

INDIAN HEALTH DIABETES BEST PRACTICE

Systems of Care

Revised April 2011

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Instructions for Using This Best Practice

The Best Practices are organized into topics on how to plan for and successfully implement a Best Practice in your community.

- **Part 1** provides background information on planning your program and evaluation, Key Recommendations, and Key Measures.
- **Part 2** provides details on implementation of the Key Recommendations.
- **Part 3** includes appendices, tools, and resources.
- **Part 4** provides a list of references.

As you prepare to select, implement, and evaluate a Best Practice, consider these planning guidelines:

- Meet with your diabetes team to discuss which Best Practice(s) is best suited for your situation and resources.
- Use data from your Diabetes Outcomes and Audit and/or from a community needs assessment to guide your selection of the Best Practice(s).
- Determine your program goal(s) as a team. For example, your team may decide to conduct a community needs assessment of interest in diabetes education and/or providing community education to increase awareness of risks for diabetes.
- Print out at least Part 1 of the Best Practice(s) your team feels is most appropriate to implement.
- Work with your diabetes team to review and discuss the Best Practice(s). You may choose to read it together as a team.
- Choose at least one Best Practice after carefully considering your goals and resources (funding, staff, and time).
- **Review the entire Best Practice(s) you have selected with your diabetes team:**
 - Confirm that you have selected a Best Practice(s) appropriate for your community needs and resources, and that you are confident that your team can successfully implement, evaluate (measure), and document progress and outcomes.
 - Target the population your team wants to improve outcomes for with the Best Practice(s). Remember, you probably do not have resources to do everything for everyone.
 - Carefully consider the Key Recommendations. The recommendations are based on evidence and have been proven to be effective. You may already be doing some of the recommendations and can easily fit these into your plan or you may want to consider some new recommendations to enhance and strengthen your program. Identify those your team can implement.
 - Carefully review the Key Measures. Choose those that best fit with your goals and the Key Recommendations you have chosen to implement.
 - If one Best Practice does not fit, then review another Best Practice until you find one that fits.

Throughout the document you will find links that draw your attention to important items within the Best Practice pdf. Here is a list of the items:

- **Action!** Indicates a **link**. Please use the link to access more detailed descriptions.
- **Note!** Indicates an **important** item. Pay special attention to this **important** item.

Summary of Key Recommendations and Key Measures

Key Recommendations for Systems of Care Best Practice: These are evidence-based actions that will lead to improved outcomes in the community.

Action! See [Part 2](#) for details on the implementation of each key recommendation.

Clinical

1. Diabetes is managed using a proactive systems approach.
2. A clinical care team provides care for each person with diabetes.
3. Planned care visits occur for diabetes patients.

Integrated Community/Clinical

4. A multidisciplinary diabetes team works together to coordinate diabetes care, education and outreach.
5. A joint community and clinical resource directory is developed and maintained.
6. Functional partnerships among community and clinical partners are developed and maintained.

Organizational

7. Organization leaders support work to continuously improve the quality of diabetes care and patient experience of care.
8. Organization leaders support the integration of planned care that is provided by clinical care teams.
9. Process and outcome data are used to improve diabetes care.
10. Systems of care objectives are included in annual performance plans for all relevant staff.

Key Measures for Systems of Care Best Practice: These are specific measures that can be used to document changes in outcomes related to implementing the Best Practice.

Note! All SDPI grant programs that choose this Best Practice are **required to report **as required in the terms and conditions attached to the notice of award** on the **indicated* Measures**. Programs may report on other measures as well (see Part 3 – [Appendix E](#)).**

1. *Percent of patients at goal for all three of these outcomes using the most recent value in the past twelve months:
 - A1C < 7.0
 - BP < 130/80
 - LDL < 100
2. *Percent of patients at goal using the most recent value in the past twelve months for all of three site-selected DM audit measures.
3. *Total score on the Assessment of Chronic Illness Care tool, assessed at six month intervals, in the past twelve months.

PART 1 Essential Elements of Implementing this Best Practice

Purpose

This Best Practice provides guidance to outpatient health care facilities that want to improve the quality of their diabetes care. Not only does it speak to the components of a clinical health care system that must be addressed in order to improve outcomes for individuals, it also suggests population-based approaches to enhance the health status of all persons affected by diabetes in a given community or population group.

Programs that use ideas and tools from this Best Practice will be addressing their entire system of care... not just a part of it (like only foot care or depression care).

Any program that wants to improve their overall diabetes systems of care will benefit from implementing this Best Practice.

Target Population

The target population that will be impacted by the implementation of this Best Practice is people who have diabetes or who are at increased risk for diabetes.

Action! See [Part 3](#) – [Appendix A](#). Supplemental Information for discussion of the Importance of Systems of Care.

Intended Users of this Best Practice

- primary health care teams
- members of multidisciplinary diabetes teams
- leaders of health care organizations
- Tribal leaders
- community-based health, fitness, and diabetes programs seeking to partner with local clinical care facilities
- programs that provide technical assistance and training to clinical teams that are addressing their diabetes systems of care

Action! See [Part 3](#) – [Appendix A](#). Supplemental Information for discussion of the benefits and risks of implementing this Best Practice.

Definition of Systems of Care

“Systems of care” refers to the parts or components of a health care system and the interaction among those components. Quality diabetes management requires an organized, systematic approach to addressing complex, inter-related parts of a health care system, its staff, and consumers.

Action! See [Part 3](#) – [Appendix A](#). Supplemental Information for discussion of the Components of a Diabetes System of Care.

Note! The Chronic Care Model (CCM) is an evidence-based model that has been shown to be a useful framework for enhancing a system's ability to provide effective care for people with chronic conditions.

Action! See [Part 3 – Appendix A](#). Supplemental Information and [Appendix I](#). for information on the Chronic Care Model.

Goals of this Best Practice

Goals of this Best Practice that your organization might address include:

- Increase the percent of diabetes patients who are at goal for A1C, BP, and LDL
- Increase the number of diabetes patients who received care that meets IHS Diabetes Standards of Care
- Increase patient continuity of care
- Enhance patient experience of care
- Enhance staff work experience (satisfaction)
- Have effective diabetes care and prevention partnerships among clinical and community-based entities
- Have a mechanism through which community members who are affected by diabetes can provide input into diabetes care
- Have the capacity to inform patients about currently available internal and community resources for self-management support, diabetes self-management, and healthy lifestyles.
- Process bi-directional referrals with internal and community-based partner
- Improve the organization's capacity for improvement
- Enhance the organization's effectiveness in providing quality care for diabetes and other chronic conditions
- Integrate the use of proven improvement strategies by the diabetes team and clinical care teams

Key Recommendations

These are evidence-based actions that can lead to improved outcomes for people who have diabetes or who are at increased risk for diabetes.

Key Recommendations for Systems of Care: These are evidence-based actions that will lead to improved outcomes in the community.

Clinical

1. Diabetes is managed using a proactive systems approach.
2. A clinical care team provides care for each person with diabetes.
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Organizational

7. Organization leaders support work to continuously improve the quality of diabetes care and patient experience of care.
8. Organization leaders support the integration of planned care that is provided by clinical care teams.
9. Process and outcome data are used to improve diabetes care.
10. Systems of care objectives are included in annual performance plans for all relevant staff.

Action! See [Part 2](#) for details on the implementation of each key recommendation.

Note: Four additional Systems of Care Recommendations are listed below. They are not included in the Key Recommendations noted above. Specific ideas about how to implement these four recommendations can be found in separate Indian Health Diabetes Best Practice documents:

1. Diabetes, hypertension and lipid medication protocols are used by non-physician care team members to facilitate bringing patients to goal. (**Pharmaceutical Care Best Practice**)
2. High risk individuals receive case management services. (**Case Management Best Practice**)
3. People at increased risk for diabetes are identified and appropriate interventions are implemented. (**Diabetes Prevention Best Practice**)
4. Patients receive ongoing support for their self-management. (**Diabetes Self-Management Education and Support Best Practice**)

Planning For Your Program and Evaluation

Key Action Steps include:

1. **Identify your program's goal(s).** There are many program goals consistent with the Key Recommendations of this practice. Examples of Program Goals include:
 - Increase the percent of diabetes patients who are at goal for A1C, BP, and LDL
 - Increase patient continuity of care
 - Enhance patient experience of care
 - Enhance staff work experience (satisfaction)
2. **Define program objectives** that will be met to reach the program goal(s) in the **SMART format** (specific, measurable, action-oriented, realistic, and time-bound).

Examples of SMART objectives for this Best Practice:

- Percent of diabetes patients with A1C < 7.0 will increase from 55% to 58% by March 31, 2012.
- The organization's total score on the Assessment of Chronic Illness Care tool will increase by one point in at least three of the six component scores over the next year.
- Percent of diabetes patients with a documented retinal eye exam in the past twelve months will increase from 45% to 55% by December 31, 2011.

3. **Use Key Measures.** The following Key Measures can be used to monitor progress and the effectiveness of implementing this Best Practice. Results of measures will indicate the degree of success in implementing the **Key Recommendations** and meeting program goals.

Measures of progress need to occur before the intervention (baseline) and at designated times thereafter. Measurement needs to be frequent enough to provide meaningful information for planning and evaluation.

Key Measures

Key Measures for Systems of Care Best Practice: These are specific measures that can be used to document changes in outcomes related to implementing the Best Practice.

Note! All SDPI grant programs that choose this Best Practice are **required** to report **as required in the terms and conditions attached to the notice of award** on the **indicated*** Measures. Programs may report on other measures as well (see **Part 3 – Appendix E.**)

1. *Percent of patients at goal for all three of these outcomes using the most recent value in the past twelve months:
 - A1C < 7.0
 - BP < 130/80
 - LDL < 100

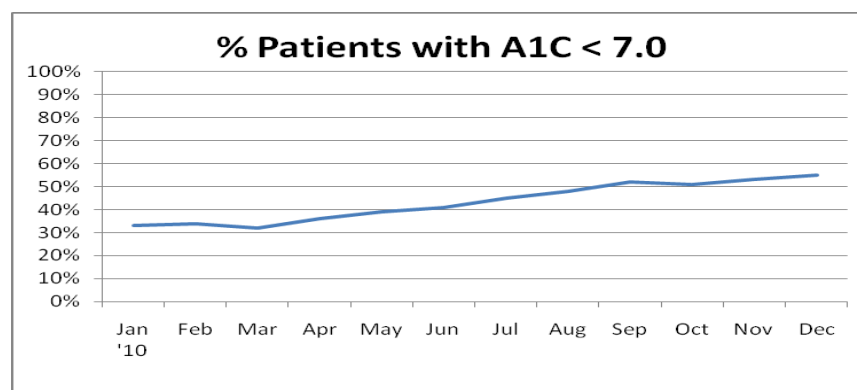
2. *Percent of patients at goal using the most recent value in the past twelve months for all of three site-selected DM audit measures.
3. *Total score on the Assessment of Chronic Illness Care tool, assessed at six month intervals, in the past twelve months.

Action! See **Part 3** – [Appendix E](#). for additional Systems of Care Measures.

