Closing the Quality Gap in Michigan II:

A Prescription for Mental Health Care

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Contents

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I. BACKGROUND

INTRODUCTION

The following discussion introduces the Michigan Medication Quality Improvement Program (MQIP), and outlines the elements of an action plan to encourage broader use of clinical practice guidelines (CPGs) in the medication treatment of bipolar disorder, major depression and schizophrenia in Michigan. The core of MQIP is the MQIP Module (the Module), a web-based CPG information technology system that offers, in addition to guidelines themselves, data analysis and clinician feedback capabilities. The MQIP initiative also has education, marketing, organizational development, and CPG update components that are essential to successful implementation.

In November 2001 the Ethel and James Flinn Foundation (Flinn) determined it could help close the gap between research and practice in Michigan by bringing stakeholders together to identify and implement pharmaceutical guidelines and algorithms for the treatment of psychiatric disorders. To that end, the Foundation engaged professional consultants and convened a broad-based steering committee of 25 Michigan mental health experts to develop an action plan. The Foundation's goal for the action plan was to improve the quality of mental health services statewide and thereby promote patient and consumer recovery.

The plan—*Closing the Quality Gap in Michigan: A Prescription for Mental Health Care*—was released in August 2004. The steering committee responsible for its conclusions and recommendations made two essential points:

1. That initial implementation of the plan should focus on encouraging and helping physicians to adopt evidence-based prescribing practices as part of a small number of carefully chosen pilot program sites.
2. That the Texas Implementation of Medication Algorithms (TIMA) with modifications for Michigan were the most effective and proven algorithms available at that time.

The subsequent effort to implement CPGs at six pilot sites in Michigan flowed directly from the *Closing the Gap* report. The report provided the basic framework and plan of work for what came later. The original *Closing the Gap* report is attached in Appendix A, and may be accessed at: *http://www.flinnfoundation.org/reports.htm*.

While the current form of MQIP is new, it is firmly rooted in earlier researched-based efforts. It is the end product of a careful process that included initial research and planning, the development of six pilot sites in health care settings around Michigan, and finally MQIP itself. The earlier efforts will be described more fully as a prelude to the public launch of the MQIP initiative in 2011.

RATIONALE

Excessive variability in treatment is an issue for all areas of medical practice. It is well documented that knowledge gained through research does not always translate to everyday practice. Indeed, the very existence of excessive treatment variability is itself proof positive that at least some patients cannot be receiving optimal care.

The MQIP initiative addresses the challenge directly. Above all else, MQIP is a quality improvement program in which use of CPGs within the context of clinical judgment reduces excessive treatment variability, thereby promoting optimal recovery for people with bipolar disorder, major depression and schizophrenia.

GOALS

The goals of MQIP can be stated succinctly:

- To improve the quality of mental health care by decreasing excessive treatment variability in care through a CPG information technology system.
- To help physicians integrate clinical research, standards of care and clinical judgment in the medication treatment of people with bipolar disorder, major depression and schizophrenia.
- To provide a central site for information exchange between practitioners about the application and effectiveness of these practices.

Improved outcomes are the goal and essential point of the MQIP program. Clinicians can better achieve improved outcomes through the use of CPGs and by using the Module to better assess their own practice patterns. This will be an evolutionary progression toward ever improving mental health care.

HISTORY OF CPG DEVELOPMENT EFFORTS

Flinn has been making grants in the arena of mental health since 1976. In 2001 the Foundation determined that it could help close the gap between research and psychiatric practice by encouraging the use of evidence based practice guidelines for the medication treatment of the three disorders that are the focus of MQIP (bipolar disorder, major depression and schizophrenia). This was the beginning of what was known for a number of years as the Michigan Mental Health Evidence-Based Practice Initiative (MiMHEBPI).

The initiative subsequently unfolded in three distinct but related phases:

- **Phase I**, an initial planning, researching, and conceptualizing phase culminating in the *Closing the Gap* report.
- **Phase II,** in which CPGs were field tested in real world settings at six pilot sites.
- **Phase III** or MQIP, where the CPG initiative has been rebranded, streamlined, and refocused for integration into the wider arena of community of mental healthcare practice in the state.

We give an overview of Phases I and II before detailing more particularly MQIP, its Module, and related programs.

Phase I

During Phase I, a 25-member Steering Committee, especially established for the purpose, recommended that the TIMA—a well established set of pharmacological guidelines for the treatment of bipolar disorder, major depression and schizophrenia—be modified for use in Michigan. These guidelines were selected because they were scientifically sound, field-tested, and were regularly updated. The President's New Freedom Commission on Mental Health also identified TIMA as a model program. The Steering Committee's specific recommendations, including an action plan for further CPG implementation, were published in the August 2004 Flinn Foundation *Closing the Quality Gap in Michigan* report. Key to the action plan was the recommendation to test and evaluate the CPGs at pilot sites.

Phase II

Following the dissemination of the *Closing the Gap* report, a leadership team was established to maintain continuity and momentum and to facilitate the establishment and ongoing operations of the recommended pilot site program. Ultimately, six pilot sites were selected from a total of 10 proposals. Criteria for the choice included merit and diversity of institution type (public/private), service delivery area (urban/rural), and geographic location in Michigan. The pilot sites selected for inclusion were as follows:

- Henry Ford Health Systems, Henry Ford Medical Group, Health Alliance Plan
- Huron Valley Physician Association, St. Joseph Mercy Health Systems, Care Choices HMO, Eastern Michigan University
- LifeWays Community Mental Health Authority (CMHA), Foote Health System, Center for Family Health, Health Plan of Michigan, Brown's Advanced Care Pharmacy Services, Refocus LLC
- Network 180, St. Mary's Health Care/Pine Rest Christian Mental Health, Forest View Hospital, Touchstone Innovare, Family Pharmacy – Wege Center, Calvin College
- Washtenaw Community Health Organization, University of Michigan
- Wayne State University, the Gateways Network (MCPN), Rose Hill, Detroit Medical Center, TIGS (technology integrator), SPEC Associates

The pilot sites were formally launched in October 2005 with the award of the first of three rounds of grant funding to the six sites. Start-up activities commenced in January 2006 and final funds were expended in late 2009 and early 2010. As part of the full implementation plan, Flinn also funded a research team from the Washtenaw County Health Organization (WCHO) to conduct evaluations of all of the Phase II pilot sites and to synthesize key findings.

