

QUERI Implementation Guide

Section II VA QUERI Research

II-1 [VA QUERI Quality Improvement Demonstrations: Lessons Learned](#)

- [Overview](#)
- [Evidence: Lessons Learned About the Evidence-Base for Practice Change](#)
- [Context: Lessons learned About the Organizational Context for the Change](#)
- [Facilitation: Lessons learned About the Methods Used to Facilitate Change](#)
- [Other Research Issues](#)
- [References](#)

II-2 [Tools and toolkits](#)

- [Diabetes Mellitus](#)
- [Ischemic Disease](#)
- [Mental Health](#)
- [Substance Use](#)

Section II Part 2: VA QUERI Quality Improvement Demonstrations: Lessons Learned

This Section outlines a number of lessons learned by individual QUERI groups as they conducted projects designed to integrate research findings into practice to improve the quality of care in VA health care facilities.

Examples are organized into issues related to:

- Evidence – the evidence base for the practice change,
- Context – the organizational context for the change, and
- Facilitation – the methods used for facilitating the change.

This typology is borrowed from the framework for implementation of evidence-based practice developed by Kitson and colleagues.^{1,2} An "Other" category is used for lessons that do not readily fall into one of the above categories. The QUERI group that offers each example is identified as follows: Chronic Heart Failure QUERI – CHF, Colorectal Cancer QUERI – CRC, Diabetes Mellitus QUERI – DM, Human Immunodeficiency Virus/AIDS QUERI – HIV, Ischemic Heart Disease QUERI – IHD, Mental Health QUERI – MH, Spinal Cord Injury QUERI – SCI, and Substance Use Disorder QUERI – SUD. [At the time this section was written, these eight QUERI groups had been in operation, while the Stroke QUERI had not yet been funded.]

Evidence: Lessons Learned About the Evidence-Base for Practice Change

- *A strong evidence base for recommended practice is critical: Account for clinical exceptions to guidelines and discuss conflicting guidelines.*

MH: While there is strong evidence and guideline support for the use of moderate antipsychotic doses and limiting the use of high doses, there are still clinically appropriate instances indicating the use of antipsychotics above the recommended range. We needed to be open about these instances and tried not to "penalize" programs for the appropriate use of antipsychotics outside the recommended range. Therefore, we performed medical chart reviews of patients whose doses were above the recommended range to look for justification/circumstances for using high doses. Further, we had one instance where slightly conflicting dose recommendations for some antipsychotics were issued by another VA group (not the VA National Practice Guideline Council). This prompted an open discussion about the differences in the recommendations and why we were following the formal VA Psychosis Guidelines' recommendations for the project.

SUD: We had an experience similar to MH in that there is strong support for using higher methadone doses (> 60 mg), but there are clinically appropriate reasons that a patient may be maintained on a low dose. Not wanting to penalize appropriate use of low doses, we developed a

dose review process in which teams reviewed each low-dose patient and were able to make a determination as to whether the dose was clinically appropriate or needed adjustment.

DM: For a project focused on improving care for hyperlipidemia, we planned to develop a pocket card. Development was hampered by limited evidence on specific details of treatment. While the need for treatment of hyperlipidemia is well established, the details of when to initiate treatment and the medications and doses to use were less clearly evidence-based. We had hoped that offering details on initial statin doses for patients with and without coronary artery disease would assist providers. However, we were unable to come to agreement with project sites about recommendations to be included on the pocket cards so this planned component of the project was never implemented.

IHD: We used a goal level for low-density lipoprotein (LDL) treatment that conformed to both the VA/DoD guideline and a nationally recognized guideline. During the period of our intervention studies, the VA/DoD guideline goal for LDL was revised upward from 100 to 120, while the national guideline remained at the same level. Clinicians were both confused and unhappy about the change. As a VA (QUERI) group, we were bound to follow the VA/DoD guideline, which was actually somewhat better supported by the evidence. However, clinicians felt that the national guideline conformed better to their knowledge and experience.

SCI: While there was clear evidence supporting the administration of respiratory vaccines to persons with SCI, we also had strong evidence for each of the four interventions we chose to implement at our target sites: patient reminder letters and educational materials, provider education, computerized clinical reminders, and nurse standing orders. This evidence was generated in the context of improving preventive care practice in a wide variety of settings and was generalizable to the SCI care settings.

