Recommendations on Systems Improvements to Advance Evidence-Based Health Care

Report to the Legislature

Minnesota Department of Health

January 2005

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Dear Colleague:

Physicians and researchers have been working over the course of the past several decades to objectively and scientifically examine which care delivery models and methods work best for certain types of conditions and for the average patient under normal circumstances. The more widespread use of "evidence-based medicine" and the acceleration in the use of "best clinical practice" can improve patient care, provide better patient outcomes, and has the potential of lowering health care costs.

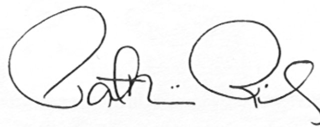
In September 2004, a distinguished panel of health experts was formed to advise on how best to encourage the use of evidence-based guidelines by providers and consumers. Representation on this panel include: Dr. Gordon Mosser, Institute for Clinical Systems Improvement; Dr. Patricia Lindholm, MN Medical Assn.; Dr. Brian Anderson, MN Hospital Assn.; Dr. John St. Peter, MN Pharmacists Assn.; Kathi Koehn, MN Nurses Assn.; Carolyn Jones, Chamber of Commerce; Carolyn Pare, Buyers Health Care Action Group; Dr. Charlie Fazio, MN Council of Health Plans; and Co-Chairs Dr. Mac Baird, University of MN and Patsy Riley, Stratis Health.

On behalf of the experts listed above, we are pleased to provide you with a copy of *Recommendations on Systems Improvements to Advance Evidence-Based Health Care: A Report to the Legislature.* As required by 2004 Minn. Laws Chapter 288, Article 7, Section 2, this report provides an update to the legislature on the implementation of current and ongoing activities in the areas of evidence-based guidelines.

This status report discusses the panel's recommendations to use a series of linked strategies that promote timely access to and appropriate use of evidence-based health care guidelines in systems that are designed to continually improve outcomes. The strategies outlined are focused in the following five areas: develop and assure access to evidence-based guidelines; build systems improvements; measure and publicly report health care performance; align incentives and reward for improvement; and utilize government to facilitate and collaborate in the pursuit of the four strategies above.

Questions and comments on the report can be directed to Lin Nelson 651/215-5816 or Shawn Holmes at 651/215-8987.

Sincerely,



Dr. Macaran Baird, Co-Chair	Patsy Riley, Co-Chair	Dianne Mandernach
University of Minnesota	Stratis Health	Commissioner
		MN Department of Health

Executive Summary

The Minnesota Legislature, recognizing the important role that the appropriate use of high quality scientific evidence can play in improving the quality of care and decreasing costs in Minnesota's healthcare system, passed legislation in May 2004, directing Minnesota's state agencies to "encourage the adoption of best practice guidelines and participation in best practice activities by physicians, other health care providers and health plan companies." The legislation further directed the Commissioner of Health to "facilitate access to best practice guidelines and quality of care measurement information for providers, purchasers, and consumers …"

This report provides an update to the legislature on the implementation of current and ongoing activities in the areas of evidence-based health care guidelines. The work of a distinguished panel of health experts – who serve as the project ad hoc steering committee – is the first phase of an effort to improve the quality of health care in Minnesota by encouraging clinicians to adopt best practices or evidence-based health care guidelines (EBHCG). The steering committee's charge was to advise the Governor's Health Care Cabinet on how to best meet the mandate of the legislature (see Appendix A) and to advise on how to best encourage the use of EBHCG by providers and consumers.

The following are actions taken by the Health Care Cabinet in recent months:

- Created an ad hoc group to provide them with recommendations regarding the issues and legislation on evidence-based health care guidelines, which encompasses the body of this report.
- Adopted an initial list of five health issues to be addressed by the ad hoc group mentioned above – asthma, diabetes, hypertension, back pain and depression. These health issues were identified as priority areas due to their high volume of health care costs generated annually and the high-level quality work already completed by national and state health organizations in researching evidence-based health care guidelines used in assessing and treating these conditions.
- Endorsed the work of the MN Community Measurement Project as a good first step to empowering consumers with easy access information (www.mnhealthcare.org). The Community Measurement Project measures the quality of care patients receive in comparison to the physician-designed standards recommended by the Institute of Clinical Systems Improvement (ICSI). (www.icsi.org).
- Developed a new health information website (www.minnesotahealthinfo.org) sponsored by the Minnesota Department of Health to provide consumers and purchasers with access to standardized, easy-to understand information about health care costs and quality.
- Formed the Smart Buy Alliance to adopt and utilize uniform measures of quality and results and will purchase health care based upon those measurements. To the extent procedures are used as a basis for payment, procedures that have demonstrated the best results will be featured and rewarded.

The ad hoc group supports the action taken by the Governor's Health Care Cabinet as they should facilitate the use of evidence-based health care guidelines. Furthermore, the group recommends a series of linked strategies that promote evidence-based health care guidelines (EBHCG) in systems of care designed to continually improve outcomes. These are:

- **Develop and Assure Access to Evidence-based Guidelines**
- **Build Systems Improvements**
- **Measure and Publicly Report Health Care Performance**
- **Align Incentives and Reward for Improvement**
- **Utilize Government to Facilitate and Collaborate in the Pursuit of the Four Strategies Noted Above.**

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Introduction

While Minnesota and the United States have committed health care professionals who deliver excellent care under most circumstances, there is widespread evidence that there is substantial room for improvement in the delivery of health care services. This is especially important in terms of reducing medical errors, improving health care outcomes, and decreasing costs. Efforts should focus on building a health care system that is safer and at the same time more effective and efficient in terms of cost, quality, and timeliness.

The evidence from scientific study shows that there is wide variation on the care delivered to patients[1]. Patients may receive different treatments for the same condition depending on which part of the country they live in, if they live in an urban or outstate area, which provider they see, and even their racial or ethnic background plays a role in the type of treatment they may receive. Too often patients receive care that is not the best that medicine has to offer for their condition.