Near the end of Phase II, four working groups composed of pilot site stakeholders analyzed the evaluation findings and developed concrete recommendations and guidelines for Phase III Implementation. These workgroups included:

- A **Guideline Update Workgroup**, charged with developing recommendations for policies and procedures governing the regular updating of content in the guidelines used in the three disorder areas.
- A **Structure and Content Workgroup**, charged with developing recommendations concerning the design and structure of the new Module.
- An **Information Exchange Workgroup**, charged with developing recommendations on patient and physician data, access, security and confidentiality, and prescriber feedback and input on guideline updates.
- An **Incentive and Sustainability Workgroup**, charged with developing recommendations for overcoming barriers and challenges, incentivizing for guideline fidelity, and methods for sustaining the evidence based effort in the longer term.
  (Full Workgroup Reports included in Appendix B)

As will subsequently be discussed, the experience of Phase II pilot site programs uncovered barriers and challenges to full CPG implementation. It is, however, important to state at the outset that Phase II had clear and significant accomplishments as well. These included:

- As of December 2008 more than 4,200 patients were enrolled in the six sites.
- The CPGs were available and used at all sites.
- Three sites (Washtenaw County, Network 180 and Wayne State) incorporated the guidelines into their electronic health records (EHRs).
- The evaluation demonstrated that following the guidelines improve patient outcomes.
- Local evaluations provided evidence that a CPG program decreased polypharmacy over time.
- The pilot effort identified important technological, organizational, and clinical barriers to the implementation of CPG based practice.
- Flinn and its partners developed a model to resolve many of the barriers, streamline the project, and extend it to more physicians and patients.

These significant achievements and lessons learned during Phase II made possible a better, more streamlined model for the CPG initiative.

Phase III

The next iteration of the CPG initiative, called here Phase III or MQIP, is essentially a full explication of this updated model. The evaluation findings and the workgroup discussions undertaken as part of Phase II pilot programs provided the conceptual framework for Phase III. What began as MiMHEBPI in the early years of the new century has evolved to MQIP today. It has many relations to previous efforts but it has been rebranded, has new goals, is based on new premises, and has a firmer, more confident sense of how to proceed.

II. PHASE III ACTION PLAN

The new action plan is based upon certain fundamental concepts, which in turn define the essential elements of the plan and the key strategies for implementing it.

PLAN BASIS AND CONCEPTS

MQIP

The goal of MQIP is to implement a web-based psychiatric CPG decision support system that can be used by psychiatrists throughout Michigan for the treatment of major mental disorders. The Module is designed to serve clinicians and patients in three mental healthcare sectors: 1) the State of Michigan Community Mental Health System; 2) individual clinicians and groups in private practice; and 3) clinicians working for hospitals and large healthcare organizations. Much of the early work will be with the State of Michigan and local Community Mental Health Services Programs (CMHSPs).

The MQIP initiative will be most visible through the creation of two websites: 1) the Module, which is the web-based decision support system itself and 2) a central MQIP website which will disseminate information, serve as a repository for public data and reports, answer frequently asked questions and serve as a point of contact between the initiative and the public. The MQIP website will have a basic functionality and is designed in all respects to facilitate the use and understanding of the Module. In addition, the initiative will use "E-blasts" to keep all stakeholders current and connected. (E-blast is a form of direct marketing using electronic mail).

Premises

The MQIP approach is based upon nine explicit premises:

1. There is unnecessary and costly variability in the type, quality, intensity and utilization of care.
2. Evidence-based practice guidelines offer a way to provide effective and cost-efficient quality care.
3. Attempts to restructure health care using health informatics technology (HIT) offer opportunities to explore new ways of providing quality care.
4. Standardized outcome measures allow us to assess the effectiveness of this care.
5. Physicians will participate in quality care activities that help their patients improve and help them work more efficiently.
6. Ongoing feedback to clinicians about the quality and outcome of care is crucial to improving care.
7. Individual physicians are influenced by the knowledge and clinical judgment of colleagues.
8. The "collective intelligence" or practice of a large group of physicians is likely to be more consistent with standards of care than that of one physician.
9. The MQIP Module represents an evolutionary progression in ever improving mental health care.

Taken together, these provide a powerful rationale for the development of the Module, while at the same time providing guidance on the features it should offer.

Conclusions of Research

As part of the full implementation plan Flinn also funded a research team from the WCHO to conduct evaluations of all of the Phase II pilot sites and to synthesize key findings in a separate document which also summarized evaluation findings relative to evidence based projects in Texas and Kentucky.1 (Appendices C & D)

The evaluators note that only a few studies have evaluated the use of medication algorithms to treat populations suffering from mental disorders. Despite their acknowledged promise, the translation of "best practices" such as TIMA into common clinical practice remains a challenge for the mental health field. The U.S. Surgeon General's Report on Mental Health (2001) recommended that mental health best practices should be widely employed in the field but found that few mental health programs or physicians use these effective interventions in their practices.

TIMA was originally developed to give physicians the methods and tools for the appropriate pharmaceutical management of patient and consumers with three conditions (bipolar disorder, major depression and schizophrenia). In addition to the Texas effort, there have been two other large evaluation projects, the Kentucky Medication Algorithm Program (KyMAP) and the MiMHEBPI program, with the latter funded by Flinn as described above. The WCHO evaluators summarized the major conclusions of research into these programs as follows.

