, chemotherapy agents, anti-coagulants and anti-thrombotics, concentrated parenteral electrolytes, general anesthetics, neuromuscular blockers, insulin and oral hypoglycemics, narcotics, and opiates).


p. Joint Commission 2008 National Patient Goal 13A: Define and communicate the means for patients and their families to report concerns about safety and encourage them to do so.
APPENDIX D
Definitions

Adverse Drug Events (see also potential adverse drug events)

Adverse Drug Events are events that result in harm or injury to the patient due to medication use. Example – Heart failure symptoms as a result of Actos (pioglitazone) administration

Clinical Pharmacy Services

Clinical Pharmacy Services are patient-centered services that promote the appropriate selection, utilization, and monitoring of medications to optimize individual therapeutic outcomes. Clinical Pharmacy Services are provided by an interdisciplinary professional healthcare team that ideally includes a clinical pharmacist or guidance of a clinical pharmacist, for individual patients and population management.

Source: Dennis Helling, Patient Safety and Clinical Pharmacy Services Collaborative Technical Expert Panel meeting, April 28, 2008

Clinical Pharmacy is a health science discipline in which pharmacists provide patient care that optimizes medication therapy and promotes health, wellness, and disease prevention. The practice of clinical pharmacy embraces the philosophy of pharmaceutical care; it blends a caring orientation with specialized therapeutic knowledge, experience, and judgment for the purpose of ensuring optimal patient outcomes. As a discipline, clinical pharmacy also has an obligation to contribute to the generation of new knowledge that advances health and quality of life.

Source: American College of Clinical Pharmacy http://www.accp.com/about/clinicalPharmacyDefined.aspx

For the purposes of the PSPC, clinical pharmacy services are defined as patient-centered services that promote the appropriate selection and utilization of medications. Its objective is to optimize individual therapeutic outcomes. Clinical pharmacy services are provided by a multi-disciplinary health care team through individualized patient assessment and management. These services are best provided by a pharmacist or by another healthcare professional in collaboration with a pharmacist.

Clinical Pharmacists

Clinical pharmacists care for patients in all health care settings. They possess in-depth knowledge of medications that is integrated with a foundational understanding of the biomedical, pharmaceutical, socio-behavioral, and clinical sciences. To achieve desired therapeutic goals, the clinical pharmacist applies evidence-based therapeutic guidelines, evolving sciences, emerging technologies, and relevant legal, ethical, social, cultural, economic and professional principles. Accordingly, clinical pharmacists assume responsibility and accountability for managing medication therapy in direct patient care settings, whether practicing independently or in consultation/collaboration with other health care professionals. Clinical pharmacist researchers generate, disseminate, and apply new knowledge that contributes to improved health and quality of life.

Within the system of health care, clinical pharmacists are experts in the therapeutic use of medications. They routinely provide medication therapy evaluations and recommendations to patients and health care professionals. Clinical pharmacists are a primary source of scientifically valid information and advice regarding the safe, appropriate, and cost-effective use of medications.

Source: American College of Clinical Pharmacy http://www.accp.com/about/clinicalPharmacyDefined.aspx
Cultural Competence

A set of congruent behaviors, attitudes and policies that come together as a system, agency or among professionals and enable that system, agency or those professionals to work effectively in cross-cultural situations. The word "culture" is used because it implies the integrated pattern of human thoughts, communications, actions, customs, beliefs, values and institutions of a racial, ethnic, religious or social group. The word competence is used because it implies having a capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities.


Disease Management

Disease management is a set of activities aimed at improving the health and clinical outcomes of a population of patients, defined by all having a chronic medical illness. These activities are often organized through the use of technologies such as electronic health records or disease registry programs. Disease management is proactive, aiming to provide appropriate support to enhance patient self-management activities. Through monitoring of recommended care for each patient, a good disease management program will reach out to patients with reminders, education, and other materials. In such a way, patient self-management is optimized in the interval between visits with the physician. In addition, those patients at highest risk for complications or other negative outcomes can be identified, and appropriate interventions offered. Family physicians serve as the optimal care coordinator to assist patients not only with clinical care and information, but in understanding and navigating the health care system. Care coordination activities may be provided by a non-physician.


Disease state management is a continuous, coordinated, evolutionary process that seeks to manage and improve the health status of a carefully defined patient population over the entire course of the disease. A successful disease state management program achieves this goal by identifying and delivering the most effective and efficient combinations of available resources. This process encompasses the entire spectrum of health care; it includes disease prevention efforts as well as patient management after the disease has developed.