The variation in care described above is not the result of providers not trying hard enough or being smart enough. Our health care system has become so complex and the volume of new information increases so quickly that unless systems of support are rapidly put in place to help clinicians provide consistently high quality care, we run the risk of overwhelming the clinicians and further compromising the quality of clinical care. These systems are so complicated that identifying specific guidelines is not enough.

Another major factor in this variation is due to patients' choices and available community factors that support healthy choices. Patients often desire the heavily advertised medications or technical interventions, even though less expensive and more scientifically supported choices are recommended by "best evidence". Similarly, patients' economic and community resources vary widely and may directly influence factors important to improved health such as exercise, a healthy diet, meaningful daily tasks, and positive reinforcement for changing to a healthier behavior pattern.

Physicians and researchers have been working over the course of the past several decades to objectively and scientifically examine which care delivery models and methods work best for certain types of conditions and for the average patient under normal circumstances.

The more widespread use of "evidence-based medicine" and the acceleration in the use of "best clinical practice" can improve patient care, provide better patient outcomes, and has the potential of lowering health care costs.

Minnesotans spend nearly $23 billion annually on health care services, 1/8 of our entire Minnesota economy, yet we have very little information on how effectively that money is spent. The cost of poor health goes beyond that when we look at societal impact. By incorporating information gained from scientific study of health care outcomes, providers can ensure that their patients are receiving the best quality care for their condition.

The Minnesota Legislature, recognizing the important role that the appropriate use of scientific evidence can play in potentially improving the quality of care and decreasing costs in Minnesota's healthcare system, passed legislation in May 2004, directing Minnesota's state agencies to "encourage the adoption of best practice guidelines and participation in best practice activities by

[1] McGlynn, et.al, "The Quality of Health Care delivered to Adults in the United States" N Engl J Med 2003; 349:1866-1868, Nov 6, 2003

physicians, other health care providers and health plan companies." The legislature further directed the Commissioner of Health to "facilitate access to providers, purchasers, and consumers by…"

This report provides an update on the implementation of current and ongoing activities in the areas of evidence-based health care guidelines (EBHCG). The work of a distinguished panel of health experts – who serve as the project ad hoc steering committee – is the first phase of an effort to improve the quality of health care in Minnesota by encouraging clinicians to adopt best practices or EBHCG. The ad hoc group's charge was to advise the Governor's Health Care Cabinet on how to best meet the mandate of the legislature (see Appendix A) and to advise on how to best encourage the use of EBHCG by providers and consumers.

Background

In February 2004, Governor Tim Pawlenty announced the formation of a Health Care Cabinet to begin the implementation of many of the recommendations made by the Minnesota Citizens Forum on Health Care Costs and to consider other administrative and legislative reform ideas. The Forum, led by former U.S. Senator Dave Durenberger, was appointed by the governor in the fall of 2003 to develop recommendations for improving the cost and quality of health care in Minnesota.

In May, legislation passed by the Minnesota Legislature, signed into law by Governor Pawlenty and being coordinated by the Minnesota Department of Health, has the potential to improve health care outcomes while also reducing the cost of care for Minnesotans.

The Health Care Cabinet formed an ad hoc group of health experts to pursue discussions on the adoption of evidence-based health care guidelines for specific health issues in Minnesota. An initial list of five health issues was chosen – asthma, diabetes, hypertension, back pain and depression. These issues have been identified as priority areas due to their prevalence and high volume of health care costs generated annually and the high-level quality work already completed by national and state health organizations in researching evidence-based practices to be used in treating these conditions.

The ad hoc steering committee is comprised of representatives from the MN Pharmacists Association, MN Medical Association, MN Nurses Association, MN Hospital Association, University of Minnesota, Stratis Health, Institute for Clinical Systems Improvement, MN Council of Health Plans, MN Chamber of Commerce and the Buyers Health Care Action Group. Dr. Macaran Baird with the University of Minnesota and Patsy Riley with Stratis Health are co-chairing this effort. (See Appendix B for complete membership list.)

The work group met six times since September 2004. Numerous presentations have been made during these meetings including:

- Community Measurement Project
- Institute for Clinical Systems Improvement (ICSI) Health Care Guidelines Development
- DOQ-IT – Doctor's Office Quality – Information Technology
- MN Diabetes Program
- MN Asthma Plan
- Heart Disease and Stroke Plan 2004-2010

For the purposes of this report, the ad hoc committee will concentrate their discussion on asthma, diabetes and hypertension. These are three of the five health topic areas originally identified by the Health Care Cabinet.

Evidence-based Health Care Guidelines and the "Six Aims for Improvement"

The Institute of Medicine (IOM) recently published the report, *Crossing the Quality Chasm*, in which it issued a challenge to all sectors of health care to "adopt as their explicit purpose to continually reduce the burden of illness, injury, and disability, and to improve the health and functioning of the people of the United States." [2,3] The IOM contended that while medical science and technology have achieved rapid advancements, the health care delivery system has been unable to translate this scientific progress into high quality care for all Americans. The Institute of Medicine has stated the lag between the discovery of more effective forms of treatment and their incorporation into routine patient care averages 17 years. The IOM proposed six "aims for improvement" - dimensions in which the current health care systems function below optimal levels. A health care system that achieves major gains in these six dimensions will provide better patient care that represents a substantial improvement over today's system. Many of the principles addressed in six aims for health care improvement are embodied within the practice of evidence-based health care guidelines. The IOM report defines "evidenced based practice" as:

Six Guiding Aims of Health Care Should Be:

Safe *Avoid injuries to patients from care that is intended to help them.*

Effective *Provide services based on scientific knowledge to all who could benefit; refrain from providing services to those unlikely to benefit (avoid underuse and overuse, respectively).*

Patient-centered *Provide care that is respectful of and responsive to individual patient preferences, needs, values; ensure that patient values guide all clinical decisions.*

Timely *Reduce waits and potentially harmful delays for both those who receive and those who give care.*

Efficient *Avoid waste of equipment, supplies, ideas, and energy.*

Equitable *Provide care that does not vary in quality because of personal characteristics such as gender, ethnicity, geography, or socioeconomic status.*

> "Evidence-based practice is the integration of best research evidence with clinical expertise and patient values. *Best research evidence* refers to clinically relevant research, often from the basic health and medical sciences, but especially from patient-centered clinical research into the accuracy and precision of diagnostic tests (including the clinical examination); the power of prognostic markers; and the efficacy and safety of therapeutic, rehabilitative, and preventive regimens. *Clinical expertise* means the ability to use clinical skills and past experience to rapidly identify each patient's unique health state and diagnosis, individual risks and benefits of potential interventions, and personal values and expectations. *Patient values* refers to the unique preferences, concerns, and expectations that each patient brings to a clinical encounter and that must be integrated into clinical decisions if they are to serve the patient."