Texas Implementation of Medication Algorithms Project (TIMA)

The TIMA evaluators conducted a number of studies to determine consumer outcomes. The routine use of algorithms was shown to have had a significant impact on symptom improvement in studies for all disorders tested. For example, the 165 consumers with schizophrenia whose prescribers used the algorithm experienced symptom improvement faster than the 144 consumers who received treatment as usual. This was similar to the impact of algorithms on the treatment of bipolar disorder in which consumers who were treated according to the algorithm had symptom reduction that was both greater and more rapid than that seen in the control group. The consumers treated in accordance with the major depressive disorder algorithm experienced a greater (but not a faster) reduction in symptoms.

Kentucky Medication Algorithm Project (KyMAP)

The KyMAP conducted a three-year evaluation on the TMAP model with funding from the federal Substance Abuse and Mental Health Services Administration (SAMHSA). One important aim was to measure prescriber fidelity to the medication algorithm in six community mental health clinics. Results suggested that fidelity scores were highest for documentation of treatment, use of recommended dose ranges, simplification of medication regimen, and consumer involvement in treatment decisions. The scores for consumer education were somewhat lower, and scores were lowest for documentation of

1 Kristin L. Barry, Frederic C. Blow and Sandy Snedecor, "Michigan Mental Health Evidence-Based Practice Initiative (MiMHEBPI): Multi-Site Final Report to the Flinn Foundation (08/10); Kristin C. Barry and Frederic C. Blow, Evidence-Based Medication Algorithms for Individuals with Mental Disorders: Synthesis of Key Findings" (07/10). Both reports are included in the appendices.

illness and medical history, linkage of medication use with treatment goals, monitoring side effects, and the use of quantitative outcome assessment tools. With regard to outcome data, the symptom scores for clients with schizophrenia yielded promising results. Over time, 70 percent had symptoms that either remained stable or improved enough to be considered a full response.

The Michigan Mental Health Evidence-Based Practice Initiative (MiMHEBPI)

This was the three-year longitudinal multi-site study conducted in the six Michigan pilot sites under Phase II as described earlier. Because of the positive results in symptom changes from the TIMA study, this project did not have experimental and control groups, but rather tested implementing the model in "real world" settings.

The overall provider adherence rates were very good (i.e., over 75 percent in the last three rounds of data collection). It should be noted, however, that the results were driven by the largest site and the fact that they had imbedded the algorithms into their electronic health records (EHRs). Sites that did not have EHRs had more difficulty implementing and adhering to algorithms.

Across all sites providing symptom data, two diagnostic categories—schizophrenia and major depression (non-psychotic)—exhibited a significant *decrease* in measurable symptoms over time. Consumers with bipolar disorder and major depression (psychotic) did exhibit symptom reduction but these did not reach significance.

Taken together, the results of these major studies suggest that adherence to appropriate guidelines can improve outcomes for consumers. They also yielded significant information to guide future efforts.

The results from the individual six pilot site evaluations were also described by the multi-site evaluators and can be briefly restated here as:

- All sites reported a trend of providers using of the guidelines more comfortably over time.
- When guidelines were electronically built into the work flow, providers incorporated them more easily. When the guidelines were not systematized in some way, provider use was lower.
- The use of medication CPGs led to a decrease in patient and consumer symptoms, a finding corroborated in analysis of the longitudinal multi-site outcome data.
- Two sites were able to do smaller studies to determine changes in polypharmacy, an issue of great concern in the psychiatric field. Both sites found decreases in polypharmacy over time after implementing the medication CPGs.
  (Full Summary of Results and Suggestions in Appendix E)

These findings inspire confidence that a new and restructured CPG initiative can achieve even better results in the future. Sometimes, however, aggregate data do not give a completely accurate picture of the potential for a new program because problems in some sites mask accomplishments in others. The reverse is also true. The overall success of a program can lead observers to underestimate the significance of barriers uncovered in some programs. It is

therefore worth looking at the experience and evaluation of two individual sites in more detail. These are the WCHO project and the LifeWays project serving Jackson and Hillsdale counties. The latter is also known as the Jackson Evidence Based Practice Project (JEBPP).

The WCHO Experience

Effectiveness can be defined by the number of patients enrolled in the project, the consistency of the treatment using accepted standards of practice detailed in the guidelines, the outcome of this treatment measured by standard assessment tools, and the quality and comprehensiveness of the assessment and treatment data. The WCHO pilot site, which includes affiliated CMHSP's in Lenawee, Monroe, and Livingston County, was by many of these criteria one of the most effective pilot sites. Evaluators, who examined the Phase II project at WCHO in detail, offered the following reasons for its demonstrated success:

- WCHO created an EHR that incorporated all of the guidelines early in the project. The presence of an established system significantly reduced the amount of time it took to build an EHR that included the CPGs. This in turn allowed WCHO to automatically collect accurate and complete electronic clinical data from the beginning of the project.
- The WCHO site benefited from the early involvement of a psychiatrist who championed the project. He served as an expert resource for the other clinicians who had questions about the project and concerns about how it would affect their ability to treat patients. In addition, this psychiatrist personally performed the initial CPG staging for almost 2,000 patients at the beginning of the project.
- The WCHO chief information technologist oversaw the creation of the EHR system and effectively communicated the needs of the clinicians to the outside data processing vendor who built the system. The resulting EHR, although not perfect, was and is quite serviceable.

The lessons learned from the WCHO about the importance of EHRs, local champions, and skilled information technologists have all been incorporated into the implementation plan for the MQIP program.

The JEBPP Experience

By contrast, the JEBPP had some real accomplishments but also fell short of achieving the full program buy-in that is necessary for full implementation. An independent evaluation sponsored by the local JEBPP leadership offered the following observations about what would be necessary to achieve greater buy-in in the future. Specifically, future efforts would need to recognize that:

- Process change that initially requires additional resources, training, time, documentation, and flexibility from practitioners with little up-front benefit to their practice or patients cannot be systemically implemented on a voluntary, patient by patient basis.