4. **Collect, record, and analyze data** on an ongoing basis; share with the team and the organization leadership.

5. **Use creative ways to display data and measure outcomes, such as graphs or charts.** This helps the team understand the data and know whether there are improvements. For example, you can graph the data:

Figure 1. Percent of patients with diabetes with A1C levels less than 7.0



6. **Think about what the data are telling you.** What changes are you seeing? Are they improvements? Use data for planning next steps.

Note! Programs will be addressing the Key Recommendations and the Key Measures. As time goes by, programs will progressively move from addressing a few of the Key Recommendations to more and more of the recommendations. Tracking the Key Measures (and optional measures if used) will demonstrate over time the result of program work. It will also give insight into steps that might be taken to further improve their systems of care.

Action! Link to the following resources to help your program improve.

See **Part 3** - [Appendix B](#) **Systems of Care Key Measures Example** to assist you with identifying ways to choose Key Measures that incorporate your community data.

See **Part 3** - [Appendix C](#) **Improving Systems of Care Programs Example** to assist you with applying Key Recommendations and Key Measures to a program plan.

Action! See **online training** and a **workbook** to get more ideas about setting goals and objectives, and developing a program plan. Available from: (see pages 23-28.)

<http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Training/WebBased/Basics/Creating/Workbook.pdf>

Team Notes:

Part 2 Key Recommendations

Note! Part 2 provides **important** detail on the “why?” and “how?” of implementation of each Key Recommendation.

Note! See Part 3 – Appendix G. for ideas about when to implement the Key Recommendations.

Note! See Part 3 – Appendix H. for ideas about when to implement suggested activities (early, middle, or later). Under each Key Recommendation, these activities are noted in the section, "How to Implement this Recommendation".

Note! Clinical Recommendations

Key Recommendation 1. Diabetes is managed using a proactive systems approach.

Why?

“We can’t change what has happened, but we can change the future for ourselves, for our children, and for those yet to come. And we can hold onto those values that were handed down from generation to generation.” Tony Incashola, Flathead

Working together toward common good is a value that has been handed down through generations in American Indian and Alaska Native communities. There is evidence that using a proactive, population-based, systems approach to diabetes care enhances the quality of health care. Taking a systems approach can also lengthen lives and enhance the quality of the lives of people who are affected by diabetes.

The most successful (health care facilities) have an institutional policy for quality of care, involve all staff in their initiatives, redesign their delivery systems, activate and educate their patients, and use electronic health record tools. “It is clear that optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of dedicated health care professionals working in an environment where quality is a priority.” (ADA, 2011)

How to Implement the Key Recommendation

- A. Establish and maintain an up-to-date electronic diabetes registry** that includes key patient information.
- B. Use information from the registry and clinical information system to plan individual’s care and to guide interactions.**
 - a. Use care reminders for patient appointments.
 - b. Use iCare or other clinical information systems to identify needed care for individual patients.
- C. Use information from the registry and clinical information system to identify and track people who need follow-up or changed treatment approaches.**
 - a. People who are lost to follow-up can be contacted to arrange a clinic or outreach appointment.
 - b. Data base information is used for audits and can be used to identify who needs certain components of care.
- D. Identify subgroups of patients for proactive care** (e.g., people with uncontrolled diabetes, people who are lost-to-follow-up, women of childbearing age, etc.).

E. Use up-to-date, evidence-based diabetes standards of care (guidelines) to direct needed care.

- a. **Check the IHS website (<http://www.ihs.gov>)** at least twice a year for changes/additions to Clinical Resources.

Action! Link to: Guidelines at

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsClinicalGuidelines>

- b. **Use checklists or flowsheets to guide care.**

F. Develop “standing orders” so that that non-provider team members can order needed lab tests, adjust medication dosages, make referrals, and order eye, foot, and dental exams.

G. Share information about diabetes standards of care with patients.

H. Develop agreements and linkages with medical specialists who can provide care teams with easy access to specialist advice.

Team Notes:

Key Recommendation 2. A clinical care team provides care for each person with diabetes.

Why?

A clinical care team or “medical home” is a health care setting that facilitates partnerships between individual patients and their personal physicians (NCQA, 2011). Medical homes are based on the idea that primary physicians or medical providers collaborate with other members of the health care team in order to ensure the delivery of high-quality, patient-centered health care to all, and especially to those with chronic diseases such as diabetes (O’Connor, 2009). The growing number of people with diabetes demonstrates the need to expand medical care through team models within the primary care setting.

Clinical primary care teams have high-functioning non-physician members who take on clinical tasks that physicians have insufficient time to perform, and that focus several people on each patient's problems. Some have also demonstrated that many primary care visits, especially for chronic disease, involve relatively simple matters that could be handled by non-physician team members via protocols or standing orders. Clinical care teams are a necessary and effective foundation upon which other innovations — such as the chronic care model, advanced access, group visits, and electronic encounters — can be pursued (Bodenheimer, 2007).

How to Implement the Key Recommendation

A. Ensure that individual patients have a personal medical provider.

- Each patient selects a personal medical provider
- Each patient has an ongoing relationship with their medical provider who provides continuous, comprehensive care
- The medical provider is responsible to provide for the patient’s health care needs or for arranging care with other qualified professionals

B. Create a clinical care team for one medical provider by assigning outpatient staff to regularly work with the provider.

C. Build support for the concept of clinical care teams; get “buy-in” for the use of clinical care teams among other clinical staff by regularly sharing the team’s successes.

D. Expand the concept of clinical care teams by creating additional teams:

- These teams use and build on what the first clinical care team learned.
- The personal provider leads a team of individuals who together take responsibility for the ongoing care of patients.
- Clinical members of the care team can include but are not limited to physician, nurse practitioner, physician’s assistant, nurse, dietitian, pharmacist, mental health professional, diabetes educator, medical assistant, certified nurse aide, and receptionist.
- The person with diabetes is supported to assume an active role in their diabetes/health and is encouraged to take responsibility as a member of their care team.

- The team coordinates care for their patients and manages their health information. Someone on the team:
 - Monitors for needed care
 - Prompt team members regarding needed care
 - Identifies and documents care that was received at another location
 - Keeps the diabetes registry information up-to-date
- Members of the care team are accountable for their patients' care.

E. Define care team roles:

- The **medical provider leads patients' clinical management**; day-to-day leadership of team work is delegated to one individual
- The **team is organized to provide needed services**:
 - Delegate medical provider tasks that can be done by non-providers to other care team members
 - All staff are involved in managing patient needs
 - Defined clinical and administrative support roles and tasks are distributed among care team members
 - A professional team member (usually a RN) tracks and coordinates needed care (tests, referrals, care at other facilities, discharged patient needs)
 - Referrals are tracked and needed follow-up occurs
 - A designated team member is responsible for follow-up by various methods, including outreach by CHRs, telephone calls, and home visits.
 - Care team members share relevant information to and from referral sources.
- **Care team members participate in ongoing improvement work.**
- **Provide all care team members with training for functions that they regularly perform.**
- In addition, cross-train staff to cover others' roles so that needed tasks can occur when team members are absent.
- **Ensure that care is planned and managed:**
 - A diabetes plan of care is developed through collaboration among the patient, provider, and other members of the health care team.
 - The documented plan of care is used to manage medical treatment and self-management.
 - There is ongoing evaluation of patient progress toward goals.
- **Develop procedures and protocols to guide team members' actions:**
 - Making patient appointments
 - Providing prescription refills
 - Informing patients of laboratory results

- **Set up communication mechanisms for routine and unplanned needs:**
 - Routine paper and electronic information sharing
 - Brief interactions among team members
 - Team meetings
- **Ensure regular patient follow-up by the clinical care team.**

Team Notes:

Key Recommendation 3. Planned care visits occur for diabetes patients.

Why?

In a primary care practice, patients' acute symptoms and concerns frequently crowd out the less urgent need to bring chronic illness under optimal management. Dr. Ed Wagner often refers to this reality as "the tyranny of the urgent". Under a system designed for acute rather than chronic care... visits are brief and little planning takes place to ensure that acute and chronic needs are addressed. (Bodenheimer, 2002)

The organization of care around the conventional 15-minute visit discourages the comprehensive assessment, counseling, care planning, and use of telephone contact that characterize successful chronic illness care. (Wagner, 1996) The traditional primary care 15-minute visit can be expanded to include a pre-visit, a visit, and a post-visit. Between-visit phone calls or electronic communications can also be used. This makes for a more intensive and effective encounters that use planned interactions to support evidence based care. It also is more satisfying for patients and all caregivers. (Bodenheimer, 2007)

How to Implement the Key Recommendation

- A. **Plan and manage appointments** so that patients do not leave visits with unmet needs.
- B. **Identify patient needs before the visit** (such as lab tests, screening exams, and immunizations) using evidence-based resources such as electronic health record (EHR) patient reminders, iCare, and individual diabetes audit reports. A manual chart review can also identify patient needs.
- C. **Have brief, early in the day/shift care team discussions to organize plans** to provide all needed services during encounters.
- D. **Do pre-visit planning with the patient either before the day of the appointment** (telephone calls, email messages) or at the beginning of the visit. The pre-visit addresses reminders for needed care, issues the patient would like to discuss during the visit.
- E. **Use post-visit discussions to clarify the advice given by the provider** and to address patient behavior changes and action plans.
- F. **Use between visit contacts and outreach follow-up** (telephone calls, home visits, email messages) with patients as needed.
- G. **Assess patient progress to treatment and self-management goals;** assess patient barriers to goals.
- H. **Consider providing care through group medical visits** in addition to individual visits.
- I. **Set up a mechanism to provide regular patient follow-up** with the clinical care team.

Team Notes:

Note! Integrated Community/Clinical Recommendations

Programs need to work on broader community and clinical support of the goals they are trying to achieve.

Key Recommendation 4. A multidisciplinary diabetes team works together to coordinate diabetes care, education, and outreach.

Why?

Health care systems that commit to quality diabetes management can improve process and outcome measures for diabetes. These process and outcome measures include a reduction in short-term costs through fewer hospital admissions, emergency department visits, and physician consultations. Studies have also shown that improved blood glucose control is associated with reduced use of hospital and outpatient services as compared with usual care. (Wagner, 1999)

Health care systems that seek to provide quality diabetes care must address how to systematically and effectively provide evidence-based diabetes care. In order to address the population-based needs, these organizations must partner with community-based resources and programs. Quality chronic care integrates clinic and community-based services in order to address the comprehensive medical and health needs of people who are served. “Such a system provides the comprehensive model on which the quality of both health promotion and chronic illness care depend.” (Woolf, 2005)

Accumulated evidence appears to support the Chronic Care Model as an integrated framework to guide practice redesign. Although work remains to be done in areas such as cost-effectiveness, these studies suggest that redesigning care using the Chronic Care Model leads to improved patient care and better health outcomes. (Coleman, 2009)

How to Implement the Key Recommendation

- A. Assign leadership for coordinating the multidisciplinary diabetes team to one person** (e.g., a “diabetes coordinator”).
- B. Delineate needed team membership:**
 - The team includes multidisciplinary clinical and community-based professionals and paraprofessionals who collaborate to provide care, education, support and outreach
 - There is a mechanism for relevant community members (people who have diabetes, are family members of persons with diabetes, or who have pre-diabetes) to participate in the diabetes team.
- C. Collaborate on shared diabetes program goals and objectives.**
- D. Coordinate care within the facility.**

- E. Integrate broad clinical staff involvement in diabetes team planning and work.**
- F. Identify community-based team members' roles that might include:**
- Outreach regarding individual patient's needs
 - Diabetes and blood pressure screening
 - Following-up and problem-solving with self-management needs
 - Provide basic diabetes information, emotional support, strategies for living with diabetes; accentuate preventive services
 - Organize and facilitate a local Chronic Disease Self-Management program (Stanford University, 2011; Lorig, 1999)
 - Collaborate on addressing community approaches to diabetes care and prevention.
- G. Explore ways to listen to community members' diabetes and diabetes care needs:** sponsor a "Listening to the Voice of the Community" event.
- H. Monitor diabetes processes and outcomes;** share data; assess results, and work to further improve care.