The ad hoc group's definition of an evidence-based health care guideline is in strong alignment with the IOM's six aims: **"an evidence-based statement of how to prevent or manage a particular symptom or disease for an individual patient under normal circumstances, taking into account the preferences of the patient or his or her family."[4]** Evidence-based health care guidelines can play an active role in helping achieve the six aims of the IOM report.

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[2] Crossing the Quality Chasm. 2003 National Academy of Sciences http://books.nap.edu/catalog/10027.html

[3] Berwick DM. A user's manual for the IOM's 'Quality Chasm' report. Health Affairs 2002;21(3):80-90

[4] The ad hoc group recommended that this definition, which is based on the ICSI definition, be used for the purposes of this report.

Barriers/Challenges
Implementation of evidence into practice has been incomplete due to the lack of organization systems support to effectively utilize the volume of information and the lack of rapid feedback of outcomes measures.

Figure 1. Four Dimensions of Minnesota's e-Health Initiative
Minnesota e-Health is a statewide public-private collaboration to accelerate the use of health information technology in Minnesota. Its goal is to make the information needed for good health decisions available whenever and wherever health decisions are made. It encompasses four dimensions representing users of health information: Public Health (state and local), Clinical (health care providers and health plans), Consumers (all of us), and Policy and Research (health education and research institutions). The maximum value is realized for all of us when we share information across all four dimensions.

Electronic decision support systems are a valuable tool that should be used to accelerate access to high-quality evidence-based health care guidelines. They can make a difference to the quality of health care – by giving clinicians and consumers access to relevant, evidence-based information at the point of care. **However, for these electronic decision support arrangements to be effective, it is essential that there is a nationally coordinated approach in their development and that a state/national governance structure is in place to provide direction and coordination.** An integral part of this group's work has been to recommend a way for ensuring a national approach to the development of electronic decision support systems, including governance arrangements, priorities, timetables and cost implications. The work of the MN e-Health Steering Committee will be an important component to ensure the development of sustainable, nationally integrated, electronic decision support systems. In Minnesota, the e-Health Initiative, a partnership of MDH and healthcare organizations, is poised to ride this wave of support. They have four strategic goals: inform clinical practice, interconnect clinicians, personalize care, and improve population health.

Methodology
The ad hoc committee recommends a series of linked strategies that promote timely access to and appropriate use of evidence-based health care guidelines in systems that are designed to continually improve outcomes. These recommendations and strategies are organized in the following areas throughout the remainder of this report:

- Develop and Assure Access to Evidence-based Guidelines
- Build Systems Improvements
- Measure and Publicly Report Health Care Performance
- Align Incentives and Reward for Improvement
- Utilize Government to Facilitate and Collaborate in the Pursuit of the Four Strategies Noted Above.

Develop and Assure Access to Evidence-based Guidelines

The committee agreed that many versions of evidence-based health care guidelines are available and utilized by providers and agreed that the following criteria should be met when selecting a guideline:

1. Scope and application are clear.
2. Authorship is stated, and any conflicts of interest are disclosed.
3. Authors represent all pertinent clinical fields (or other means of input have been used).
4. The development process is explicitly stated.
5. The guideline is grounded in evidence.
6. The evidence is cited and graded.
7. The document itself is clear and practical.
8. The document is flexible in use; i.e. exceptions are noted or provided for with general statements.
9. Measures are included for use in systems improvement.
10. Scheduled review and updating are provided for.

The ad hoc committee reviewed several guidelines that are referenced in Appendix C. After careful consideration, they agreed that the guidelines in Appendices C and D meet the above list of criteria. Among the recommended guidelines are those adopted by ICSI, which is a homegrown Minnesota organization. ICSI's presence in Minnesota demonstrates 80 percent consensus on adopted guidelines by clinicians. This is accomplished by involving stakeholders in the region to participate in reviewing national guidelines and achieving consensus on guidelines adopted and used in the provider community. ICSI is a collaboration of 50 medical groups and hospital systems and is sponsored by six health plans. Membership includes 55 hospitals and medical practices totaling 7400 physicians. ICSI is a notable example of systems improvement collaboration in Minnesota

Recommendation: The above criteria should be evaluated when utilizing any EBHCG. In addition, the guideline information for asthma, diabetes and hypertension in Appendix D should be included on the MDH website www.minnesotahealthinfo.org**. These guidelines have broad support in MN, meet the criteria listed above and, if posted on the website, will be disseminated in a way that is useable and attractive.**