- Systemic process change must include frequent and consistent reinforcement of compliance accountability and problem solving regarding issues of non-compliance.
- Training must be ongoing and routinely delivered to employees at all levels of the organization.
- System change must be led by opinion leaders and driven by an identified need for change among those most affected.
- Successful organizational change is dependent upon three factors: 1) a critical mass of employees must be involved in the change process; 2) sufficient time is needed to effect change on multiple levels; and, 3) formal reward systems need to be implemented.

Significant organizational change is disruptive, time consuming, and consumptive of resources. It cannot be successfully implemented absent strong, committed leadership and a willingness to consider in detail the changes in policies and procedures that will be required to make the proposed change work. These insights too were incorporated into the MQIP model.

Common Themes

Near the end of Phase II of MiMHEBPI, the participants at the semi-annual symposiums were asked to rank in order of importance the issues that would need to be addressed if the full MQIP program were to be implemented successfully. What emerged from this exercise was the identification of a broad range of concerns that did not readily lend themselves to rank order. The following common themes characterize these findings as well as the recommendations and observations that came out of that and other Symposiums. (For a fuller discussion see both the Flinn Foundation memorandum of November 30, 2009 and the Barry and Blow "Synthesis" report, which are included in Appendices D & F).

With regard to information technology…..

- Participating organizations need EHR technology, preferably web based.
- Within the organization or partnering organizations, there should be a centralized provision for guideline algorithm software—i.e. the MQIP Module and provisions for centralized IT support. (Absent this the collection of standardized data and clinician feedback, and common outcome measures are not possible).

With regard to the Module itself…..

- It must add a significant degree of value to the clinicians work.
- It must be connected to and be compatible with an EHR and capable of transferring core data between the EHR, the Module and e-prescribing.
- It must be set up so that clinicians have to use the Module as part of recording visit data.
- It must be embedded in the clinician's workflow.
- It must be fast and efficient technology that has a degree of flexibility to accommodate user and individual patient needs.

- It must accommodate user feedback and build toward a "community of practice".
- There must be a creditable process for updating the algorithm/guidelines and incorporating updates into the Module.

With regard to effective organizational support…..

- There must be on-going feedback and technical assistance to clinicians regarding their use of the algorithms, the process, and the outcomes.
- There must, in the case of multiple partners, be a designated lead organization to coordinate implementation and continued utilization of the CPGs.
- There must be strong commitment from the start by administrators.
- Participation in the project must be mandatory and continued use of the Module must be enforced.
- There must be a standardized implementation of processes and procedures to implement an action plan with appropriate infrastructure to support the project.
- Guidelines implementation, training, and technical assistance are on-going costs that require a funding source. (The Module will be provided royalty free to users. Flinn and the Michigan Department of Community Health (MDCH) will work to reduce other costs such as those for hosting, training, software support and integration with EHR's and e-prescribing).
- There is a need to maximize clinician's participation by reducing barriers to participation.

With regard to education and marketing….

- Clinicians should be educated regarding improvements in quality of care and reductions in polypharmacy due to the use of the algorithms.
- Key audiences need to be identified with the focus of education and marketing plans directed to those audiences.
- There must be a strong effort to educate patients and families as well as clinicians regarding the usefulness and benefits of implementing CPG-based care.

THE MQIP Module (the Module)

The core of the MQIP initiative will be the Module, the web-based health information technology that will make CPGs available to clinicians when they are with patients. The Module will also provide a patient database, automatic patient staging, feedback to psychiatrists about their clinical decisions, rating scales for assessing the outcome of treatment, online access to detailed clinical practice guidelines, and other features. The Module is currently being developed in a sequence that includes defining and creating a core database and building and testing a prototype. The launch of the Module is scheduled for the first half of 2011. It will be owned by Flinn and will be provided royalty free to community mental health providers and other users. Flinn will work with MDCH to reduce any added costs associated with the use of the Module, including the cost of hosting, training, software support and integration with EHR's and e-prescribing.

The introduction of the Module into mental health care in Michigan will be undertaken with care, beginning with the public sector—i.e., MDCH and local CMHSPs throughout the State. The implementation must be initially targeted to the most receptive clinicians and health organizations. A local champion will be identified for each initial site and there will be a system of clinician support put in place where experienced clinicians (drawn from the Phase II pilot sites) support their colleagues. It is especially important to stress that the quality of the implementation in the early sites is more important than the quantity of sites that are initially implemented. A flawless introduction of the system in these sites will provide evidence of effectiveness of the project and persuade other groups to join.

Module Features

The Module, or web-based clinical decision support system based on CPGs, has the following features. Specifically, it will:

- Focus on the medication treatment of bipolar disorder, major depression and schizophrenia.
- Recommend medications based on evidence based CPGs.
- Provide information on the standards of care and clinical practices of colleagues.
- Provide feedback to clinicians at the time of treatment.
- Complement a full EHR, but will not replace it.
- Include e-prescribing via a link to existing technology in cases where it was desired.

A professional software development company has been engaged and with Dr. Michael Fauman is developing the software for the module.

It should also be noted that the Module will be fully compliant with the American Recovery and Reinvestment Act of 2009 (ARRA). Included in the $787 billion ARRA is approximately $20 billion in funding for healthcare IT, including incentive payments to physicians who implement and use eligible electronic health records systems under the conditions laid out in the law. At the moment, the medical IT funding available under ARRA has not been designated for use in the mental health care system. Efforts are underway to expand the provisions of ARRA to include mental health care providers. The Module will be designed to take advantage of the change when and if it occurs.