Team Notes:

Key Recommendation 5. A joint community and clinical resource directory is developed and maintained.

Why?

Increasing access to effective programming in the community through linkages with the relevant agencies is a cost-effective way to obtain important services such as nutrition counseling or peer-support groups (Wagner, 2001). Health care systems taking a partnership approach with community resources and organizations, and linking patients to those resources is key to self-management success. Patients live, work, and play in social and physical environments outside the health care system. Look for community resources and support networks. Linking patient to these resources is critical for long-term results. (Glasgow, 2003)

How to Implement the Key Recommendation

- A. **Identify internal and outside resources.**
- B. **Develop an easily accessible current list of community resources.**
- C. **Provide a list of community resources** to appropriate patients, families, and health care team members.
- D. **Identify gaps** in available community services/resources.
- E. **Develop partnerships** to fill the gaps in needed services.
- F. **Pursue public policy to support healthy lifestyles.**

Action! See IHS Diabetes Best Practice for **Community Advocacy 2011**

Team Notes:

Key Recommendation 6. Functional partnerships among community and clinical partners are developed and maintained.

Why?

Negotiations with other health care organizations in the community are often important to enhance continuity of care and expand services (Wagner, 2001). Blending diverse clinical and community services into a cohesive system requires an infrastructure that fosters integration. Such a system provides the comprehensive model on which the quality of both health promotion and chronic illness care depend. The integration required to fulfill this ideal faces logistical challenges but may be the best way for a fragmented health care system to fully serve its patients. (Woolf, 2005)

Clinical care teams need to decide which team members can realistically engage patients in self-management goal setting and action planning: medical providers, nurses, medical assistants, community health workers or other patients (Bodenheimer, 2007). Indian health system's Community Health Workers (CHRs) have the potential to expand the clinical team's self-management support capacity by providing outreach into the community. Self-management interventions led by laypersons lead to improvement in patient confidence, health behaviors, and depression. The use of community health workers in the care of patients with diabetes found positive effects of both lifestyle and self-care outcomes, as well as decreased inappropriate health care use. (Battersby, 2010)

Health care that is respectful of the culture and that addresses individual preferences of the people served enhance relationships between the patient and their health care team. The quality of provider-patient relationships impacts not only patients' positive experience of care, it also affects clinical outcomes. Provider empathy is associated with positive patient outcomes. In their study, patients whose physicians had high empathy scores were more likely to have good control of A1C and LDL cholesterol. (Hojat, 2011)

How to Implement the Key Recommendation

- A. **Establish dialogue** among community diabetes programs.
- B. **Establish linkages and agreements** to develop community partnerships (primary care, tobacco cessation, diabetes education programs, nutrition support programs, exercise programs, senior centers, self-help groups, etc).
- C. **Discuss ways that clinical staff can enhance their cultural humility:** suggest words and statements that can be said, and ways of interacting that are culturally respectful.
- D. **Provide training in cultural humility and competence.**
- E. **Develop complementary clinic-community programs and policies.**
- F. **Establish an active, functional network of community service providers.**

- G. **Network on an ongoing basis** in order to develop and maintain formal supportive programs and resources.
- H. **Develop and streamline referral** systems between clinical and community-based health care programs.
- I. **Designate individuals** who are responsible for referring patients to clinic and community-based providers

Team Notes:

Working Together with your Community and Organization

Organizational Recommendations

Key Recommendation 7. Organization leaders support work to continuously improve the quality of diabetes care and patient experience of care.

Why?

Improving a service is an essential part of running it. A vital component of addressing a system of care includes addressing how to improve it.

Leadership is important for making improvement. The absence of leadership is related to poor quality and safety. Anyone who has worked to improve their diabetes care system without active support by senior leaders or physician leaders knows this fact very well. Leader actions can promote sustained effort by other leaders and staff to work on improvement. Leaders can “sell, start, spread, and sustain” one improvement or combined changes that lead an improvement strategy.

Which leader actions support the most improvement? What should leaders do to lead improvement? Leaders need to fit their actions to their situation and to the improvement being addressed. (Ovretviet, 2010)

How to Implement the Key Recommendation

- A. **Keep current in knowledge about how to lead improvement.** Get ideas on how to support staff to contribute to planning and implementing improvements.
- B. **Address quality diabetes care** (or care for chronic conditions as a whole) in the organization’s strategic plan and quality improvement plan.
- C. **Visibly support and give attention to improving the diabetes (chronic) care system.**
- D. **Set overall organizational goals and specific, measurable objectives** for improving diabetes care and prevention.
- E. **Develop organizational capacity to improve**
 - Use the Model for Improvement and the Plan-Do-Study-Act (PDSA) Cycle
 - Action! See Part 3 – [Appendix J](#), and <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Howtoimprove>**
 - Provide staff training on improvement processes and skills

F. Promote effective improvement strategies aimed at system change

- Establish accountability
- Assign a physician champion
- Provide needed resources such as time, resources, data, evidence of results, and incentives.
- Encourage open, systematic handling of errors or “near misses” to improve care.
- Develop agreements that facilitate care coordination within and across organizations.
- Advocate for the development and implementation of policies that improve patient care

Team Notes:

Key Recommendation 8. Organization leaders support the integration of planned care that is provided by clinical care teams.

Why?

Primary care has four essential characteristics: accessible care for each new problem or health need; long-term person-focused care; comprehensiveness of care; and coordination of care. A primary care team provides better effectiveness as well as more efficient and more equitable care to individuals and populations. A concerted attempt to provide a means of universal financial access as well as a medical home (primary care team) should be of high priority for the United States. (Starfield, 2004)

How to Implement the Key Recommendation

- A. **Address planned care for all patients** in the organization's strategic and quality improvement plans.
- B. **Support and give attention to improving planned care** for all patients (those with chronic conditions, at risk for chronic conditions, and for general health promotion and disease prevention).
- C. **Give priority to improving patients' access to care.**
- D. **Do an organization assessment using the ACIC (Assessment of Chronic Illness Care)** to evaluate your need and/or readiness to integrate primary care teams.

Action! For more information on ACIC see **Part 3** – [Appendix D](#). and <http://www.ihl.org/IHI/Topics/ChronicConditions/Tools/ACACSurvey.htm>

- E. Use what is learned from the ACIC assessment to **plan and implement work that moves toward the use of clinical care teams to provide primary care.**

Note! See [Key Recommendation 2](#) above.

- F. Use the ACIC to **assess collaborations with local community partners.**

Team Notes:

Key Recommendation 9. Process and outcome data are used to improve diabetes care.

Why?

Data is the documentation of a measurement. If you want to reduce the occurrence of a problem, increase the occurrence of an improvement, or reduce the amount of time it takes to do something, you need to collect data about what is happening. Data that are collected and displayed can give meaning to what is happening in a situation. Plotting data over time increases what can be learned. It allows the information to display a pattern. It is hoped that the pattern will show improvement or an opportunity for improvement. (Langley 2009)

How to Implement the Key Recommendation

- A. **Clarify the goals** you are trying to achieve by implementing this Best Practice.
- B. **Agree on the measures** you will use to evaluate your work to improve the delivery of diabetes care.
- C. **Develop plans** to gather both process and outcome data (what, when, by whom, how)
 - Use your diabetes registry and clinical information system to obtain measures for the patients whose care you are working to improve.
 - As needed, develop simple data recording forms for use during patient visits.
 - When possible, collect data as part of regular work routines.
 - Examples of process measures are visit length, where the patient needs to go during a visit, patient satisfaction, and patient experience of care.
- D. **Address data quality issues:**
 - See if your Area Diabetes Coordinator or Indian Health Board can help you to address your data quality.
 - If you have patients who receive care from other sources (e.g., eye or dental exams), train coders and other staff about where to find referred care information and how to document it.
- E. **Use organization-wide Diabetes Audits** to obtain measurement data. Consider doing facility-specific audits if care is provided in more than one location.
- F. **Consider doing community-specific Diabetes Audits.**
- G. **Provide training** on kinds of data (process; outcome), displaying data over time and using data for improvement.
- H. **Encourage staff to collect audit data at least monthly.**
- I. **Plot data measures over time** (monthly, every other month, quarterly) by using charts, graphs, dashboard displays or other methods.
- J. **Separate data for different groups** (facilities, care teams, etc).

K. Observe trends and patterns in Key Measures.

L. Share/display data broadly within the organization, with patients, and within the community.

M. Demonstrate improvements.

N. Use information to plan improvements.

Team Notes:

Key Recommendation 10. Systems of care objectives are included in annual performance plans for all relevant staff.

Why?

Annual performance plans can provide a roadmap for clinical improvement goals. Appropriate measures should be developed for clinical objectives related to these goals. Cascading these objectives into annual performance plans for employees in the organization responsible for diabetes systems of care can enhance accountability for achieving improvement goals and serve as a basis for appropriate recognition.

How to Implement the Recommendation

- A. **Using a consensus process of organization and clinic leadership, develop appropriate strategic systems of care-related goals** for your organization, such as developing a multidisciplinary diabetes team. Then, develop specific process and outcome objectives. For example: In six months, the multidisciplinary diabetes team will be expanded to include community-based team members.
- B. **Negotiate with clinic staff on how changes to their specific roles will help meet these goals;** select appropriate objectives and measures to be included in their annual performance evaluations. For example, the clinical care team nurse does pre-visit planning with patients and follows-up on referrals to outside dentists and optometrists. An increase in the number of referrals is a process measure. An annual increase of 5% for IHS Diabetes Audit dental and eye exams could be outcomes.
- C. **Decide upon the frequency of evaluation.**
- D. **Include all stakeholders** in review of these measures.
- E. **Continue to evaluate outcomes** such that they inform all members of the diabetes team and organizational leaders of systems of care challenges and successes.

Team Notes:

PART 3 Appendices, Tools, and Resources

Appendix A. Supplemental Information

1. Importance of Diabetes Systems of Care

Type 2 diabetes is one of the most serious and devastating health problems of our time. Although the growing epidemic of diabetes threatens populations around the world, American Indians and Alaska Natives have been hit particularly hard. They suffer from some of the highest rates of diabetes in the world. Diabetes and its complications are major contributors to death and disability in every Tribal community (RTC, 2011).