Build Systems Improvements

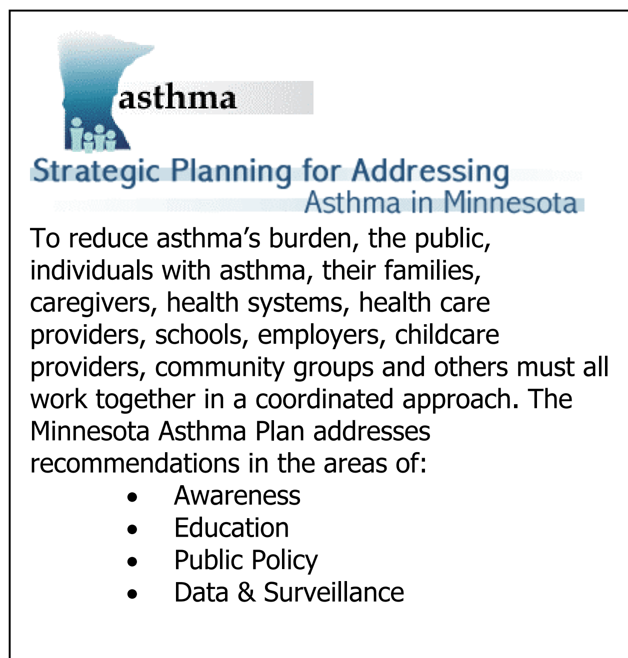
The view of quality should be shifted from something produced by one clinician working by him or herself to the view that quality is predominantly a manifestation of the system in which clinicians work. The ad hoc committee acknowledges that many organizations have assumed leadership positions in the three health issues of focus. The committee reviewed the work of the asthma, diabetes, and heart disease programs at the Minnesota Department of Health (MDH). In addition, they discussed the Stratis Health collaborative on congestive heart failure and diabetes; ICSI's training and collaborative efforts throughout the state; and various other endeavors in Minnesota that focus on organization system improvements that support better health outcomes. The clinical indications of asthma, diabetes and hypertension involve care provided in multiple health care settings and organizations, care funded both privately and publicly, and care provided by a variety of health care professionals. Patients, clinicians and families should fully understand the purpose of guidelines, how to use them properly, what their limitations are, and how they relate to other therapies. The ad hoc group expressed the importance of providing consumer-based information and incentives to influence patients to engage in self-management activities, such as attending group

classes and self-monitoring glucose levels from home. It is extremely important that this information meets the needs of our diverse populations. Self-management and self-management support are not only desirable but also necessary to bridge the quality chasm.

Knowing that diabetes, heart attack and stroke are largely preventable, a comprehensive approach is needed to institute positive change. Research has shown that health is related to both the physical and social environment. Culture, environments, social norms, policies, regulations, and laws impact behaviors of individuals. These social and environmental elements can promote, support, and reinforce healthy behaviors and contribute to the reduction of diabetes, heart disease and stroke.[5]

The ad hoc group utilized the comprehensive structure of the socio-economic approach in the development of their recommendations. The work cited below has completed significant work based on that approach.

Asthma



The Minnesota Department of Health's Asthma Program is implementing several of the recommendations in the Strategic Plan for Addressing Asthma in MN. The plan was developed through a broad-based stakeholder group and can be seen at http://www.health.state.mn.us/divs/hpcd/cdee/asthma/StatePlan.html. Key plan recommendations include ensuring that providers are aware of and follow, to the extent possible, asthma guidelines in managing asthma - National Institutes of Health - National Heart, Lung, and Blood Institute (NIH-NHLBI). These recommendations, coupled with community collaboration, are seen as mechanisms for accelerating system-level change toward eliminating or drastically reducing asthma-related emergency department visits or hospitalizations.

[5] Minnesota Cardiovascular Health Steering Committee and Minnesota Department of Health. (2004***) Minnesota Heart Disease and Stroke Prevention Plan 2004-2010***. St. Paul, Minnesota: Minnesota Department of Health.

Diabetes

The Minnesota Diabetes Program is dedicated to improving the health of all Minnesota's by reducing the impact of diabetes. To achieve this we…

- Facilitate partnerships with health systems, communities and other stakeholders,
- Convene forums to identify common interests and foster action,
- Translate health research and information into practice,
- Promote and develop innovative, effective and culturally appropriate health promotion strategies,
- Focus on populations.

Since 1980, the Minnesota Diabetes Program (MDP) has provided strong leadership to engage stakeholders in working together to improve the quality of life for Minnesotans with diabetes and to reduce the human and economic burden of diabetes for all Minnesotans. The MDP has a long history of partnership that includes: working with the Minnesota Diabetes Steering Committee to develop and implement the statewide diabetes plan, *Minnesota Diabetes Plan 2010: Creating a Healthier Future for All People in Minnesota (the Plan)*; working with the Minnesota Diabetes Surveillance and Data Review Advisory Committee to create the *Diabetes in Minnesota* data report; establishing and monitoring statewide diabetes public health objectives, including preventive care practices; developing and implementing programs to eliminate health disparities such as the annual *Changing Faces of Diabetes* conference for health professionals serving Minnesota's populations of color; and, since the mid-1980s, developing and implementing clinical and community-based diabetes quality improvement programs such as Project IDEAL, a randomized control study, conducted with Health Partners, to evaluate the effectiveness of a diabetes primary care quality improvement intervention. In addition, the MDP has recently conducted an initiative to determine the appropriate strategies for diabetes prevention in Minnesota. The MDP is primarily a CDC-funded program and more information can be found at www.health.state.mn.us/diabetes.

Hypertension

The ***Minnesota Heart Disease and Stroke Prevention Plan 2004-2010*** provides a blueprint and call to action for individuals, communities, and organizations to collaborate to reduce the incidence, complications and mortality rates of heart disease and stroke. Many can and need to be involved by taking action and implementing the recommended strategies in the document.

The Minnesota Heart Disease and Stroke Prevention (HDSP) Program at the Minnesota Department of Health is leading the implementation of the Minnesota Heart Disease and Stroke Prevention Plan 2004-2010. This strategic plan was developed by a diverse group of stakeholders across the state – in healthcare, worksite, schools, community, land planning and transportation settings. Hypertension control is a key objective in this plan and priority area for the HDSP Program. One key strategy that the program has implemented was to offer training to professionals on the current guidelines for hypertension treatment and standardized blood pressure measurements. Several strategies address behavior changes, such as increasing physical activity and improving eating habits. Other key strategies include improving disease-management in the health care system and promoting hypertension screening in high-risk populations. The plan can be seen at http://www.health.state.mn.us/cvhplan.

Recommendation: Support for these programs should continue as they leverage federal funding to provide a systems approach in facilitating the use of evidence-based health care guidelines to a multi-disciplined team of providers, communities, schools and others necessary in providing tools to inform clinicians and consumers. In addition, state agencies should proactively engage the private sector delivery systems, providers and public health resources in these collaborative efforts. Active participation by professional societies should be solicited.