In addition to ARRA, the Affordable Care Act (sometimes called the Health Care Reform Act) will affect the practice of medicine and will prompt use of automated decision support modules like the MQIP module. In Medicine and Public Health Issues "The Affordable Care Act and the Future of Clinical Medicine: The Opportunities and Challenges" (11/16/10) 2the authors state

2Annals of Internal Medicine - The Affordable Care Act and the Future of Clinical Medicine: The Opportunities and Challenges, Robert Kocher, MD; Ezekiel J. Emanuel, MD; and Nancy-Ann M. DeParle, JD, November 16, 2010, 153(10) Issue, Page 1, *http://www.annals.org/content/early/2010/08/23/0003-4819-153-8-201010190-00274.1.full*, 12/06/2010

"How the Affordable Care Act and the American Recovery and Reinvestment Act are likely to affect the practice of medicine:

- Expanding the use of electronic health records with capacity for drug reconciliation, guidelines, alerts and other decision supports"

The Affordable Care Act calls for a national voluntary program of Accountable Care Organizations (ACO). ACOs are provider groups that will accept responsibility for the cost and quality of care of its patients and consumers. In order to qualify as an ACO, organizations must include processes to promote evidence-based medicine. MQIP incorporates evidence-based guidelines in its decision support module.

ELEMENTS OF THE PLAN

Implementation

Ultimately, the MQIP Module will be available to all mental health clinicians in Michigan, whether situated in a public or a private setting. The initial focus, however, will be on implementing MQIP in public settings. Public sector programs, including local CMHSPs and state hospitals, are typically larger organizations with centralized decision making and health information technology capabilities. However, if ACO's in fact rapidly develop with initiatives to better integrate and coordinate primary care with mental health care then interested non-public providers will be recruited for early adoption of MQIP. It is imperative during Phase III that the pioneering implementation sites be done well and in accordance with lessons learned from the pilot site program. The support MQIP enjoys from the leadership at MDCH means that a chance for its successful implementation in public sites is excellent.

The intent is to sequentially create three versions of the Module: 1) a stand-alone version that has "mini" EHR capabilities and is linked to e-prescribing; 2) a version that links seamlessly to the existing EHR and e-prescribing systems of participating organizations and 3) a "stand-alone" version that is not linked to an EHR or e-prescribing for use by organizations that have both but do not want them linked. Version # 1, the stand-alone version with mini EHR and e-prescribing capabilities, will be developed first. It is important to stress that all three versions will be built around the same technical core. Any organization that wishes to move from a stand-alone version to a linked version will be able to do so without changes to the core technology or alteration of the clinician's workflow.

The longer term goal is to successfully implement and integrate the module into EHR's and e-prescribing that provides for the transfer of core data in an efficient, cost effective and accurate way. The PCG will partner and work with the Implementation Advisory Group and the CIO Forum (see below) to work out the details with the goal that users will not be required to double enter data or to use multiple and separate IT systems.

Leadership, Governance and Partnerships

Implementation of MQIP will be lead and governed by the following leadership groups:

- A Project Coordination Group (PCG) consisting of Leonard Smith and Andrea Cole of Flinn and Dr. Michael Fauman, an original member of the Steering Committee and expert content consultant to Flinn and the project for the last four years. They will work with MDCH and its medical director, Dr. James Dillon, during all aspects of implementation in the public health system.
- An Executive Advisory Committee (EAC) formed largely of members of the previous Phase II Executive Committee. The EAC will meet at least twice a year to advise the PCG. The EAC will also form a panel of mentors drawn from the original pilot sites who will be available provide advice and support to those implementing the project.
- An Implementation Advisory Group (IAG) consisting of executive directors, clinical directors, medical directors, and IT directors drawn from MDCH and CMHSPs. The IAG will oversee and facilitate the implementation efforts at public sites.

All of these groups are now active. The coordinated activities of these three groups together with stakeholder partners described below will guide the development of the Module and other MQIP related programs as the process unfolds over the coming year.

Partnerships among stakeholders will be necessary both at the state and local levels. The leadership groups will need to approach, partner and work with many statewide stakeholder groups and organizations including from the public sector, the CIO Forum made up of the Chief Information Officers of Michigan's PIHPs (Prepaid Inpatient Health Plans). MDCH's Recovery Council and the Michigan Association of Community Mental Health Boards (MACMHB) and from the non-public sector, the Michigan State Medical Society (MSMS), the Michigan Psychiatric Society (MPS), the Michigan Health and Hospital Association (MHA) and major mental health inpatient hospital organizations and psychiatric physician associations.

Marketing Plan

The ultimate goal of Phase III is to introduce MQIP to the public and private sectors throughout the State of Michigan. The development of the name "MQIP" is intended to signify a continuing effort to improve the quality of mental health care and treatment.

The main objective of the marketing plan will be to clearly explain the goals and underlying concepts of the project. It will emphasize, among other things, the role of quality improvement, evidence-based practice, and the use of standardized guidelines. It will also be tailored to address the concerns of the different groups that have a stake in the project, including patients and consumers, families, clinicians, providers, professional organizations, private and public mental healthcare facilities, third party payers, and health plans.

The audience for the marketing effort will be the clinicians who use the Module, the patient and consumers whose care is affected by its use, advocacy and professional groups, administrators and policy makers, and, of course, the public at large. At the heart of the marketing effort will be a project website designed to provide a basic description of the Module and what it can do. It will include contact information, frequently asked questions, links to helpful material, and how

to obtain more information. Further, an E-blast network will be used to provide specific information and updates.

ACTION PLAN STRATEGIES

MQIP will pursue seven implementation strategies as it launches the Module. These strategies meld the thinking embodied in the original *Closing the Gap* report and the experiences drawn from implementing CPGs during Phase II of the project.

Strategy # 1: Implementing Clinical Practice Guidelines

The Module is being developed by a professional software developer with assistance from Dr. Michael Fauman of the PCG. The IAG convened by Dr. James Dillon of MDCH is already meeting to assist the PCG in its efforts to move forward with the development of the Module. The following elements define this implementation strategy.