Health care facilities that, in partnership with American Indian/Alaska Native communities, address broad components of their health care system provide better quality diabetes care. This care is:

- continuous, not episodic
- proactive, not reactive
- planned, not sporadic
- focused on prevention, not just treatment
- patient-centered, rather than provider-centered, and
- population-based, as well as individual-based.

2. The Chronic Care Model

The Chronic Care Model (CCM) synthesizes evidence-based system changes. It offers a multi-dimensional guide for addressing complex health care system components. The Model addresses six core elements in the provision of optimal care for persons with chronic diseases:

1. Delivery system design: assure the delivery of effective, efficient clinical care, and self-management support;
2. Self-management support: support and prepare patients to manage their health, medical conditions, and health care;
3. Decision support: promote care that is consistent with scientific evidence and patient preferences;
4. Clinical information systems: organize patient and population data to facilitate efficient and effective care;
5. Community resources and policies: mobilize community resources to meet needs of patients; and
6. Health systems: create a culture, organization, and mechanisms that promote safe, high quality care (Wagner, 1999).

As an ultimate goal, the CCM envisions an informed, activated patient interacting with a prepared, proactive practice team, resulting in high-quality, satisfying encounters, and improved outcomes (Wagner, 1999).

Major system-wide strategies can successfully improve the quality of diabetes care and chronic condition care (Rith-Najarian, 1999; Wilson, 2001). Addressing a single element of the CCM is ineffective in improving outcomes (Chin, 2004). Interventions that address at least four elements are able to show a more positive impact (McCulloch, 2004). Disease-specific management programs that address all elements of the CCM have demonstrated improved outcomes for their targeted condition (Rith-Najarian, 1999; Wilson, 2001). The Indian health system's many Diabetes Programs are an example of disease-specific programs. Many disease-specific

programs operate independently of patients' source of regular primary care (Wagner, 1996). As more patients have multiple health problems, multiple needs cannot be addressed through multiple 'siloed' systems of care (Canadian Academy of Health Sciences, 2010). Evolving literature demonstrates that patient outcomes are further enhanced by integrating disease-specific work into the provision of primary care (Bodenheimer, 2002; Starfield, 2003). The Indian health system's Improving Patient Care (IPC) Program provides an example of working towards integrating disease-specific care into primary care (IPC, 2011). Outpatient care facilities with effective diabetes systems of care and excellent patient outcomes demonstrate further improvements in outcomes as a result of integrating clinical care teams that provide and coordinate care for panels of patients (IHI, 2011). There is accumulating evidence that integrated, team-based, coordinated primary care improves both diabetes outcomes (Starfield, 2004) and patient experience of care. (Bodenheimer, 2007)

Action! See [Appendix I](#), and the Improving Chronic Care Website http://www.improvingchroniccare.org/index.php?p=The_Chronic_Care_Model&s=2 for more information on the Chronic Care Model.

3. Benefits and Risks of Implementing This Best Practice

Potential benefits of implementing this Best Practice include:

- Improved patient health
- Decreased incidence of long-term complications of diabetes
- More productive and satisfying patient-care team relationships
- Improved patient experience of care
- Improved staff work experience (satisfaction)
- More effective use of health care system resources
- Safer health care
- Enhanced effectiveness and cost-effectiveness of self-management support due to collaboration among community and health care entities

No harm should be expected as a result of implementing this Best Practice.

4. Components of a Diabetes System of Care

In a Diabetes Systems of Care, a coordinated multidisciplinary team of health care professionals and paraprofessionals works together to design and manage a comprehensive system of care that serves both the needs of community members who are affected by diabetes and the needs of health care team members.

Components of a Diabetes System of Care include:

- The delivery of diabetes care is proactive, patient-centered, and planned
- Evidence-based guidelines are readily available and used for decision making
- Self-management support is addressed at every encounter
- Registries and clinical information system data are used to plan and provide care
- Partnerships exist among clinic and community-based members of the health care team
- Leadership supports an organizational culture of quality

5. Sustaining Your Diabetes Systems of Care

It is common for new initiatives to require a certain level of maturity before care goals can be achieved. This maturational process may require more than a few years to produce the desired outcomes in a stable and self-sustaining fashion. Sustainability is a critical issue for programmatic success, and can be an elusive target.

Here are some helpful hints for sustaining your program:

- Ensure leadership commitment to ongoing improvement of your diabetes (chronic care) systems of care.
- Ensure that diabetes systems of care are included in the organization's long-term strategic and quality improvement plans.
- Include diabetes measure reports as an ongoing agenda item for selected meetings.
- Integrate clinical and community-based approaches to diabetes care.
- Orient new staff to diabetes, your system of care, and their responsibilities.
- Provide ongoing diabetes education and training for staff member roles.
- Involve community members in planning and evaluating diabetes services.
- Explore new reimbursement opportunities for innovative systems of care.
- Secure long-term funding (i.e., non-grant funds) to meet your diabetes program's needs.
- Recognize accomplishments through incentives and awards.

Appendix B. Key Measures Example

Remember—this is an example! Apply this process to your community using your data.

Action! For additional examples, see [Appendix F](#). – Key Recommendations, Sample Program Goals and Measures

We are not satisfied with the quality of diabetes care that we are providing. Over the past three years, there has been little improvement in several Diabetes Audit results. In addition, our organization has never evaluated itself using the Assessing Chronic Illness Care survey. We believe using the tool as a framework will give us insight into how to improve the quality of our diabetes care.

The team takes action. Our diabetes team talked about addressing the need to improve our diabetes care. We read the Systems of Care Best Practice and talked about the Key Recommendations.

Identified sources of data. Local data included:

- Audit data for past three years:
 - Percent of diabetes patients with A1C < 7.0 increased from 33% to 34%.
 - Percent of diabetes patients with a documented retinal eye exam in the past twelve months decreased from 51% to 47%.
 - Percent of diabetes patients with documented Medical Nutrition Therapy did not change.

Selected suitable Best Practice. After thinking carefully about our goals and resources, and reviewing data, we decided the Systems of Care Best Practice was a good fit for us because it allows us to address broad diabetes care issues. We chose to work on two of the Key Recommendations: diabetes is managed using a proactive systems approach and planned care visits occur for diabetes patients.

Identified Target Population. We decided to start implementing this Best Practice with all patients listed in our diabetes registry.

Identified Program goals:

- Increase the number of people with diabetes whose care meets the IHS Diabetes Standards of Care.
- Improve blood glucose, blood pressure, and lipid control for patients with diabetes.

Identified SMART objectives based on our resources and data:

Selected Diabetes Audit results will improve by the end of the fiscal year.

- The percent of diabetes patients with A1C < 7.0 will increase from 35% to 45% by September 30, 2012.
- The percent of diabetes patients with BP < 130/80 will increase from 22% to 30% by September 30, 2012.
- The percent of diabetes patients with LDL < 100 will increase from 48% to 55% by September 30, 2012.
- The percent of diabetes patients with a documented retinal eye exam will increase from 47% to 60% by September 30, 2012.

- The percent of diabetes patients with a documented Medical Nutrition Therapy visit will increase from 55% to 60% by September 30, 2012.
- The percent of diabetes patients with documented tobacco cessation counseling will increase from 55% to 70% by September 30, 2012.
- The organization's total score on the Assessment of Chronic Illness Care tool will increase by one point in at least three of the six component scores over the next year.

Selected Key Measures. We chose the corresponding Key Measures for these Key Recommendations. Data will be collected at baseline and mid-year.

Table 1. Key Measures

	A. Measure	B. <u>Baseline</u> or beginning value and date (collected prior to starting activities)	C. Most recent value and date (if applicable)	D. Data source (where did these numbers come from)
1	* Percent of patients at goal for A1C < 7.0	35% as of 2/2/2011	36% as of 4/2/2011	RPMS
2	* Percent of patients at goal for BP at or below 130/80	22% as of 2/2/2011	25% as of 4/2/2011	RPMS
3	* Percent of patients at goal for LDL < 100	48% as of 2/2/2011	50% as of 4/2/2011	RPMS
4	* Percent of patients with documented retinal eye exams	47% as of 2/2/2011	51% as of 4/2/2011	RPMS
5	* Percent of patients with documented MNT visits	55% as of 2/2/2011	56% as of 4/2/2011	RPMS
6	* Percent of patients with documented tobacco cessation counseling	55% as of 2/2/2011	55% as of 4/2/2011	RPMS
7	* Total score on the ACIC tool	4 as of 2/2/2011	4 as of 4/2/2011	ACIC Tool

* Required Key Measure

Appendix C. Improving Systems of Care Programs

Remember—this is an example! Ask these questions in your community, thinking about your local needs, resources, and tracking systems.

There are four fundamental questions to ask as you plan and implement your Best Practice. These questions (and sample answers) are:

1. Who is your target population?

The target population that will benefit from implementing this Best Practice is all persons with type 1 or type 2 diabetes.

2. What are you trying to accomplish?

Enhance our organization's ability to provide quality diabetes care and to improve patient outcomes.

3. How will you know if what you do makes things better?

Collect, track, and display data to learn if these things occurred:

- Improved total scores compared to baseline on the Assessment of Chronic Illness Care tool every six months.
- Improved IHS Diabetes Audit results for three clinical outcomes: increased percent of patients at goal for A1C, BP, and LDL.
- Improved IHS Diabetes Audit results for three process measures: increased percent of patients with documented MNT, tobacco counseling, and eye exams over the next twelve months.

4. What can we do to make things better.

Leadership Support

- Get support from leadership to improve diabetes systems of care.
- Track diabetes system of care work monthly.

Diabetes Systems of Care

- Develop a process to update the diabetes registry on a routine basis.
- Retrieve up-to-date clinical guidelines, treatment algorithms, and education resources from the IHS Diabetes Website.

Multidisciplinary Diabetes Team

- Revisit the purpose of our Diabetes Team and who needs to be on the team.
- Recruit new members who represent community partners.
- Key team members participate in semi-annual ACIC assessments.
- Conduct diabetes planning activities:
 - Use information from our ACIC assessments in planning.
 - Include clinic and community-based staff in the planning process.
 - Listen to “the voice of our community” by having a patient participate in planning activities.
- Identify staff members' diabetes education needs.

Use Data To Improve Care

- Develop a way to track diabetes measures.
- Use ongoing data to demonstrate improvements in care and to identify areas that need additional work.
- Train clinical staff how to use iCare and the Diabetes Management System to identify patient needs.

Appendix D. The Assessing Chronic Illness Care (ACIC) Tool

About the ACIC

Improving Chronic Illness Care (ICIC) is a national program of The Robert Wood Johnson Foundation. The ICIC developed the Assessment of Chronic Illness Care (ACIC) survey to assist health care organizations in assessing current levels of care based upon the six components of the Chronic Care Model (community resources, health organization, self-management support, delivery system design, decision support, and clinical information systems).