Key strategies are needed to coordinate the many efforts to make better use of all members of the health care team and catalyze the diffusion of consumer education for self-management and self-management support for these conditions. **Strategies aimed to improve organizational systems of care needed to improve consumer outcomes and thereby improve consumer satisfaction include:**

- **Develop and maintain tailored learning mechanisms for providers and consumers.**
- **Provide access to technical support for implementation, including a tool kit to support providers.**
- **Assure support at the organizational level for implementation.**
- **Provide feedback on evaluation results to providers.**
- **Provide mechanisms for dialogue between physician champions and practitioners who are reluctant adopters.**
- **Implement information technologies to facilitate adoption and implementation of evidence-based health care guidelines.**
    - **Decision support – integration of evidence-based guidelines into daily practice.**
    - **Clinical information systems – reminder and feedback systems for clinicians and the tools to plan care for both individuals and whole populations of patients.**
- **Incorporate and reimburse the use of case-managers into the care process.**
- **Identify and disseminate evidence-based self-management practices.**
- **Recognize the centrality of self-management to good patient care, and incorporate this recognition into the health care culture.**
- **Develop self-management programs and tools that are applicable to diverse populations.**

Measure and Publicly Report Health Care Performance

To provide information to consumers, clinicians and other stakeholders, a multifaceted evaluation and measurement approach is considered necessary. One firmly grounded in practice, focused upon both outcome and process measurements and appropriately adjusted for difference in patient populations and other factors outside the control of the health care system. The newly developed MN Community Measurement Project (CMP) (www.mnhealthcare.org) measures the quality of care patients receive in comparison to the physician-designed standards recommended by the Institute of Clinical Systems Improvement (ICSI). ICSI considers both scientific evidence and local physician expertise as it develops evidence-based health care guidelines for treating various conditions and diseases. These guidelines are available to all providers. The recent CMP report results show that as expected, there is variation in care among providers and across all measures. No provider group has the highest or lowest rate across all measures. The Minnesota CMP is an attempt to help consumers decide where to get the best care. This privately sponsored enterprise is a first step and its effectiveness should be evaluated to determine its utility for continued development.

Recommendation:

- **Collaborate in measurement activities to increase efficiency, minimize any data burden and avoid duplication.**
- **Ensure utility of measurement to provide timely, valid and useful information at the point of need.**
- **Develop a standard measurement process across the state to assist in determining root causes of why outcomes are not being met.**

Align Incentives and Reward for Improvement

A system of incentives and rewards for excellence are positive motivators to clinicians and/or organizations to perform at a higher level. Successful facilitation of EBHCG must include buy-in from stakeholders – clinicians, patients, advocacy groups, payers, and academic researchers at both the broad state and local level. Structured mechanisms must be available to provide clinicians with information, updates, and logistical support, as well as immediate (i.e., "bedside") assistance with difficult or complex cases. Achieving this buy-in requires the appropriate incentives and rewards. Certain direct financial, indirect financial and non-financial incentives may accelerate and promote guideline adoption. Identifying the benefits of evidence-based health care guidelines to consumers, clinicians and provider organizations is essential, for example: usage leads to more cost-effective practice (so that there is less requirement to subsidize ineffective practice); and measurable improved quality of performance.

Recommendations:

- **Provide incentives for the appropriate use of self-management support integrated into the delivery of health care.**
- **Define an appropriate mix of financial solutions—focused not only on health insurance, but also on such alternatives as schools, community health foundations, and state health departments—to effectively deliver a package of evidence-based chronic disease management and community services. These resources would be linked to communitywide aims established through a process of community activation, such as a multi-stakeholder coalition.**
- **Align financial incentives at the hospital and system levels. An immediate effort to reward providers for building systems improvements to improve quality of care is essential as a means to hasten the implementation of well-established evidence-based health care guidelines (electronic health records, computerized prescription writing, etc.)**

Utilize Government to Facilitate and Collaborate in the Pursuit of the Four Strategies Noted Above

This was discussed throughout the development of the recommendations and strategies in the previous categories. The group agreed that government had a unique role in disseminating information to consumers, clinicians and various stakeholders.

Recommendations that government should:

- **Continue to address the high cost - high volume health issues.**
- **Commit to rational purchasing strategies as agreed in the Smart Buy Alliance.**
- **Support efforts to develop more effective dissemination methods and tailored learning approaches to guidelines through various state programs (i.e. asthma, diabetes, and hypertension) to increase visibility at all levels of the community and permeate messages.**

- **Ensure synergy between public and private sector, i.e. continued support for the Community Measurement Project and proactively engaging in public-private partnerships.**
- **Reinforce infrastructure for effective care coordination, measurement and outreach.**
- **Develop small-scale demonstration projects and multilevel collaborations across health systems with the emphasis on outcomes, such as patients being healthier and more satisfied with their care. These demonstration projects could include more flexibility to cover treatment modalities using the telephone or e-mail follow-up with patients.**
- **Consider revising the enacting legislation. The current language in statute is misleading and may be misinterpreted. The group has developed specific language changes that are attached in Appendix A, Part2.**
- **Facilitate discussions and advice from stakeholders when choosing to collaborate with a quality improvement organization.**
- **Avoid punitive endeavors aimed at rooting out and punishing individual bad actors – efforts of this kind destroy openness about systems faults and undermine collaboration for systems improvement.**

Recommendations that government should not:

- **The legislature should not adopt as statute any specific evidence-based health care guideline as it would be a detriment to the ever expanding body of knowledge and ability to remain fluid in implementation.**

Appendices

- **Appendix A – Legislation**
- **Appendix B – Health Care Guidelines Work Group Membership List**
- **Appendix C – Guideline Reference**
- **Appendix D – Descriptions of Evidence-based Health Care Guidelines for Asthma, Diabetes and Hypertension**

Appendix A - Legislation

SESSION LAWS 2004, CHAPTER 288, ARTICLE 7, SECTION 2: HF 2277
Article 7: Health Care Cost Containment
Sec. 2. [62J.43] [BEST PRACTICES AND QUALITY IMPROVEMENT.]