The MQIP program will be implemented initially in a public setting

The MQIP eventually will be available to all mental health clinicians in Michigan, whether situated in a public or a private setting. As the program gets underway, however, the focus will be on implementing MQIP in a public setting because of centralized decision-making and developed IT capabilities. This timetable may be modified if the rapid development of ACO's and integrated care dictates an earlier recruitment to MQIP of interested non-public providers. If the innovation represented by the Module is to be broadly disseminated it must work well in the venues in which it is first tried. Buy-in has already been achieved with a number of key public sector stakeholders who well understand the need for uniformity of training, compliance and accountability.

A "stand alone" ("mini" EHR capability) version of the Module will be developed first

Three versions of the Module will be developed: 1) a stand-alone version that has "mini" EHR capabilities and is linked to e-prescribing; 2) a version of the Module which can be seamlessly connected to existing EHR and e-prescribing systems; and 3) a "stand alone" version that is not linked to an EMR or e-prescribing for sites that have both but do not want them linked. Version #1 will be implemented first and once it has been used the next two versions will be offered for implementation. All three versions will be developed to accommodate organizations that wish to move from one version to another without changes to the core technology or alteration to the clinician's workflow.

The long term goal is to integrate the Module with EHR's and e-prescribing

The PCG will partner and work with the IAG and CIO Forum to work out the details of integration and transfer of core data among EHR's, the Module and e-prescribing to avoid the double entering of data and the use of multiple and separate IT systems.

The Project Coordination Group (PCG) will develop a marketing plan for the Module

It is essential that clinicians, mental health administrators, patient and consumer groups, patients and their families, and the public at large all understand the nature of this major innovation. Therefore, marketing and information will be a top priority and ongoing concern of MQIP's leaders. While the Module itself will be largely available to physicians and clinicians, every effort will be made to educate clinicians and administrators about its capabilities and encourage them to use it. A website specifically devoted to marketing and educating will be developed for public use. Existing professional and patient and consumer networks within the mental health sphere will be used extensively as part of the effort. Popular current approaches such as "E-blast" will be used as appropriate.

The PCG will coordinate efforts to update the guidelines regularly

It is critical that the CPGs reflect best practices and the current state of knowledge. At a minimum the CPGs embedded in the Module will have to be updated in accordance with a set schedule. Since, however, developments in research are not published in a predictable way, there will be the capability to change quickly and to update more regularly as circumstances dictate. The PCG will establish a process to update the CPGs embedded in the Module based upon the recommendations of the Guideline Update Workgroup and experiences of similar update efforts in the country. A conceptual model of the process has been developed by Dr. Michael Fauman.

Strategy # 2: Ensuring Organizational and Provider Buy In and Support

At the heart of this strategy is the recognition that significant organizational change is disruptive, time consuming, and consumptive of resources. It will not happen absent strong and committed leadership and a willingness to consider in detail the changes in policies and procedures required to make the proposed change work. If persons at participating CMHSPs or other venues are allowed to ignore the Module and conduct business as usual, the effort will fail. Organizational change of this magnitude may sound formidable, but in reality it is something that any health organization must undergo any time it changes its EHR system or makes other significant changes.

Achieving buy-in and support in public sector treatment settings will require coordinated efforts at both the state and local CMHSP level and the following actions:

A statewide implementation advisory group (IAG) will be formed to ensure that efforts across the state are uniform and that local CMHSPs receive the support they need.

Membership in this group will include representatives from the MDCH and local CMHSPs, as well as persons familiar with the pilot programs. The chief role of the IAG will be to communicate the necessary precursors to successful change and monitor developments at the local level. The IAG will also coordinate a program wherein "veterans" of the pilot programs or persons who are otherwise available to help can do so.

As the process matures, the statewide implementation group should evolve into a statewide "user" group with a regular process for communicating information among members.

During Phase II, the initiative sponsored two symposiums each year. The Symposiums allowed participating administrators and clinicians to share information and their experiences about implementing the program. This approach was very beneficial to the pilot programs and it can be expected to work equally well with MQIP.

Each participating local CMHSP must be encouraged to form its own implementation advisory group.

Membership in the local group will have the blessing and full support of local CMHSP leadership as well as their medical and IT directors. This group will help ensure that all players understand the nature of the change and its supporting rationale. The group will ensure that a sufficient infrastructure is available and the proper policies and procedures are in place. They will develop an orderly timetable for proceeding and will devise incentive and reward systems. Systemic process change must include frequent and consistent reinforcement of compliance and accountability when there is non-compliance.

Each participating CMHSP will take steps to ensure that training on the local level is ongoing and routinely delivered to employees at all levels of the organization.

The people who give care and the system in place to support those who give care must work toward a common objective. The change represented by MQIP may alter the way prescribing is done, the demands that are put on the organization's IT system, the way personnel are evaluated and rewarded, and the manner of communications between the professional staff and patient and consumers. All this must be planned, taught, and rewarded.

Strategy # 3: Maximizing the Use of the Module

The first and perhaps most important barrier identified in Phase II was the ongoing resistance of many physicians to the use of guidelines in the care of their patients. As the pilot programs clearly demonstrated, while there is evidence that the consistent use of CPGs can improve outcomes, not all clinicians are convinced of their utility and many are concerned that they will be difficult and time consuming to use. The MQIP program is predicated upon the belief that physicians will respond positively if these concerns are addressed. The following are specific ideas for alleviating clinician concerns:

The term compliance must be clearly defined.

No guidelines can realistically be expected to apply to every patient suffering from a disorder. Physicians, therefore, are expected to use their clinical judgment in determining how and when to apply the guidelines to specific patients. There are a variety of reasons a physician may depart from the guidelines. Reasons might include patient choice or patient non-compliant, cost of drugs, lack insurance coverage, potential side effects or other medical contra indications. Whatever the reason, we should expect that physicians

will administer some proportion of treatments that, although not consistent with the guidelines, are clinically appropriate. The definition of treatment according to guidelines should take into account individual patient variation and a physician's use of clinical judgment in treating exceptional patients. Often, apparent "non-compliance" will in fact be *intelligent* compliance.