- *Clear targets/benchmarks for performance are helpful in changing clinical behavior.*

MH: Our program goals were to improve the use of antipsychotic doses within recommended ranges and increase the use of novel antipsychotics. Lack of specific performance goals for the percentage of patients receiving antipsychotic doses within the recommended range and the percentage of patients on novel antipsychotics was a barrier. Clinical presentations that indicate the use of antipsychotics outside of the recommended ranges as well as the continued use of older antipsychotic agents do exist. However, the appropriate percentage of patients that fall into these categories is unclear. While we were able to show reductions in high antipsychotic doses at most translation facilities because most agreed that their baseline rates regarding these practices could be improved, the lack of specific performance goals/benchmarks remained a barrier. Therefore, whenever possible use an evidence-based goal or benchmark to lead a behavior change intervention.

Context: Lessons learned About the Organizational Context for the Change

- *Understand organizational factors that influence the project and identify and utilize local key leaders, experts, and others.*

SCI: We learned about local variations in service delivery while conducting semi-structured and open-ended interviews about interventions (formative evaluation), particularly when we let local staff describe their situation. In some cases, the intervention, as we presented it, did not fit very well with local conditions, but staff had figured out other ways to achieve the same result.

DM: The selection of local champions could probably have been improved by our having better knowledge of the organization. In some cases, we used persons that might not have been viewed as the best experts or clinical leaders within their organizations. In informal talks with persons from sites after the completion of projects, it was recommended that we do more up-front discussion with a variety of people about our plans and how they fit into the organization. Two objectives can be met by increasing input from local staff: 1) improving the interventionists' knowledge about the organization, and 2) better involving those who are in the organization in the planning of the intervention. People want to be asked for their input and advice.

MH: While performing pre-implementation site visits to better understand the organization of care, processes of care and patient flow, attitudes about guidelines and the performance measures in the study, information technology needs, etc., we learned that we had not gathered enough information about the organizational and cultural factors that influence provider behavior. To name a few, issues of organizational and professional culture, incentives, financial concerns, perception of research, and leadership were not fully understood, and thus were not addressed or monitored adequately in our project. In our new project, we plan for more time to completely assess and address these factors within the intervention.

IHD: One of our QUERI project teams had significant exposure to, and interactions with, clinical leadership and staff from most of the sites in the intervention facilities prior to starting interventions. One of the activities had been site visits to all facilities in the VISN to assess implementation of primary care and managed care principles. The information and contacts gained from this experience were critical in our ability to launch and test interventions. However, we learned that even with a good deal of prior contact with leadership and knowledge of the organizations, we did not know as much as we needed to know about how to influence behavior change. For example, the relationships between front-line providers (the people doing the intervention, generally) and their managers, who needed to give them time to work on interventions, were sometimes portrayed as very positive. However, over time it became increasingly clear that the relationships were not as positive. Also, we found that the perception that VHA is doing well in lipid management limited interest in making changes.

- *Use existing organizational structures, communication, and work patterns for the opportunities they offer.*

SCI: The existing organizational relationships, such as those between the SCI [Strategic Healthcare Group](#) (SHG) and the specialized SCI Centers, facilitate the exchange of information and attach authority to communications. For example, it was not necessary to re-establish legitimacy of

knowledge and hierarchy-based authority at each contact. We think this was due to the established legitimate authority of SCI SHG.

Also, we found an advantage to working with centers that had well-established multidisciplinary teams. Personnel were accustomed to delivering care via teams. Persons of various professional training volunteered to attend calls pertaining to the influenza vaccine delivery initiative.

- *While organizational stability is not under your control, expect and be ready to respond to change.*

MH: Over the 12 months of our intervention implementation, mental health chiefs in three of four intervention sites changed. These changes in leadership complicated the involvement of the sites in our project. While the project continued in each of these sites, the level of support from the new chiefs varied. We recommend that project staff expect changes in leadership and staff (we also had changes in clinical staff), and be ready to engage new personnel quickly and personally. Try to have opinion leaders at intervention sites quickly provide information and support to new personnel regarding the project and the project's goals. In our initial depression project (TIDES-WAVES), the project survived the departure of a VISN Director. One key element to making the successful transition was the close relationships with multiple VISN leaders that the study was able to generate. The relationships helped insure continued support for the project during a potentially volatile time. A strong network of support in a VISN (or facility) can help to buffer the potential negative impacts of leadership turnover.

- *Participating in demonstration projects can evolve into routine practice.*

HIV: The extra work involved with participation in the Institute for Healthcare Improvement-style collaboratives soon became routine at the sites. Although there was extra work involved in the beginning of participating in this type of activity, the extra work eventually became part of the normal work routine; that is, old practices and structures that may not have worked well were displaced with new approaches, and even decreased the time needed for addressing some aspects of work (e.g., missed appointments).