(a) To improve quality and reduce health care costs, state agencies shall encourage the adoption of best practice guidelines and participation in best practices measurement activities by physicians, other health care providers, and health plan companies. The commissioner of health shall facilitate access to best practice guidelines and quality of care measurement information to providers, purchasers, and consumers by:

(1) identifying and promoting local community-based, physician-designed best practices care across the Minnesota health care system;

(2) disseminating information available to the commissioner on adherence to best practices care by physicians and other health care providers in Minnesota;

(3) educating consumers and purchasers on how to effectively use this information in choosing their providers and in making purchasing decisions; and

(4) making best practices and quality care measurement information available to enrollees and program participants through the Department of Health's Web site. The commissioner may convene an advisory committee to ensure that the Web site is designed to provide user friendly and easy accessibility.

(b) The commissioner of health shall collaborate with a nonprofit Minnesota quality improvement organization specializing in best practices and quality of care measurements to provide best practices criteria and assist in the collection of the data.

(c) The initial best practices and quality of care measurement criteria developed shall include asthma, diabetes, and at least two other preventive health measures. Hypertension and coronary artery disease shall be included within one year following availability.

(d) The commissioners of human services and employee relations may use the data to make decisions about contracts they enter into with health plan companies.

(e) This section does not apply if the best practices guidelines authorize or recommend denial of treatment, food, or fluids necessary to sustain life on the basis of the patient's age or expected length of life or the patient's present or predicted disability, degree of medical dependency, or quality of life.

(f) The commissioner of health, human services, and employee relations shall report to the legislature by January 15, 2005, on the status of best practices and quality of care initiatives, and shall present recommendations to the legislature on any statutory changes needed to increase the effectiveness of these initiatives.

(g) This section expires June 30, 2006.

SESSION LAWS 2004, CHAPTER 288, ARTICLE 7, SECTION 2: HF 2277
Article 7: Health Care Cost Containment
Sec. 2. [62J.43] [~~BEST PRACTICES~~ EVIDENCE-BASED HEALTH CARE GUIDELINES AND QUALITY IMPROVEMENT.]

(a) To improve quality and reduce health care costs, state agencies shall encourage the use ~~adoption~~ of ~~best practice~~ evidence-based health care guidelines and participation in ~~best practices~~ evidence-based health care guidelines measurement activities by physicians, other health care providers, and health plan companies. The commissioner of health shall facilitate access to ~~best practice~~ evidence-based health care guidelines and quality of care measurement information to providers, purchasers, and consumers by:

(1) identifying and promoting local community-based, physician-designed ~~best practices~~ evidence-based health care guidelines care across the Minnesota health care system;

(2) disseminating information available to the commissioner on ~~adherence~~ to ~~best practices~~ evidence-based health care guidelines care provided by physicians and other health care providers in Minnesota;

(3) educating consumers and purchasers on how to effectively use this information in choosing their providers and in making purchasing decisions; and

(4) making evidence-based health care guidelines ~~best practices~~ and quality care measurement information available to enrollees and program participants through the Department of Health's Web site. The commissioner may convene an advisory committee to ensure that the Web site is designed to provide user friendly and easy accessibility.

(b) The commissioner of health shall collaborate with a nonprofit Minnesota quality improvement organization specializing in best practices and quality of care measurements to provide ~~best practices~~ evidence-based health care guidelines criteria and assist in the collection of the data.

(c) The initial ~~best practices~~ evidence-based health care guidelines and quality of care measurement criteria ~~developed~~ reviewed shall include asthma, diabetes, and at least two other preventive health measures. Hypertension and coronary artery disease shall be included within one year following availability.

(d) The commissioners of human services and employee relations may use the data to make decisions about contracts they enter into with health plan companies.

(e) This section does not apply if the ~~best practices~~ evidence-based health care guidelines authorize or recommend denial of treatment, food, or fluids necessary to sustain life on the basis of the patient's age or expected length of life or the patient's present or predicted disability, degree of medical dependency, or quality of life.

(f) The commissioner of health, human services, and employee relations shall report to the legislature by January 15, 2005, on the status of ~~best practices~~ evidence-based health care guidelines and quality of care initiatives, and shall present recommendations to the legislature on any statutory changes needed to increase the effectiveness of these initiatives.

(g) This section expires June 30, 2006.

Appendix B - Health Care Guidelines Work Group Membership List

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Appendix C – Guideline References

Asthma Guidelines from Other Organizations and Electronic Sources

1. Acute and chronic asthma. University of Texas Medical Branch Correctional Managed Care 1999 Jan (revised 2002 Apr). http://www.guidelines.gov/summary/summary.aspx?doc_id=3474

2. Allergen immunotherapy: a practice parameter. American Academy of Allergy, Asthma and Immunology - American College of Allergy, Asthma and Immunology - Joint Council of Allergy, Asthma and Immunology, 1996 (revised 2003 Jan). http://www.jcaai.org/Param/ParamDocs/Shots.doc

3. Allergic rhinitis and its impact on asthma. Allergic Rhinitis and its Impact on Asthma Workshop Group - 2001 Nov. http://www.guidelines.gov/summary/summary.aspx?doc_id=3421

4. Asthma. University of Michigan Health System. 1996 Dec (revised 2000 Jan). http://cme.med.umich.edu/pdf/guideline/asthma.pdf

5. British guideline on the management of asthma. British Thoracic Society Scottish. 2003 Jan. http://www.guidelines.gov/summary/summary.aspx?doc_id=3656

6. Evidence based clinical practice guideline for managing an acute exacerbation of asthma. Cincinnati Children's Hospital Medical Center. 1998 Jul 20 (revised 2002 Sep 3) http://www.cincinnatichildrens.org/Services/Departments-Divisions/Health_Policy_Clinical_Effectiveness/clinical-guidelines.htm

7. Global strategy for asthma management and prevention. National Heart, Lung, and Blood Institute (U.S.) - World Health Organization. 1995 Jan (revised 2003). http://www.ginasthma.com/wr.html