The survey allows organizations to identify areas for improvement in chronic illness care before beginning quality improvement work and to periodically evaluate the impact of the changes made on improving chronic illness care.

Note of Interest:

The ACIC is modeled after an instrument developed by the Indian Health Service for evaluating diabetes care (Acton et al., 1993, 1995). The IHS survey was designed to help systems and provider practices move toward the “state-of-the-art” in managing chronic illness. The results can be used to help your team identify areas for improvement.

ACIC Survey

The ACIC Tool and instructions for completing and scoring it are located at the very end of Part 3 of this Best Practice.

Tools/Resources

Two websites have a wealth of information on the ACIC survey. They are:

Improving Chronic Illness Care website:

http://www.improvingchroniccare.org/index.php?p=Survey_Instruments&s=165

Institute for Healthcare Improvement website:

<http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/Tools/ACICSurvey.htm>

Two articles address the use of the ACIC to periodically evaluate the impact of changes on improving chronic illness care. They are:

Solberg L, et al. Care Quality and Implementation of the Chronic Care Model: A Quantitative Study. 2006

Bonomi A, et al. Assessment of Chronic Illness Care (ACIA): A Practical Tool to Measures Quality Improvement. 2002

(Complete reference information is noted in [Part 4](#), References)

Appendix E. Optional Systems of Care Measures

The table below lists ideas for measures that might be used to track the effectiveness of a diabetes system of care. The list is long: there is no need to address all of measures. Select measures that will help track progress toward goal(s).

Optional Systems of Care Measures
<p><u>Clinical</u></p> <ul style="list-style-type: none">• Percent of patients at goal for A1C, BP, <i>and</i> LDL• Number and percent of patients with missing values for site-selected DM audit measures• Number of subgroups of people from the diabetes registry whose special care needs are addressed• Number and percent of lost-to-follow-up diabetes patients• Number and percent of diabetes patients with an assigned case manager• Results on patient experience of care survey <p><u>Integrated Community/Clinical</u></p> <ul style="list-style-type: none">• Percent of patients who achieve either their weight loss or physical activity goals• Percent of patients with a documented self-management goal• Number of patients who were referred to site-selected community service programs <i>and</i> for whom referral responses were received <p>(Non-measure processes that can be used to track progress)</p> <ul style="list-style-type: none">• Number of partnerships established for DM treatment, prevention, and self-management support• Frequency of multidisciplinary diabetes team meetings, minutes, track attendance by community and clinical staff• A mechanism is in place through which people with diabetes, pre-diabetes, and/or family members provide input into diabetes care• A current community resource directory <p><u>Organizational</u></p> <ul style="list-style-type: none">• Frequency of population diabetes e-audits; frequency of sample manual audits• Results on staff work experience (satisfaction) survey <p>(Non-measure processes that can be used to track progress)</p> <ul style="list-style-type: none">• Diabetes care is mentioned in strategic and quality improvement plans• A clinical care team's provision of primary care is tested and implemented• Integrated primary care spreads to additional clinical care teams• Number of annual performance plans that address cascaded systems of care objectives

Appendix F. Key Recommendations, Sample Program Goals, and Measures

Note! Measures in ***bold italics*** are required Key Measures for SDPI grant programs.

Table 2. Key Recommendations, Sample Program Goals, and Measures

Program Goals	Key Recommendations	Measures
<ul style="list-style-type: none"> Increase the percentage of diabetes patients who are at goals for A1C, BP, and LDL 	Diabetes is managed using a proactive systems approach	<ul style="list-style-type: none"> <i>Percent of patients currently at goal: A1C < 7.0; BP < 130/80; LDL < 100</i> % of patients at goal for A1C, BP, and LDL average A1C, BP, and LDL for all patients with diabetes (in addition to % at goal) # of subgroups of people from the diabetes registry whose special care needs are addressed <i>Total score on the ACIC tool</i>
<ul style="list-style-type: none"> Increase patient continuity of care Enhance patient experience of care Enhance staff work experience satisfaction 	A clinical care team provides care for each person with diabetes	<ul style="list-style-type: none"> Improved patient experience of care # and % of lost-to-follow-up diabetes patients % of patients with an assigned care manager Improved staff work experience (satisfaction)
<ul style="list-style-type: none"> Increase the number of diabetes patients who received care that meets IHS Diabetes Standards of Care 	Planned care visits occur for diabetes patients	<ul style="list-style-type: none"> <i>Percent of patients with improvements in three site-selected DM audit measures</i>
See “Pharmaceutical Care” Best Practice	Medication management protocols are used to increase treatment intensity in order to bring individual patients to goal (glucose, blood pressure, LDL)	See “Pharmaceutical Care” Best Practice
See “Diabetes/Pre-Diabetes Case Management” Best Practice	Case management occurs for high risk individuals	See “Diabetes/Pre-Diabetes Case Management” Best Practice
<ul style="list-style-type: none"> Have effective diabetes care and prevention partnerships among clinical and community-based entities Have a mechanism through which community members who are affected by diabetes can provide input into diabetes care 	A multidisciplinary diabetes team works together to coordinate diabetes care, education, and outreach	<ul style="list-style-type: none"> Frequency of team meetings, minutes, track attendance by community and clinical staff A mechanism is in place through which people with diabetes, pre-diabetes, and/or family members provide input into diabetes care Number of partnerships established for DM treatment, prevention, and self-management support in the past twelve months

Program Goals	Key Recommendations	Measures
See “Diabetes Prevention” Best Practice	Identify people at risk for diabetes and implement appropriate interventions	See “Diabetes Prevention” Best Practice
See “Diabetes Self-Management Education” Best Practice**	Patients receive ongoing support for their self-management	See “Diabetes Self-Management Education” Best Practice**
<ul style="list-style-type: none"> Have the capacity to inform patients about currently available internal and community resources for self-management support, diabetes self-management and healthy lifestyles 	Community and clinical resources that support healthy lifestyles are identified and/or developed	<ul style="list-style-type: none"> There is a current community resource directory
<ul style="list-style-type: none"> Process bi-directional referrals with internal and community-based partners 	Functional partnerships exist among community and clinical partners	<ul style="list-style-type: none"> # and % of pts seen in a given time period for whom referrals were initiated; % of the same referrals with response returned
<ul style="list-style-type: none"> Enhance the organization’s capacity for improvement 	Organization leaders support health care team members as they work continuously to improve the quality of diabetes care and patient experience of care	<ul style="list-style-type: none"> Diabetes care is mentioned in strategic and quality improvement plans Ongoing work addresses continuous improvement effort
<ul style="list-style-type: none"> Enhance the organization’s effectiveness in providing quality care for diabetes and other chronic conditions 	Organization leaders support the implementation of planned care that is provided by integrated clinical care teams.	<ul style="list-style-type: none"> The use of clinical care teams to provide primary care is tested and implemented Ongoing work addresses its continual improvement
<ul style="list-style-type: none"> Integrate the use of proven improvement strategies by the diabetes team and clinical care teams 	Process and outcome data are used to improve (diabetes) care	<ul style="list-style-type: none"> Increased frequency of population diabetes e-audits; increased frequency of sample manual audits

Appendix G. Key Recommendations: Suggested Steps for Developing Diabetes Systems of Care

Table 3. Suggested Steps for Developing Diabetes Systems of Care

Early	Middle	Later
Diabetes is managed using a proactive systems approach	Planned care visits occur for diabetes patients	*A clinical care team provides care for each person with diabetes
**A multidisciplinary diabetes team works together to coordinate diabetes care, education, and outreach	Medication management protocols are used to increase treatment intensity and bring individual patients to goal	Care management occurs for high risk individuals
Patients receive ongoing support for self-management	Identify people at risk for diabetes and implement appropriate interventions	Community and clinical resources that support healthy lifestyles are developed
Organization leaders support work to continuously improve the quality of diabetes care and patient experience of care	Functional partnerships exist among community and clinical partners	Fully integrated care team
Process and outcome data are used to improve diabetes care	Organization leaders support the integration of planned care that is provided by clinical care teams	

Note!

*The care team is composed of people who work together regularly to provide care for their own patients, i.e., the direct care team, which may include a medical provider, nurse, medical assistant, etc.

**The multidisciplinary diabetes team is a quality improvement team that may be composed of people who are also on care teams, people from the organization who may not be clinical staff (e.g., leaders, administrators), specialty providers, community-based staff, and patients/ family members.

Appendix H. Suggestions for Sequencing Systems of Care Work

Systems of Care work can occur in three stages: early, middle, and later. The sequences suggested in this table are based on the experience of many facilities that worked to improve their systems of care. But the sequences are only suggestions: it is important to remember “one size does not fit all”. Some programs may, because of local needs and resources, choose to implement Best Practice ideas in sequences that are different from those noted in the table.

Table 4. Sequencing Systems of Care Work

Early	Middle	Later
Proactive systems of care		
<ul style="list-style-type: none"> • Establish and maintain an up-to-date electronic diabetes registry that includes key patient information • Use information from the registry and clinical information system to plan individual’s care and to guide interactions • Use up-to-date, evidence-based diabetes standards of care to direct needed care 	<ul style="list-style-type: none"> • Use information from the registry and clinical information system to identify and track people who need follow-up or changed treatment approaches • Identify subgroups of patients for proactive care • Develop “standing orders” 	<ul style="list-style-type: none"> • Develop agreements and linkages with medical specialists who can provide care teams with easy access to specialist advice
Clinical care team		
<ul style="list-style-type: none"> • Ensure that individual patients have a personal medical provider 	<ul style="list-style-type: none"> • Create a clinical care team for one medical provider by assigning outpatient staff to regularly work with the provider • Define care team roles • Ensure that care is planned and managed • Develop procedures and protocols to guide team members’ actions • Ensure regular patient follow-up by the clinical care team. 	<ul style="list-style-type: none"> • Build support for the concept of clinical care teams; get “buy-in” for the use of clinical care teams among other clinical staff by regularly sharing the team’s successes • Expand the concept of clinical care teams by creating additional teams • These teams use and build on what the first clinical care team learned. • Staff are cross-trained for other’s roles • Set up communication mechanisms for routine and unplanned needs
Planned care visits		
	<ul style="list-style-type: none"> • Identify patient needs before the visit • Assess patient progress to treatment and self-management goals; assess patient barriers to goals • Set up a mechanism to provide regular patient follow-up with the clinical care team. 	<ul style="list-style-type: none"> • Plan and manage appointments so that patients do not leave visits with unmet needs • Have brief, early in the day/shift care team discussions to organize plans to provide all needed services during encounters • Do pre-visit planning with the patient either before the day of