Source: Academy of Managed Care Pharmacy http://www.amcp.org/data/legislative/concepts/Disease%20State%20Management.pdf

Electronic Health Record

An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.

Electronic Medical Record
An electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization.


A repository of electronically maintained information about an individual’s health care and corresponding clinical information management tools that provide alerts and reminders, linkages with external health knowledge sources, and tools for data analysis.


Error Reporting/Error Reporting System
Reporting systems are designed for individuals to report specific events and, in some cases, conduct root-cause analyses (RCAs) to determine the causal factors for these events. Like surveillance systems, reporting can be used to monitor trends.


Mandatory reporting: Those patient safety reporting systems that by legislation and/or regulation require the reporting of specified adverse events, generally events of serious harm and death.


Voluntary reporting: Those reporting systems for which the reporting of patient safety events is voluntary (not mandatory). Generally, reports on all types of events are accepted.


Health Information Exchange
The electronic movement of health-related information among organizations according to nationally recognized standards.


Health Outcomes
Outcomes research seeks to understand the end results of particular health care practices and interventions. It relies on measures and instruments to measure the results experienced by people who receive particular health care practices and interventions. Results include effects that people experience and care about, such as change in
the ability to function and in feelings of well-being. In particular, for individuals with chronic conditions—where cure is not always possible—results include health-related quality of life as well as mortality. By linking the care people get to the outcomes they experience, outcomes research has become the key to developing better ways to monitor and improve the quality of care.


Health outcomes research: The measurement of the value of a particular course of therapy. Health outcomes research is based on the principle that every clinical intervention produces a change in the health status of a patient and that change can be measured.


A change in the health status of an individual, group, or population which is attributable to a planned intervention or series of interventions, regardless of whether such an intervention was intended to change health status. Such a definition emphasizes the outcome of planned interventions (as opposed, for example, to incidental exposure to risk), and that outcomes may be for individuals, groups, or whole populations. Inventions may include government policies and subsequent programs, laws and regulations, or health services and programs, including health promotion programs. It may also include the intended or unintended health outcomes of government policies in sectors other than health. Health outcomes will normally be assessed using health indicators.


**High Alert Drugs**

Drugs that bear a heightened risk of causing significant patient harm when they are used in error. Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients.


**Medical Errors**

The failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.


**Medical Home**

A Patient-Centered Medical Home is a team-based model of care led by a personal physician who provides continuous and coordinated care throughout a patient's lifetime to maximize health outcomes.

*Source:* American College of Physicians [http://www.acponline.org/advocacy/where_we_stand/medical_home](http://www.acponline.org/advocacy/where_we_stand/medical_home)

In 2007, the American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Osteopathic Association—the leading primary care physician organizations—released the Joint Principles of the Patient-Centered Medical Home. In this document they state the characteristics of the Patient Centered Medical Home:
APPENDIX D
Definitions (cont.)

**Personal Relationship:** Each Patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.

**Team Approach:** The Personal Physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing patient care.

**Comprehensive:** The personal physician is responsible for providing for all the patient’s health care needs at all stages of life or taking responsibility for appropriately arranging care with other qualified professionals.

**Coordination:** Care is coordinated and integrated across all domains of the health care system, facilitated by registries, information technology, health information exchange and other means to assure that patient get the indicated care when and where they want it.

**Quality and Safety:** Quality and Safety are hallmarks of the medical home. This includes using electronic medical records and technology to provide decision-support for evidence-based treatments and patient and physician involvement in continuous quality improvement.

**Expanded Access:** Enhanced access to care is available through systems such as open scheduling, expanded hours, and new options for communication between patients, physicians, and practice staff.

**Added Value:** Payment that appropriately recognizes the added value provided to patients who have a Patient-Centered Medical Home.


**Medication Reconciliation**
Medication reconciliation is the process of comparing a patient's medication orders to all of the medications that the patient has been taking. This reconciliation is done to avoid medication errors such as omissions, duplications, dosing errors, or drug interactions. It should be done at every transition of care in which new medications are ordered or existing orders are rewritten. Transitions in care include changes in setting, service, practitioner or level of care. This process comprises five steps: 1) develop a list of current medications; 2) develop a list of medications to be prescribed; 3) compare the medications on the two lists; 4) make clinical decisions based on the comparison; and 5) communicate the new list to appropriate caregivers and to the patient.