8. Key clinical activities for quality asthma care: recommendations of the National Asthma Education and Prevention Program. Centers for Disease Control and Prevention & National Asthma Education and Prevention Program. 2003 Mar http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5206a1.htm

9. Management of asthma. National Medical Research Council (Singapore Ministry of Health) 2002 Jan. http://www.guidelines.gov/summary/summary.aspx?doc_id=3275

10. Pulmonary rehabilitation. American Association for Respiratory Care-Professional Association. 2002. http://www.rcjournal.com/online_resources/cpgs/prcpg.html

11. The diagnosis and treatment of adult asthma. New Zealand Guidelines Group - 2002 Sep. http://www.guidelines.gov/summary/summary.aspx?doc_id=3462

Appendix C – Guideline References *(continued)*

Diabetes Guidelines from Other Organizations and Electronic Sources

1. Aspirin therapy in diabetes. American Diabetes Association - Republished 2003 Jan). http://www.guidelines.gov/summary/summary.aspx?ss=15&doc_id=3575&string=

2. Basic guidelines for diabetes care. California Diabetes Prevention and Control Program - revised 2002 Jan). http://www.guidelines.gov/summary/summary.aspx?ss=15&doc_id=3414&string=

3. Benefits and risks of controlling blood glucose levels in patients with type 2 diabetes mellitus. American Academy of Family Physicians & American Diabetes Association. http://www.guidelines.gov/summary/summary.aspx?ss=15&doc_id=2377&string=

4. Care of children with diabetes in the school and day care setting. American Diabetes Association - 1998 (republished 2003 Jan). http://www.guidelines.gov/summary/summary.aspx?ss=15&doc_id=3586&string=

5. Care of the patient with diabetes mellitus. 3rd edition. American Optometric Association - Association. 1993 (revised 2002 Aug 17). http://www.aoanet.org/eweb/Documents/CPG-3.pdf

6. Diabetes mellitus. Nutrition management for older adults. American Academy of Family Physicians - Medical Specialty Society American Dietetic Association Nutrition Screening Initiative - 2002. http://www.aafp.org/PreBuilt/NSI_DM.pdf

7. Diabetes nutrition recommendations for health care institutions. American Diabetes Association - Professional Association. 1996 Aug, republished 2004. http://care.diabetesjournals.org/cgi/content/full/27/suppl_1/s55

8. Diabetic foot disorders: a clinical practice guideline. American College of Foot and Ankle Orthopedics and Medicine & American College of Foot and Ankle Surgeons. 2000 http://www.acfas.org/diabeticcpg.html

9. Diabetic retinopathy. American Academy of Ophthalmology - 1998 Sep (revised 2003). http://www.aao.org/aao/education/library/ppp/index.cfm

10. Gestational diabetes mellitus. American Diabetes Association 1986 (revised 2000; republished 2004 Jan). http://care.diabetesjournals.org/cgi/content/full/27/suppl_1/s88

11. Gestational diabetes practice guidelines. International Diabetes Center - 2000 (revised 2003). http://www.guidelines.gov/summary/summary.aspx?ss=15&doc_id=4160&string=

12. Guidelines and recommendations for laboratory analysis in the diagnosis and management of diabetes mellitus. National Academy of Clinical Biochemistry - 2002. http://www.clinchem.org/cgi/content/full/48/3/436

13. Hyperglycemic crises in diabetes. American Diabetes Association (republished 2004 Jan). http://care.diabetesjournals.org/cgi/content/full/27/suppl_1/s94

Appendix D – Descriptions of Evidence-based Health Care Guidelines for Asthma, Diabetes and Hypertension

Asthma

GUIDELINE TITLE: Diagnosis and management of asthma.
AUTHORSHIP: Institute for Clinical Systems Improvement (ICSI). May 2003
MAIN OBJECTIVES OF THE GUIDELINE:

1. To promote the accurate assessment of asthma and its severity by the use of objective measures of lung function.
2. To promote the long term control of persistent asthma by the use of corticosteroid medications.
3. To promote partnership relations between health care professionals and patients/guardians through asthma education and utilization of written action plans.

SCOPE OF THE GUIDELINE:

- Covers both acute and chronic asthma in patients 5 years of age or older with asthma like symptoms and/or previous diagnosis of asthma.
- Includes recommendations for couseling, diagnosis, evaluation, management and treatment of the condition.

MAJOR RECOMMENDATIONS:
ICSI presents its recommendation for diagnosing and managing asthma in the form of an algorithm (see website) with 10 components connected by an integrated pathway. The algorithm is accompanied by detailed explanations and annotations. The main clinical highlights include:

1. Conducting evaluations of asthma at regular intervals including medical history and physical exam, and evaluation of potential asthma triggers, allergens, measurement of breathing function, and consideration of allergic testing.
2. Regular assessment of asthma control.
3. Matching medical intervention with the severity of asthma symptoms and adjusting as future evaluations necessitate.
4. Use of anti-inflammatory drug treatment to achieve the effective control of chronic persistent asthma.
5. Provide asthma education to patients and parents including basic facts, proper inhaler use, written action plans and home peak flow rate monitoring, symptom diary, steps to achieve environmental control, and importance of regular follow-up visits with care provider.

ELECTRONIC SOURCE: http://www.icsi.org/knowledge/detail.asp?catID=29&itemID=162

GUIDELINE TITLE: Guidelines for the Diagnosis and Management of Asthma.
AUTHORSHIP: National Asthma Education and Prevention Program – National Institute of Health (NIH) – 1997 (Revised in Nov 2002).
MAIN OBJECTIVES OF THE GUIDELINE (revised version):

1. To convey the importance of the essential components of the original asthma management document produced by this panel in 1997 (assessment, monitoring, controlling, pharmacotherapy, and education).
2. To identify essential steps on the preventative aspects of asthma care.
3. To provide information to help employer health benefit managers and health care planners make decisions regarding the delivery of quality health care for employees-enrollees with asthma to

reduce patient symptoms, aggravation of symptoms and thereby to reduce the overall nationl burden asthma related illness and death.