		<p>the appointment or at the beginning of the visit</p> <ul style="list-style-type: none"> • Use post-visit discussions to clarify the advice given by the provider and to address patient behavior changes and action plans • Use between visit contacts and outreach follow-up with patients as needed • Consider providing care through group medical visits in addition to individual visits.
Multidisciplinary DM team		
<ul style="list-style-type: none"> • Assign leadership for coordinating the multidisciplinary diabetes team is assigned to one person (e.g., a “diabetes coordinator”). • Delineate needed team membership 	<ul style="list-style-type: none"> • Collaborate on shared diabetes program goals and objectives • Coordinate care within the facility • Identify community-based team members’ roles • Explore ways to listen to community members’ diabetes and diabetes care needs • Monitor system diabetes processes and outcomes 	<ul style="list-style-type: none"> • Integrate broad clinical staff involvement in diabetes team planning and work
Healthy lifestyles resources developed		
	<ul style="list-style-type: none"> • Identify internal and outside resources 	<ul style="list-style-type: none"> • Develop an easily accessible current list of community resources • Provide a list of community resources to appropriate patients, families, and health care team members • Identify gaps in available community services/resources • Develop partnerships to fill the gaps in needed services • Pursue public policy to support healthy lifestyles
Functional partnerships		
<ul style="list-style-type: none"> • Establish dialogue among community diabetes programs • Discuss ways that clinical staff can enhance their cultural humility: suggest things that can be said, and ways of interacting that are culturally respectful • Provide training in cultural humility and competence 	<ul style="list-style-type: none"> • Establish linkages and agreements to develop community partnerships • Designate individuals who are responsible for referring patients to clinic and community-based providers 	<ul style="list-style-type: none"> • Develop complementary clinic-community programs and policies • Establish an active, functional network of community service providers • Develop and streamline referral systems between clinical and community-based health care programs

Leaders support improving care		
<ul style="list-style-type: none"> • Keep current in knowledge about how to lead improvement. Get ideas on how to support staff to contribute to planning and implementing improvements • Address quality diabetes care (or care for chronic conditions as a whole) in the organization's strategic plan and quality improvement plan • Visibly support and give attention to improving the diabetes (chronic) care system • Set overall organizational goals and specific, measurable objectives for improving diabetes care and prevention 	<ul style="list-style-type: none"> • Develop organizational capacity to improve 	<ul style="list-style-type: none"> • Promote effective improvement strategies aimed at system change
Leaders support planned care by clinical care teams		
<ul style="list-style-type: none"> • Do an organization assessment using the ACIC (Assessment of Chronic Illness Care) to evaluate your need and/or readiness to integrate primary care teams. • Use the ACIC to assess collaborations with local community partners. 	<ul style="list-style-type: none"> • Address planned care for all patients in the organization's strategic and quality improvement plans. • Support and give attention to improving planned care for all patients (those with chronic conditions, at risk for chronic conditions, and for general health promotion and disease prevention) • Use what is learned from the ACIC assessment to plan and implement work that moves toward the use of clinical care teams to provide primary care 	<ul style="list-style-type: none"> • Give priority to improving patients' access to care
Use data for improvement		
<ul style="list-style-type: none"> • Clarify the goals you are trying to achieve by implementing this Best Practice • Agree on the measures you will use to evaluate your work to improve the delivery of diabetes care • Develop plans to gather both process and outcome data (what, when, by whom, how) • Use organization-wide Diabetes Audits to obtain measurement data 	<ul style="list-style-type: none"> • Address data quality issues • Provide training on kinds of data (process; outcome), displaying data over time, and using data for improvement • Plot data measures over time by using charts, graphs, dashboard displays or other methods • Observe trends and patterns in key measures • Demonstrate improvements 	<ul style="list-style-type: none"> • Consider doing community-specific Diabetes Audits • Separate data for different groups (facilities, care teams, etc)

<ul style="list-style-type: none"> • Consider doing facility-specific Diabetes Audits if care is provided in more than one location • Use information to plan improvements 	<ul style="list-style-type: none"> • Share/display data broadly within the organization, with patients and within the community 	
Cascade objectives to performance plans		
	<ul style="list-style-type: none"> • Using a consensus process of organization and clinic leadership, develop appropriate strategic systems of care-related goals • Negotiate with clinic staff on how changes to their specific roles will help meet these goals • Decide upon the frequency of evaluation • Include all stakeholders in review of these measures. 	<ul style="list-style-type: none"> • Continue to evaluate outcomes

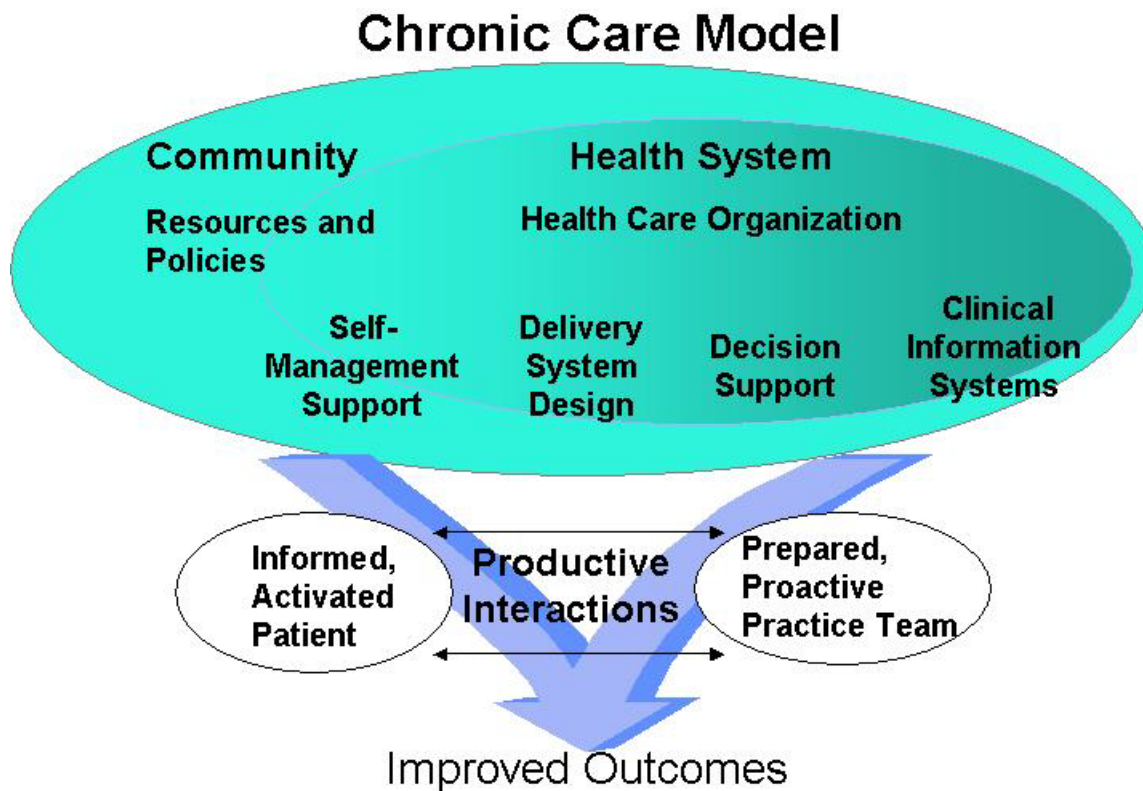
Appendix I. The Chronic Care Model

The Chronic Care Model (CCM) summarizes the basic elements for improving care in health systems at the community, organization, practice, and patient levels. It identifies the essential elements of a health care system that encourage high-quality chronic disease care. These elements are the community, the health system, self-management support, delivery system design, decision support, and clinical information systems.

Evidence-based change concepts under each element, in combination, foster productive interactions between informed patients who take an active part in their care and providers with resources and expertise.

The Model can be applied to a variety of chronic illnesses, health care settings, and target populations. The bottom line is healthier patients, more satisfied providers, and cost savings.

Figure 1. Chronic Care Model.



(text continues on next page)

Health System *Create a culture, organization and mechanisms that promote safe, high quality care*

1. Visibly support improvement at all levels of the organization, beginning with the senior leader
2. Promote effective improvement strategies aimed at comprehensive system change
3. Encourage open and systematic handling of errors and quality problems to improve care
(2003 update)
4. Provide incentives based on quality of care
5. Develop agreements that facilitate care coordination within and across organizations (2003 update)

A system seeking to improve chronic illness care must be motivated and prepared for change throughout the organization. Senior leadership must identify care improvement as important work, and translate it into clear improvement goals and policies that are addressed through application of effective improvement strategies, including use of incentives, that encourage comprehensive system change. Effective organizations try to prevent errors and care problems by reporting and studying mistakes, and making appropriate changes to their systems. Breakdowns in communication, and care coordination can be prevented through agreements that facilitate communication and data-sharing as patients navigate across settings and providers.

Delivery System Design: *Assure the delivery of effective, efficient clinical care, and self-management support*

1. Define roles and distribute tasks among team members
2. Use planned interactions to support evidence-based care
3. Provide clinical case management services for complex patients (2003 update)
4. Ensure regular follow-up by the care team
5. Give care that patients understand and that fits with their cultural background (2003 update)

Improving the health of people with chronic illness requires transforming a system that is essentially reactive - responding mainly when a person is sick - to one that is proactive and focused on keeping a person as healthy as possible. That requires not only determining what care is needed, but spelling out roles and tasks for ensuring the patient gets care using structured, planned interactions. And it requires making follow-up a part of standard procedure, so patients are not left on their own once they leave the doctor's office. More complex patients may need more intensive management (care or case management) for a period of time to optimize clinic care and self-management. Health literacy and cultural sensitivity are two important emerging concepts in health care. Providers are increasingly being called upon to respond effectively to the diverse cultural and linguistic needs of patients.

Decision Support *Promote clinical care that is consistent with scientific evidence and patient preferences*

1. Embed evidence-based guidelines into daily clinical practice
2. Share evidence-based guidelines and information with patients to encourage their participation

3. Use proven provider education methods
4. Integrate specialist expertise and primary care

Treatment decisions need to be based on explicit, proven guidelines supported by clinical research. Guidelines should also be discussed with patients, so they can understand the principles behind their care. Those who make treatment decisions need ongoing training to stay up-to-date on the latest evidence, using new models of provider education that improve upon traditional continuing medical education. To change practice, guidelines must be integrated through timely reminders, feedback, standing orders, and other methods that increase their visibility at the time that clinical decisions are made. The involvement of supportive specialists in the primary care of more complex patients is an important educational modality.

Clinical Information Systems *Organize patient and population data to facilitate efficient and effective care*

1. Provide timely reminders for providers and patients
2. Identify relevant subpopulations for proactive care
3. Facilitate individual patient care planning
4. Share information with patients and providers to coordinate care (2003 update)
5. Monitor performance of practice team and care system

Effective chronic illness care is virtually impossible without information systems that assure ready access to key data on individual patients as well as populations of patients. A comprehensive clinical information system can enhance the care of individual patients by providing timely reminders for needed services, with the summarized data helping to track and plan care. At the practice population level, an information system can identify groups of patients needing additional care as well as facilitate performance monitoring and quality improvement efforts.

Self-Management Support *Empower and prepare patients to manage their health and health care*

1. Emphasize the patient's central role in managing their health
2. Use effective self-management support strategies that include assessment, goal-setting, action planning, problem-solving, and follow-up
3. Organize internal and community resources to provide ongoing self-management support to patients

All patients with chronic illness make decisions and engage in behaviors that affect their health (self-management). Disease control and outcomes depend to a significant degree on the effectiveness of self-management.