**Medication Safety**
Freedom from accidental injury during the course of medication use; activities to avoid, prevent, or correct adverse drug events which may result from the use of medications


**Medication Therapy Management (MTM)**
Medication Therapy Management (MTM) in pharmacy practice are distinct services or group of services that optimize therapeutic outcomes for individual patients. It includes the following 5 core elements:
Medication Therapy Review: The pharmacist completes a medication therapy review (MTR) consultation with the patient.

Personal Medication Record: The patient receives a new personal medication record (PMR) or the patient’s existing PMR is updated.

Medication Action Plan: The patient receives a medication action plan at the end of the MTM encounter

Intervention and/or Referral: The pharmacist provides consultative services and intervenes to address medication-related problems; when necessary, the pharmacist refers the patient to other healthcare providers

Documentation and Follow-up: MTM services are documented in a consistent matter, and a follow-up MTM visit is scheduled with the patient, based on needs, of the patient is transitioned from one care setting to another.


Medication Therapy Management is a distinct service or group of services that optimize therapeutic outcomes for individual patients. Medication Therapy Management Services are independent of, but can occur in conjunction with, the provision of a medication product.

Medication Therapy Management encompasses a broad range of professional activities and responsibilities within the licensed pharmacist’s or other qualified health care provider’s scope of practice. These services include but are not limited to the following, according to the individual needs of the patient:

a. Performing or obtaining necessary assessments of the patient’s health status;
b. Formulating a medication treatment plan;
c. Selecting, initiating, modifying, or administering medication therapy;
d. Monitoring and evaluating the patient’s response to therapy, including safety and effectiveness;
e. Performing a comprehensive medication review to identify, resolve, and prevent medication-related problems, including adverse drug events;
f. Documenting the care delivered and communicating essential information to the patient’s other primary care providers;
g. Providing verbal education and training designed to enhance patient understanding and appropriate use of his/her medications;
h. Providing information, support services and resources designed to enhance patient adherence with his/her therapeutic regimens;
i. Coordinating and integrating medication therapy management services within the broader health care-management services being provided to the patient.

A program that provides coverage for Medication Therapy Management services shall include:

a. Patient-specific and individualized services or sets of services provided directly by a pharmacist to the patient*. These services are distinct from formulary development and use, generalized patient education and information activities, and other population-focused quality assurance measures for medication use.
b. Face-to-face interaction between the patient* and the pharmacist as the preferred method of delivery.
When patient-specific barriers to face-to-face communication exist, patients shall have equal access to appropriate alternative delivery methods. Medication Therapy Management programs shall include structures supporting the establishment and maintenance of the patient*-pharmacist relationship.

- Opportunities for pharmacists and other qualified health care providers to identify patients who should receive medication therapy management services.
- Payment for Medication Therapy Management Services consistent with contemporary provider payment rates that are based on the time, clinical intensity, and resources required to provide services (e.g., Medicare Part A and/or Part B for CPT & RBRVS).
- Processes to improve continuity of care, outcomes, and outcome measures.

* In some situations, Medication Therapy Management Services may be provided to the caregiver or other person involved in the care of the patient.


**Medication Use System**

A combination of interdependent processes that share the common goal of safe, effective, appropriate, and efficient provision of drug therapy to patients. Major processes in the medication use system are: selecting and procuring; storage; prescribing; transcribing and verifying/reviewing; preparing and dispensing; administering and monitoring.


**Patient Centered Care**

Patient-Centered Care is defined as care that is respectful of and responsive to individual patient preferences, needs, and values, and ensures that patient values guide all clinical decisions (IOM 2001). Dimensions of patient-centered care include patient empowerment and activation; cultural competencies; respect for patients’ values, preferences, and expressed needs; coordination and integration of care; information, communication, and education; physical comfort and support; access and navigation skills; community outreach; and involvement of family and friends.

Sources: Sillow-Carroll, Alteras, and Stepnick, 2006; Gerteis, Edgman-Levitan, and Daley, 1993

**Patient Safety**

Freedom from accidental or preventable injuries produced by medical care.

Source: Agency for Health Care Research and Quality http://www.psnet.ahrq.gov/glossary.aspx#P
Patient Safety Culture

The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to and the style and proficiency of, an organization’s health and safety management. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.