There will be a uniform process for defining fidelity, adherence, and consistency as well as data collection and symptom scoring across all CMHSPs and other users of the Module. Only if this is done will it be possible to effectively employ the comparative data on medications prescribed and other forms of "feedback" which are such an essential part of the module. The experience of the Phase II pilots is instructive in defining fidelity and compliance. Generally, following the Module's CPG recommendation or documenting a decision to depart from them will be seen as consistent. Only decisions to depart from the CPGs without appropriate documentation will be deemed "non-consistent."

The Module must provide participating clinicians with information on how their patterns of prescribing conform to what the research suggests is appropriate and what their colleagues are in fact doing.

The use of the CPGs embedded in the Module is intended to be a useful supplement for clinical judgment not a replacement for it. Through a feedback feature there will be a quick way to check whether individual prescribing patterns are largely consistent with what others are doing or a significant departure. Many physicians are concerned that the adoption of algorithms and guidelines will force them to deliver care in a rigid, cookbook manner that does not sufficiently allow for individual patient variation. This belief is based on a misunderstanding of the CPG process and of the number of clinical options it offers. The use of CPGs is designed to augment clinical decision making through the provision of enhanced tools—not supplant it.

Concerns that implementing CPGs will be too time consuming must be addressed.

A frequently expressed concern by clinicians is that their participation in a CPG will require them to do additional administrative work that will inevitably decrease the time they have available to spend with patients. It is essential that this not be perceived to be the case and, more, that it not be the case in fact. The Module is being developed and tested with a view to facilitating documentation and increasing clinician efficiency, and seamlessly integrating more fully the required documentation into the provider's clinical workflow in a manner that actually saves time. It will involve the collection and transmission of only the minimum amount of core data necessary.

The capacity of CPGs to improve outcomes must be continually emphasized.

One of the most effective ways to overcome the resistance that physicians have to using the algorithms is to demonstrate that treatment based on the algorithm leads to better clinical outcomes than treatment as usual. The most successful measure of clinical outcome is symptom reduction determined through repeated evaluations, using standardized instruments, throughout a patient's treatment. Nothing is as great an incentive for Module use as demonstrated success.

Clinicians must be made aware when colleagues support and follow CPGs.

Most physicians are influenced by the clinical opinions of their colleagues and how they practice medicine. They are also concerned about whether their overall patterns of clinical practice are consistent with the peer standards prevalent in the professional community. These observations suggest that colleagues can influence a physician to adopt Evidence-Based Practice (EBP) guidelines in two distinct ways. First, colleagues can directly endorse the use of guidelines. Second, physicians through the feedback feature can observe their colleagues' actual treatment practices.

Strategy # 4: Clinician Education

All clinicians will require additional information about the advantages of guidelines and algorithms, how best to run a local program, and how to incorporate EBP principles into practice. The following steps will be taken to disseminate this information:

The PCG will oversee the development of strong, consistent messages as part of programs to explain why physicians should use guidelines and algorithms.

The compelling reasons for adopting EBP principles and CPG in mental health prescribing are not yet fully understood in the field. The fact that CPGs can improve care and reduce errors needs to be stressed. The PCG will consult closely with MDCH and outside groups (e.g., like MSMS and MPS) to develop consistent messages on CPG and conduct training. The initial Phase III programs will ensure that participating clinicians receive this information and training.

State medical schools should be encouraged to continue and expand the teaching of CPGs as part of the medical school curriculum and in residency training programs.

In the long term, evidence-based CPGs will be widely adopted only if they are used in the training of future generations of physicians. Flinn and PCG support the continued teaching of EBPs and the encouragement of greater focus on the value of CPGs. The PCG and the IAG will support the state's medical schools in exploring their continued commitment to the teaching and use of CPG in mental health care.

The PCG will explore ways of offering Continuing Medical Education (CME) credit for conferences, training programs, and regional sessions devoted to evidence-based mental health care and the use of guidelines and algorithms.

The continuing education of physicians and clinicians currently in practice complements the education of physicians in medical schools. Offering CME credit would serve as both an educational opportunity for physicians and as an incentive for change. The PCG and the IAG will approach CME-granting organizations such as medical schools and the MPS to ensure that EBP programs granting CME credits are available. Organization involved in the MQIP initiate will require or strongly encourage attendance at these sessions by their participating physicians. Further, the MACMHB conferences (held three times yearly) are a forum for information exchanges that provide such a means of offering social work continuing education credits.

Clinicians must actively participate in the education process.

Credibility with clinicians can be promoted if an active participatory education process is developed with clinicians leading to a greater "voice" in defining educational needs from the onset.

Strategy # 5: Consumer Education

Mental health care will also improve to the degree that patient and consumers and their families are involved in care, understand CPGs, and actively seek practitioners who use them in practice. Consumer education may take place in three contexts: (1) one-to-one encounters between physicians and individual patients; (2) population-based efforts whose aim is to assist consumers in understanding and recognizing various conditions; and (3) specific treatment settings, for example, CMHSPs. Each requires its own implementation approach. For implementation in the public sector the leadership groups will consult with MDCH's Recovery Council on all aspects of consumer education.

The PCG and IAG will help develop materials and methods for improving communications between patient and consumers and clinicians on the nature, importance, value, and use of CPGs during individual treatment sessions—that is, on a "one-to-one" basis.

If the long-term goal is to more fully integrate CPGs into standards of care, patient and consumers are a powerful agent of change. Furthermore, they have a right to fully understand and participate in medical decisions that affect their care. Initially, the marketing plan will develop an integrated program of messages and materials to improve communication between physicians and consumers. Further, all MQIP programs will have an integrated consumer education program as part of their activities.

The PCG and IAG will collaborate on a broader program of consumer education and awareness by employing existing advocacy groups as messengers to their constituents.