Effective self-management support means more than telling patients what to do. It means acknowledging the patients' central role in their care, one that fosters a sense of responsibility for their own health. It includes the use of proven programs that provide basic information, emotional support, and strategies for living with chronic illness. Self-management support can't begin and end with a class. Using a collaborative approach, providers and patients work

together to define problems, set priorities, establish goals, create treatment plans, and solve problems along the way.

The Community *Mobilize community resources to meet needs of patients*

1. Encourage patients to participate in effective community programs
2. Form partnerships with community organizations to support and develop interventions that fill gaps in needed services
3. Advocate for policies to improve patient care (2003 update)

By looking outside of itself, the health care system can enhance care for its patients and avoid duplicating effort. Community programs can support or expand a health system's care for chronically ill patients, but systems often don't make the most of such resources. A health system might form a partnership with a local senior center that provides exercise classes as an option for elderly patients. State departments of health and other agencies often have a wealth of helpful material available for the asking - wallet cards with tips for controlling diabetes, for example. National patient organizations such as the American Diabetes Association can help by promoting self-help strategies.

Local and state health policies, insurance benefits, civil rights laws for persons with disabilities, and other health-related regulations also play a critical role in chronic illness care. Advocacy by medical organizations on behalf of their patients can make a difference.

Source: Improving Chronic Illness Care

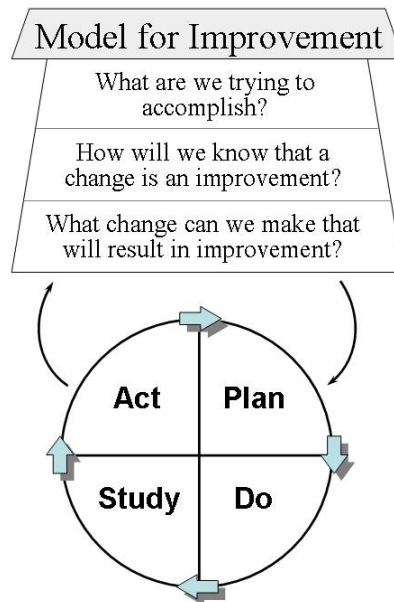
http://www.improvingchroniccare.org/index.php?p=The_Chronic_Care_Model&s=2

Appendix J. The Model for Improvement: Overview

The **Model for Improvement** provides us a way to improve care just like the scientific method helps us learn new knowledge. It was developed by experts who reviewed how successful organizations made changes. It is a simple way to approach any aspect of care from big system issues to individual care between a professional and a client.

There are six steps to using the Model for Improvement.

Figure 2. Model for Improvement



Six Steps to Using the Model for Improvement

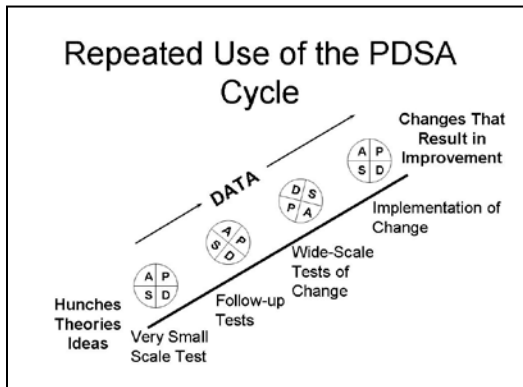
- 1) Set an aim: Answer the question, "What are we trying to accomplish?" The aim needs to be measurable and have a completion date. An aim may be something like improving our client's ability to care for their wound or decreasing the wait time for an assessment.
- 2) Decide how to measure. Answer the question, "How will we know that a change is an improvement?" If we don't measure what we've done, we don't know if what we did is better.
- 3) Select some new ideas to try. Answer the question, "What change can we make that will result in improvement?"
- 4) Test your ideas using PDSA cycles. **PDSA** stands for Plan-Do-Study-Act. It is much like trying out a nursing intervention with a client using the nursing process (assessment, diagnosis, plan, intervene, evaluate).
 - Plan:** Review your aim and measures and decide what you can try that might improve the situation. Make it simple and quickly testable, like trying with one nurse and one client today or tomorrow.
 - Do:** Try your new idea.

Study: While you are trying your new idea, observe what happens. Was it faster? Did it work better? Did the client like it?

Act: Review your test. What could happen next? Do we need to try it on more clients to see if it works with different kinds of people in different situations, or do we need to modify our idea? Sometimes an idea doesn't work and we look for another. The Act step leads to a new PDSA cycle.

As you can see, PDSA cycles build on each other. Each test of a new idea or refinement of an idea leads to changes in care. The measures will let us know if our ideas are working the way we think they will.

Figure 3. PDSA Cycle



5) When we have tested our change in many situations, we are ready to implement our change. This means we make the change our standard practice. We rewrite the procedure manual, train the staff, and add it to our orientation process.

6) We may have an opportunity to spread our idea to another situation or another community. The new setting will need to test our idea in their environment to see if it works as well for them. PDSA cycles will help them determine how to adapt the idea to their practice.

The Model for Improvement has helped many health care organizations improve their care. It can be taught to clients to help them learn to make changes in their daily lives. There is more detail around each part of the Model for Improvement but the basics are enough to help get started on managing improvement just like managing care for clients.

Tools

Assessing Chronic Illness Care Survey This tool was developed by Improving Chronic Illness Care, a national program of the Robert Wood Johnson Foundation. It is a survey to assist health care organizations in assessing current levels of care based on the six components of the Chronic Care Model. The survey allows organizations to identify areas for improvement in chronic illness care before beginning quality improvement work and to periodically evaluate the impact of the changes made on improving chronic illness care.

<http://www.ihf.org/IHI/Topics/ChronicConditions/AllConditions/Tools/ACICSurvey.htm>

Action! See Attachment: Tool – Assessment of Chronic Illness Care (ACIC) form, at the end of this document.

Making System Changes for Better Diabetes Care The National Diabetes Education Program (NDEP) maintains an online resource to help health care professionals design and implement more effective health care delivery systems for those with diabetes.

<http://www.betterdiabetescare.nih.gov/>

Support Behavior Change Resource The National Diabetes Education program (NDEP) provides an online searchable database of research, tools, and programs that address the “how to” of psychosocial issues, lifestyle, and behavior change for better diabetes management.

<http://ndep.nih.gov/sbcr/>

Diabetes Treatment Algorithms The IHS Division of Diabetes Treatment and Prevention (DDTP) maintains current, online treatment algorithms for type 2 diabetes, hypertension, hyperlipidemia, chronic kidney disease, and foot care.

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsDTTreatmentAlgorithm>

Diabetes Clinical Guidelines The IHS Division of Diabetes Treatment and Prevention maintains current, online treatment algorithms for type 2 diabetes, hypertension, hyperlipidemia, chronic kidney disease, and foot care.

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsClinicalGuidelines>

Improving Chronic Illness Care The ICIC has worked for more than a decade with national partners toward the goal of bettering the health of chronically ill patients by helping health systems, especially those that serve low-income populations, improve their care through implementation of the Chronic Care Model. This website offers many resources, videos and tools that can be used to improve diabetes care.

<http://www.improvingchroniccare.org/>

Improvement Methods. Tom Nolan. This website has valuable improvement information, resources and tools.

<http://www.ihf.org/IHI/Topics/Improvement/ImprovementMethods/>

Road Map for Quality Improvement: A Guide for Doctors. Manoj Jain. This easy-to-follow, online resource addresses quality questions such as: what is quality improvement? Why should we work at quality improvement? How is quality improvement measured and how can we tell if we've achieved the improvements we desire? What tools do we need to improve care in our offices, hospitals, and clinics?

http://www.mjain.net/medicine/roadmap_for_quality_improvement.pdf

Resources

Cherokee Nation Chronic Illness Improvement Story

The Cherokee Nation's Salina Health Center has been a participant in the Indian Health System's innovation community, Improving Patient Care (IPC), since January 2007. The purpose of the initiative is to transform the current Indian Health System to a patient-centered system with planned care for all patients, in order to reduce the prevalence and improve the management of chronic conditions. Several lessons learned are shared.

<http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/ImprovementStories/InnovationsinPlannedCareataCherokeeNationClinic.htm>

Helping Patients Manage their Chronic Conditions. California HealthCare Foundation: June 2005. Prepared by Bodenheimer T, MacGregor K, Sharifi C.

Contains self-management support videos, care team videos, and many more valuable resources. This report describes five interlocking strategies that help caregivers work successfully within the collaborative model. It also reviews literature describing the effectiveness of self-management support methods.

<http://www.chcf.org/publications/2005/06/helping-patients-manage-their-chronic-conditions>

Building Teams in Primary Care: Lessons Learned California Health Care Foundation: July 2007. Prepared by Thomas Bodenheimer

This report examines the approaches taken by fifteen primary care practices across the United States. The case studies demonstrate that teams are a necessary and effective foundation upon which other innovations - such as the chronic care model, advanced access, group visits, and electronic encounters - can be pursued. Overall lessons learned are shared. The bulk of the report provides case studies of practices and clinics making considerable progress in forging primary care teams.

<http://www.chcf.org/publications/2007/07/building-teams-in-primary-care-lessons-from-15-case-studies>

Improving Patient Care: Improving the Quality of and Access to Care. Indian Health Service. 2011.

This IHS website contains information about different IPC projects: learning networks, IPC collaboratives, and foundation training. It also provides tools for assessing health care systems and other resources that can be used to support system improvement.

<http://www.ihs.gov/ipc/index.cfm>

Patient-Centered Medical Home 2011. The National Committee for Quality Assurance (NCQA) has initiated a new recognition program, Patient-Centered Medical Home (PCMH).

This is an innovative program for improving primary care. In a set of standards that describe clear and specific criteria, the program gives practices information about organizing care around patients, working in teams, and coordinating and tracking care over time. PCMH standards emphasize the use of systematic, patient-centered, coordinated care management processes.

<http://www.ncqa.org/tabid/631/default.aspx>

Team Care: Comprehensive Lifetime Management for Diabetes. Centers for Disease Control and Prevention. 2001.

Quality diabetes care involves more than just the primary provider. Find out more about implementing multidisciplinary team care for people with diabetes in all clinical settings, and how to reduce the human and economic toll of diabetes through a continuous, proactive, planned,

patient-centered, and population-based approach to care.

<http://www.ndep.nih.gov/publications/PublicationDetail.aspx?PubId=113>

Chronic Disease Self-Management Program. Stanford University.

The Chronic Disease Self-Management Program is a workshop given two and a half hours, once a week, for six weeks, in community settings such as senior centers, churches, libraries, and hospitals. People with different chronic health problems attend together. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals with a chronic diseases themselves. It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants' confidence in their ability to manage their health and maintain active and fulfilling lives.

Subjects covered include: 1) techniques to deal with problems such as frustration, fatigue, pain, and isolation, 2) appropriate exercise for maintaining and improving strength, flexibility, and endurance, 3) appropriate use of medications, 4) communicating effectively with family, friends, and health professionals, 5) nutrition, and 6) how to evaluate new treatments.