While an exact definition of a safety culture does not exist, a recurring theme in the literature is that organizations with effective safety cultures share a constant commitment to safety as a top-level priority, which permeates the entire organization. More concretely, noted components include: 1) acknowledgment of the high risk, error-prone nature of an organization’s activities, 2) blame-free environment where individuals are able to report errors or close calls without punishment, 3) expectation of collaboration across ranks to seek solutions to vulnerabilities, and 4) willingness on the part of the organization to direct resources to address safety concerns. Based on extensive field work in multiple organizations, Roberts et al have observed several common, cultural values in reliability enhancing organizations: "interpersonal responsibility; person centeredness; [co-workers] helpful and supportive of one another; friendly, open sensitive personal relations; creativity; achieving goals, strong feelings of credibility; strong feelings of interpersonal trust; and resiliency .


Culture of safety: an integrated pattern of individual and organizational behavior based upon shared beliefs and values that continuously seeks to minimize patient harm which may result from the processes of care delivery.


Pharmacy and Therapeutics (P&T) Committee

The Pharmacy and Therapeutics (P & T) Committee is an important medical staff advisory group. As the primary, formal communication link between the pharmacy and medical staff, the P & T Committee is of particular importance to the department of pharmacy services. All matters pertaining to the use of medications within the institution, including pharmacy programs, must be reviewed and approved through the committee. In addition, medication formulary data is reviewed through the committee and recommendations are offered to the medical staff. Such a wide diversification of involvement and activity necessitates the effective communication between all committee members. An active involvement in the committee by the department of pharmacy services is vital in order to develop a contemporary and progressive institutional pharmacy program. This series of four articles will address several important aspects of the committee's operation, including committee formation, mechanics, operation, and problem solving.

Population of Focus (PoF)

The definition of the PoF as defined by PSPC is the “total number of patients to be focused on and tracked in this PSPC initiative. The PoF is usually focused on a specific disease process but can also be defined by geographic location, provider group, clinic, or patient demographics.”

The PoF should include the total number of patients, as defined by the team, who are eligible to receive clinical pharmacy services provided during this PSPC initiative. The PoF is the group of patients that you want to have an impact on through the work of PSPC and the size of the PoF should be manageable for your team. The number of patients in the PoF may change from month to month.

Potential Adverse Drug Event (see also adverse drug event)

Potential Adverse Drug Event (pADE) is defined as potential harm that was identified and avoided with appropriate interventions before reaching the patient

Example – Pharmacist catches an allergy to penicillin and calls the doctor to change amoxicillin to azithromycin before dispensing to patient

Example – A care team member notices a duplication of drug therapy (lisinopril and ramipril) and intervenes to have one of the medications discontinued before the patient receives the medication

Self Management

Collaborative self-management is defined as the ability of patients and families to apply knowledge and practice skills to optimize their health potential and quality of life in partnership with their health care team (Make 1994; Hindi-Alexander et al. 1987). This definition is based on the assumptions that asthma and COPD are chronic, controllable illnesses and that self-management activities flow from an active partnership between patients and health care providers. The cornerstone of a successful self-management program is the quality of the education and partnership.

Source: Department of Veterans Affairs [http://www.oqp.med.va.gov/cpg/COPD/archive/module_d/d1.htm](http://www.oqp.med.va.gov/cpg/COPD/archive/module_d/d1.htm)

Self-Management involves three different kinds of tasks: care of the body and management of the condition, adapting everyday activities and roles to the condition, and dealing with the emotions arising from having the condition. Self-management support is the care and encouragement provided to people with chronic conditions to help them understand their central role in managing their illness, make informed decisions about care, and engage in healthy behaviors.

Good self-management support involves collaboration between patient and their care provider, one in which the provider is a coach as well as clinician and the patient and family are managers of daily care. Through collaboration patients, family, and providers share information, understand a patient’s goals, and create a plan that all can use to guide care at home and in the clinical setting. Health care systems can support effective self-management by providing care that builds patient and family skills and confidence, increases patient and family knowledge about the condition, increases provider’s knowledge of the needs and preferences of the patient, and supports the patient and family in the psychosocial, as well as medical, responses to the condition.

Source: Institute for Healthcare Improvement (IHI) [http://www.ihi.org/IHI/Topics/PatientCenteredCare/SelfManagementSupport/](http://www.ihi.org/IHI/Topics/PatientCenteredCare/SelfManagementSupport/)