This tactic is designed to augment the communication between physicians and patients through direct marketing to consumers. Use of "free media" provided by advocacy and trade groups are among the communication channels that will be explored. The PCG, working closely with the IAG, will identify organizations to develop messages and disseminate them to consumers outside of clinical settings. The PCG will encourage these groups to involve patients, consumers and families in an active participatory education process leading to a greater "voice" in defining education needs from the onset. The PCG and the IAG are fully aware that the programs patient and consumers actually experience must be consistent with the message imparted by the public awareness campaign.

The PCG will us the MDCH and SAMHSA endorsed "Illness Management and Recovery" (IMR) program as a basis for explaining how the use of CPGs facilitate communication, the simplification of medication regimes, and recovery.

One topic covered by the IMR program is the use of medications in the recovery process. This topic and its motivational and social skills training techniques will be used to help educate consumers on a number of key topics:

- The nature of medications, their benefits and side effects and why they were recommended.
- What CPGs and the MQIP Module are and why they were developed.
- Demonstrations of improved outcomes from CPG adherence.
- Demonstrations of how interactions and partnerships between clinicians and patients can be improved through the use of the Module.

Strategy # 6: Incentives for Change

Research suggests that a number of direct financial, indirect financial and nonfinancial incentives will produce improvements in practice—ranging from reimbursement for legitimate expenses to enhanced status among peers and consumers. Tactics to incentivize change include:

The PCG and implementation teams will develop nonfinancial incentives for the adoption of guidelines and algorithms.

Practitioners are inspired by the prospect of offering better care and being recognized for doing so. The development of national cancer centers—where practitioners willingly join a broader movement because of the advantages that accrue from being perceived to offer the best care possible—are a useful example of what might be done. Participation in the EBP program could be signaled in a number of ways—perhaps through wall plaques or decals or listings on a website. The PCG will examine the question of how best to describe and market participation in the pilot program, perhaps through the development of a "Michigan EBP in Mental Health Care Network" or some similarly named program.

The MQIP leadership teams will approach payers to secure their support for: (1) rewarding evidence-based mental health care and improving mental health care through following evidence-based CPGs and (2) increasing reimbursement to improve the quality of care and reporting.

Practitioners are more likely to adhere to guidelines and algorithms if there is a financial incentive to do so. Changing the incentive structure for practitioners so that they are rewarded and reimbursed for a desired behavior requires payer buy-in. The MQIP leadership teams will approach employers, health plans, CMHSPs, and MDCH to explore the possibility of creating rewards for guideline adherence and reimbursement for expenses incurred that improve care. Most financial incentives will work better in the private sector. The PCG will also work with MDCH to increase the time a clinician has with each patient for medication checkups from 15 to 20 minutes for clinicians using the Module.

The PCG will facilitate design of the Module to be an ARRA Certified Module.

As mentioned earlier, it is the intent that the MQIP Module will meet the rule-based decision support module requirements of ARRA. Organizations that use the fully linked version of the module then have a better case for applying and receiving ARRA incentive payments. It is possible that in the future the federal government will penalize organizations that do not use evidence-based decision support modules.

The MQIP Module will help satisfy requirements of Accountable Care Organizations (ACO) which will be established under the Affordable Care Act.

ACOs are provider groups called for in the Affordable Care Act that will accept responsibility for the cost and quality of care of its patients and consumers. An organization must have processes to promote evidence-based medicine in order to qualify as an ACO. Adoption and implementation of MQIP will facilitate qualification and has the potential of reducing cost and improving quality.

Incentives for changing behavior will ultimately give way to incentives inherent in "demonstrated success" (see Maximizing Use of the Module P15).

A local maxim that seems repeatedly proven is that physicians will change practice if two of three conditions are met: 1) improved outcomes, 2) improved efficiency and 3) reduced cost. Otherwise nothing will be adopted and sustained in future ACOs.

Strategy #7: Evaluation and Measurement

Like other evidence-based, data-driven CPG strategies, MQIP will succeed in the long run to the degree that it can convince participating organizations to adhere to a common approach to evaluation and measurement. Absent this, MQIP cannot offer its key features: 1) a continual assessment of outcome and 2) valid information on the comparative efficacy of different approaches. Neither can it give clinicians immediate real-time feedback on their prescribing patterns. Tactics for addressing evaluation and measurement issues include:

The MQIP leadership teams will work with participating organizations to ensure that they adequately assess CPG adherence, the effectiveness of guidelines, consumer and physician satisfaction, costs, and variation among prescribers

The information needs of the project will be varied. It would be useful to know, for example, the extent to which practitioners adhere to guidelines, how satisfied they and consumers are with the program, what the program costs were, and how successful the program was in improving outcomes or reducing practice variations. The MQIP leadership teams will work with MDCH and on the local level to set the evaluation and measurement agenda and ensure that data collection and analysis are a priority for each partnering organization.

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ACRONYMS

ACO	Accountable Care Organizations
CMHSP	Community Mental Health Service Program
CIO	Chief Information Officers
CME	Continuing Medical Education
CPG	Clinical Practice Guideline
EAG	Executive Advisory Group
EBP	Evidence-Based Practices
EHR	Electronic Health Records
Flinn	the Ethel and James Flinn Foundation
HIT	Health Information Technology
IAG	Implementation Advisory Group
IMR	Illness Management and Recovery Program
JEBPP	Jackson Evidence-Based Practice Project
KyMAP	Kentucky Medication Algorithms Program
MACMHB	Michigan Association of Community Mental Health Boards
MDCH	Michigan Department of Community Health
MHA	Michigan Health and Hospital Association
MiMHEBPI	Michigan Mental Health Evidence-Based Practice Initiative
MPS	Michigan Psychiatric Society
MQIP	Michigan Medication Quality Improvement Program
MSMS	Michigan State Medical Society
PCG	Project Coordination Group
PIHP	Prepaid Inpatient Health Plan
SAMHSA	Substance Abuse and Mental Health Service Administration
TIMA	Texas Implementation of Medication Algorithms
WCHO	Washtenaw County Health Organization