<http://patienteducation.stanford.edu/programs/cdsmp.html>

Health Disparities Collaborative Diabetes Training Manual

Institute for Healthcare Improvement Diabetes: Changing Practice Changing Lives April 2002

This file has many improvement ideas and change ideas that are organized by Chronic Care Model components. There are also references to several valuable tools and resources.

<http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/Tools/HealthDisparitiesCollaborativesTrainingManualforChronicConditions.htm>

Transforming care for Canadians with chronic health conditions: put people first, expect the best and manage for results. Canadian Academy of Health Sciences 2010.

The Canadian Academy of Health Sciences appointed an international Expert Panel of leading thinkers and researchers who volunteered their time to conduct an eighteen month review, assessing the needs of people with chronic conditions, examining existing evidence and the state of the Canadian health care system, and contributing their expert opinions on emerging ideas about the appropriate care and support for these people. This comprehensive process led them to a consensus on a vision:

All Canadians with chronic health conditions have access to health care that recognizes and treats them as people with specific needs; where their unique conditions and circumstances are known and accommodated by all of their health care providers; and where they are able to act as partners in their own care.

When the vision is achieved, Canada's health care system will be integrated, person-focused, and population-based, with primary care practices as the hub for coordination and continuity of care with specialty and acute care and community-based services. This integrated health care system will:

- have primary care practices that are responsible for a defined population;
- be person focused (and family or friend-caregiver-focused);
- provide comprehensive services through interprofessional teams;
- link with other sectors in health and social care; and
- be accountable for outcomes.

Many ideas are presented that would benefit Indian health system diabetes teams.

<http://www.caahs-acss.ca/e/pdfs/cdm%20final%20English.pdf>

Part 4 References

References

Note: the potentially most useful references are noted with an asterisk *

Chronic Care Model

Chin, M, Cook S, Jin L, Guillen, M, Humikowski C, Koppert, J, Harrison, J, Lippold, S, Schaefer, C Improving Diabetes Care in Midwest Community Health Centers with the Health Disparities Collaborative. Diabetes Care. 2004; Vol 27, Number 1: 2-8.

Coleman K, Austin B, Brach C, Wagner, AH. Evidence On the Chronic Care Model in the New Millennium. Health Affairs. 2009; 28: 75-85.

McCulloch D, Davis C, Austin, B, Wagner, EH. Constructing a Bridge Across the Quality Chasm: A Practical Way to Get Healthier, Happier Patients, Providers, and Health Care Delivery Systems. Diabetes Spectrum. 2004;17 (2): 92-96.

Wagner EH, Austin B, VonKorff M. Organizing Care for Patients with Chronic Illness. The Milbank Quarterly. 1996; Vol. 74, No. 4. 511-544. Stable URL:
<http://links.jstor.org/sici?sici=0887-378X%281996%2974%3A4%3C511%3AOCFPWC%3E2.0.CO%3B2-%23>

Wagner, EH, Davis C, Schaefer J, VonKorff M, Austin B. A survey of leading chronic disease management programs: are they consistent with the literature? Managed Care Quarterly. 1999; 7: 56-66.

Wagner EH, Austin, B, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving Chronic Illness Care: Translating Evidence into Action. Health Affairs. 2001; 20: 64-78.

Wagner EH, Davis C, Schaefer J, Von Korff M, and Austin B. A survey of leading chronic disease management programs: Are they consistent with the literature? Journal of Nursing Care Quality. 2002; 16(2): 67-80.

Culturally Competent Care

Duran, E. Duran, B. Native American Postcolonial Psychology, 1995, State University of New York Press, Albany Chapter 2, Psychological Worldviews p 13-21.

Hojat M, Daniel ZL, Markham F, Wender R, Rabinowitz C, Gonnella J. Physicians' Empathy and Clinical Outcomes for Diabetic Patients. Academic Medicine. 2011; 86: 359-364.

Diabetes Care

*American Diabetes Association. Standards of Medical Care in Diabetes – 2011. Diabetes Care. 2011; Vol 34 No: Supplement 1, 511-561.

Rith-Najaria S, Ross C, Branchaud C, Gohdes D, Acton K, Simonson G, Weaver T, Bradley R and Mazze R. Improving glycemic control in Native American communities: Staged diabetes management versus standard care. Diabetes . 1999; 48 (Suppl 2): Abstract 837.

Wilson C, Rith-Najarian S, Shields R, Rhodes C, Tolbert B, Moore K, Skipper B and Acton K. What factors are correlated with metabolic control in American Indians with type 2 diabetes treated in primary care settings? Diabetes. 2001; 50(Suppl 2): Abstract 412-P.

Evaluation/Measurement

Bonomi A, Wagner EH, Glasgow RE, VonKorff M. Assessment of Chronic Illness Care (ACIA): A Practical Tool to Measures Quality Improvement. Health Services Research. 2002; 37(3): 791-820.

Langley G, Moen R, Nolan K, Nolan T, Norman C, Provost L. The Improvement Guide, 2nd Edition. Jossey-Bass 2009.

Solberg L, Crain AL, Sperl-Hillen J, Hroschikosko M, Engebretson K, O'Connor P. Care Quality and Implementation of the Chronic Care Model: A Quantitative Study. Annals of Family Medicine. 2006; 4: 310-316.

Health Care Improvement Projects

Indian Health Service. Improving Patient Care. 2011. Available at: <http://www.ihs.gov/ipc/index.cfm> Accessibility verified April 13, 2011.

Institute for Healthcare Improvement. Innovations in Planned Care at a Cherokee Nation Clinic. Available at: <http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/ImprovementStories/InnovationsinPlannedCareataCherokeeNationClinic.htm> Accessibility verified April 13, 2011

Indian Health Service Documents

U.S. Department of Health and Human Services. (Unpublished manuscript, 2011)) Indian Health Service Special Diabetes Program form Indians. 2011 Report to Congress: Blazing trails for a diabetes-free future (IHS publication no XXX). Rockville, MD: Indian Health Service.

Leadership

Ovretveit J. Improvement leaders: what do they and should they do? A summary of a review of research. Quality and Safety in Health Care. 2010; 19: 490-492.

Primary Care Teams ('Medical Homes')

* Bodenheimer T, Wagner, EH, Grumbach K: Improving primary care for patients with chronic illness, JAMA. 2002: 288; 1775-1779.

* Bodenheimer T, Wagner, EH, Grumbach K: Improving primary care for patients with chronic illness: the Chronic Care Model, Part 2. JAMA. 2002: 288:1909-1914.

Canadian Academy of Health Sciences. Transforming care for Canadians with chronic health conditions: put people first, expect the best and manage for results. 2010. Available at: <http://www.caahs-acss.ca/e/pdfs/cdm%20final%20English.pdf> Accessibility verified April 10, 2011.

Kayton, W, Lin E, VonKorff M, Ciechanowski P, Ludman E, Young B, Peterson D, Rutter C, McGregor M, McCulloch D. Collaborative Care for Patients with Depression and Chronic Illnesses. New England Journal of Medicine. 2010; 363(27): 2611-2620.

National Committee for Quality Assurance (NCQA). Patient-Centered Medical Home 2011. Available at: <http://www.ncqa.org/tabid/631/default.aspx> Accessibility verified April 10, 2011.

O'Connor PJ, Sperl-Hillen JM. The Role of Diabetes Educators in the Medical Home. Diabetes Spectrum 2009; 22: 124-126.

Starfield B, Shi L The Medical Home, Access to Care, and Insurance: A Review of the Evidence. Pediatrics. 2004;113;1493-1498.
<http://www.pediatrics.org/cgi/content/full/113/5/S1/1493>

Starfield B, Lemke KW, Bernhardt T, Foldes S, Forrest C, Weiner J. Comorbidity: Implications for the Importance of Primary Care in "Case" Management. Annals of Family Medicine. 2003; 1: 8-14.

Self-Management Education and Support

* Battersby M, VonKorff M, Schaefer J, Davis C, Ludman E, Greene S, Parkerton M, Wagner EW. Twelve Evidence-Based Principles for Implementing Self-Management Support in Primary Care. Joint Commission Journal on Quality and Patient Safety. 2010; 36(12): 561-570.

* Bodenheimer T, Davis C, Holman H. Helping Patients Adopt Healthier Behaviors. Clinical Diabetes. 2007; 25(2); 66-70.

Glasgow R, Davis, C, Funnell, M, BeckA. Implementing Practical Interventions to Support Chronic Illness Self-Management. Joint Commission Journal on Quality and Safety. 2003; 29: 563-574.

Lorig K, Sobel D, Stewart A, Brown B, Bandura A, Ritter P, Gonzalez V, Laurent D, Holman H. Evidence Suggesting That a Chronic Disease Self-management Program Can Improve Health Status While Reducing Hospitalization. Medical Care. 1999; 37: 5-14.

* Lorig K and Holman H. Self-Management Education: History, Definition, Outcomes, and Mechanisms. Annals of Behavioral Medicine. 2003; 26(1): 1-7.

Lorig K, Self-Management Education: More Than a Nice Extra. Medical Care. 2003; 41: 699-701.

Narayan KM, Hoskin M, Kozak D, Kriska AM, Hanson RL, Pettitt DJ, Nagi DK, Bennett PH, Knowler WC. Randomized Clinical Trail of Lifestyle Interventions in Pima Indians: A Pilot Study. Diabetic Medicine: A Journal of the British Diabetic Association. 1998; 15(1): 66-72.

Stanford University. Chronic Disease Self-Management Program. Available at: <http://patienteducation.stanford.edu/programs/cdsmp.html> Accessibility verified April 10, 2011

Woolf S, Glasgow R, Krist A, Bartz C, Flocke S, Holtrop J, Rothemich S, Wald E. Putting it Together: Finding Success in Behavior Change Through Integration of Services. Annals of Family Medicine. 2005; 3(Suppl 2): S20-S27.

Attachment: Tool – Assessment of Chronic Illness Care (ACIC) form

The Improving Chronic Illness Care (ICIC) program distributes a form for assessing care for the chronically ill, the Assessment of Chronic Illness Care (ACIC).

Versions of the ACIC form are available at this Web page in both PDF and MSWord, in multiple languages. [ICIC Resource Library - Survey Instruments](#)

Plus, the Assessment of Chronic Illness Care (ACIC) form is included here for the benefit of SDPI programs that select to implement the Systems of Care Best Practice.

To use the ACIC form: Click the link below, print out the entire PDF, read the instructions, fill out all pages, and then Fax the first three pages back to ICIC, as specified in the instructions.

[ACIC print-ready PDF form](#)

ICIC maintains “a database that includes information about the types of projects in which the Assessment of Chronic Illness Care is being used. This helps us keep in touch with collaborators who have a specific interest in evaluating quality improvement or change processes in chronic illness care.”

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“ICIC has worked for more than a decade with national partners toward the goal of bettering the health of chronically ill patients by helping health systems, especially those that serve low-income populations, improve their care through implementation of the Chronic Care Model.”

For more information about ICIC and the Chronic Care Model (CCM), refer to <http://www.improvingchroniccare.org/>.