SCOPE OF THE GUIDELINE:

- Addresses the condition of asthma without mention of acute/chronic status.
- Targeted patients include infants, children and adults with asthma.

MAJOR RECOMMENDATIONS:

While the NAEPP does not use an algorithm diagram like ICSI to summarize its guideline, it does have a detailed recommended path of action for the diagnosis, management and prevention of asthma symptoms. The main clinical highlights include:

Assessment and monitoring, establishing the asthma diagnosis.

1. Classify the severity of the asthma.
2. Scheduling of routine follow-up care.
3. Assessment for possible referral to specialty care.
4. Recommending measures for the control of asthma triggers.
5. Consider and treat all comorbid conditions.
6. Prescribe medications as indicated by the assessment of severity.
7. Monitor the use of Beta2-Agonist Drugs.
8. Develop a well-written clear asthma management plan document.
9. Provide regular self-management education to patient/parents.

ELECTRONIC SOURCE: http://www.nhlbi.nih.gov/guidelines/asthma/

Diabetes

GUIDELINE TITLE: Management of Diabetes Mellitus Type 2.
AUTHORSHIP: Institute for Clinical Systems Improvement. November 2004
MAIN OBJECTIVES OF THE GUIDELINE:
To provide a comprehensive approach to the management of "prediabetes" (impaired fasting glucose or impaired glucose tolerance) and type 2 diabetes mellitus to include nutrition therapy, physical activity recommendations, pharmacologic therapy, self-management, as well as prevention and diagnosis of diabetes-associated complications and risk factors.
SCOPE OF THE GUIDELINE:

- Type 2 diabetics account for 90% of all diabetics patients in the USA (estimated to be about 7 million people). Applies to adult patients 18 and over with pre or type 2 diabetes.
- Clinical specialities addressed endocrinology, family practice, internal medicine, nutrition, and pharmacology.

MAJOR RECOMMENDATIONS:
ICSI's best practice recommendations for the patients with type 2 diabetes are summarized in four distinct algorithms accompanied by a detailed description. The four algorithms are for 1) Diagnosis and Early Treatment, 2) Glycemic Control, 3) Blood Pressure Control, and 4) Ongoing Diabetes Management. See the ICSI web site for detailed discussion and annotations of the algorithms.
ELECTRONIC SOURCE: http://www.icsi.org/knowledge/detail.asp?catID=29&itemID=182

GUIDELINE TITLE: [Diabetes] Clinical Recommendations for 2004.
AUTHORSHIP: American Diabetes Association, Inc.. January 2004
MAIN OBJECTIVES OF THE GUIDELINE:
To provide clinicians, patients, researchers, health plans, and benefits purchasers with the necessary components for quality diabetic care, desired treatment outcomes, and the tools and methods necessary to evaluate the quality of diabetic care being delivered.
SCOPE OF THE GUIDELINE:

- Type 1 & 2 diabetes, gestational diabetes, and other forms of diabetes attributed to other causes.
- Applicable to all individuals currently with or with known risk factors for developing diabetes as well as all pregnant women.
- Germain to the fields of endocrinology, geriatrics, family practice, internal medicin, pediatrics and OBGYN.

MAJOR RECOMMENDATIONS: The focus of recommendations in this guideline addresses four key areas. These are 1) Screening, 2) Diagnosis, 3) Treatment, 4) Management. While not presented in an ICSI like algorithm, the main components of this guideline are included in the website.
ELECTRONIC SOURCE: http://care.diabetesjournals.org/content/vol27/suppl_1/

Hypertension

GUIDELINE TITLE: Hypertension Diagnosis and Treatment.
AUTHORSHIP: Institute for Clinical Systems Improvement. February 2004
MAIN OBJECTIVES OF THE GUIDELINE:

- Increase the percentage of patients in blood pressure control.
- Improve the assessment of patients with hypertension.
- Increase the percentage of patients not at blood pressure goal who have a change in subsequent therapy.
- Increase the percentage of patients with hypertension who receive patient education, especially in the use of non-pharmacological treatments.

SCOPE OF THE GUIDELINE:
Adults age 18 or older.

- Confirmation of hypertension is based on the initial visit, plus two follow-up visits with at least two blood-pressure measures at each visit.
- Standardized blood pressure measurement techniques should be employed when confirming an initially elevated BP and for all subsequent measures during follow-up and treatment for hypertension.

MAJOR RECOMMENDATIONS:

- A thiazide-type diuretic should be considered as initial therapy in most patients.
- Physician reluctance to intensify treatment is a major obstacle to achieving treatment goals.
- Systolic blood pressure level should be the major factor for the detection, evaluation and treatment of hypertension, especially in adults 60 years and older.

ELECTRONIC SOURCE: http://www.icsi.org/knowledge/detail.asp?catID=29&itemID=173

GUIDELINE TITLE: Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure – JNC7. December 2003
AUTHORSHIP: U.S. Department of Health and Human Services – National Institutes of Health; National Heart, Lung and Blood Institute
MAIN OBJECTIVES OF THE GUIDELINE:

- Provide an update to the 1997 JNC6 guideline through the inclusion of new hypertension observational studies and clinical trial information.
- Simplify the classification of blood pressure for adults ages 18 and older.
- Provide clinicians with a more clear and concise guidelines that may be used to their maximum benefit.
- The classification of blood pressure includes the addition of a prehypertension category and stage 2 and 3 hypertension has been combined.

SCOPE OF THE GUIDELINE:

- Adults ages 18 and older.

MAJOR RECOMMENDATIONS:

- Thiazide-type diuretics should be used in drug treatment for most patients with uncomplicated hypertension.
- Certain high-risk conditions are compelling indications for the initial use of other antihypertensive drug classes.
- Emphasizes the need for increased education of health care professionals and the public to reduce blood pressure levels. The guideline provides hypertension prevention strategies.

ELECTRONIC SOURCE: http://www.nhlbi.nih.gov/guidelines/hypertension/jncintro.htm