- *When planning information technology interventions, know the national and local procedures for their implementation and expect delays.*

MH: In the depression project (TIDES-WAVES), the development of a proposed software system for collaborative care managers went relatively smoothly. Working through the Information Technology process to get the web-based software up and running on the Intranet took more time than anticipated and slowed the progress of the project. Even when the correct approval processes are followed to introduce a new web-site/software package, plan for delays as sites begin to implement the new technology tools. Unforeseen technical and system support problems often arise. MH QUERI investigators are pursuing a Service-Directed project to improve the process of informatics development for translation work. The project will seek new ways to improve

cooperation and collaboration between voices from the field (e.g., researchers and clinicians) and VA technical support/developers.

Facilitation: Lessons learned About the Methods Used to Facilitate Change

- *Emphasize improving care rather than the "research" aspects of an intervention.*

SCI: We offered our interventions to improve vaccine rates to staff at SCI centers as ways to improve particular aspects of care for veterans with SCI, not as research. We have not hidden the research component, but we have not emphasized it, thus we have been able to work more as consultants and respond to the varied circumstances at the SCI centers.

CHF: We found that research is perceived as separate from and not quite part of day-to-day clinical practice, which affected the CHF QUERI Coordinated Care Program. Care providers may prefer to see this as a clinical activity rather than research, which would result in more thorough integration into day-to-day practice. Additionally, applying tools of Continuous Quality Improvement (CQI) could systematically improve the way questions are asked, the way answers are determined, and how problems are solved.

- *Tailor the intensity of facilitation to the needs of each site.*

SCI: Facilitation 'intensity' is not easily measured. We found that some centers have required very little assistance from the facilitators to carry out the interventions. Other centers have required a lot of assistance, while some could have used us more. We emphasize keeping the goal of each intervention in mind and having flexibility in ways to reach each goal at the individual centers. From our experiences, a tool was developed to quantify the degree of implementation of each strategy at each center (over a year), so that we would understand how the sites varied regarding the extent of the implementation. The Intervention Strategy Intensity Scores (ISIS) provide a summary measure of implementation.

- *Create networking opportunities to enhance opinion leader interaction.*

MH: The training session for opinion leaders at the beginning of the MH project, "Antipsychotic Treatment Improvement Program to Reduce Excessive Antipsychotic Doses," allowed for a good deal of interaction, both (social and project-related). Representatives from each intervention site discussed implementation strategies as well as potential barriers and facilitators. However, while we had a number of group conference calls during the intervention, we felt that we did not have the opinion leaders interact enough during the implementation.

- *Respond quickly to questions and concerns from stakeholders.*

MH: Concerns were raised during our project when an alternative set of "recommendations" was issued that did not completely agree with the antipsychotic dose ranges that we were disseminating/implementing. We quickly needed to explain that the VA Psychosis Guidelines (the basis of our project) had not changed, and that the dose recommendations in the tools we disseminated were still evidence-based and endorsed by the VA Guidelines Council. Regularly scheduled weekly conference calls with our identified opinion leaders allowed us to respond quickly and thoroughly to this concern. We learned that when there is a problem, question, or concern, it is beneficial to quickly evaluate the situation and to work on solving the problem as soon as possible. Rapid response is important.

- *Different types of users present different barriers.*

HIV: We implemented 10 guideline-based reminders on Computerized Patient Record System (CPRS) screens at eight sites that advised providers at the time of their patient's visit that current HIV care had failed to meet established standards. We found that some users, such as attending physicians, rarely use the CPRS system and have limited experience with reminders in general.

- *Involve all relevant stakeholders in behavior change interventions.*

MH: The main targets of our intervention were psychiatrists—often the only prescribers of antipsychotics in healthcare systems. While we were, for the most part, pleased with the intervention tools directed at this group, we realized over time that others in the process of delivering care (i.e., nurses, pharmacists, administrators) could also be very influential regarding the use of antipsychotics. The inclusion of these stakeholders in the intervention could improve performance. In our upcoming extension of the project, which will also include performance measures regarding monitoring for side effects and greater use of clozapine, we will test a translation strategy targeting multiple stakeholders in the process of care using a multidisciplinary team-based approach.

- *Participants in implementation efforts may derive benefits from participation.*

HIV: Provider participation in a group-based social support effort to improve quality of care (e.g., IHI Collaboratives) increased work satisfaction. Participants felt that their efforts made a difference in quality of care, and thus helped their clinic become more effective in its work through a greater understanding of how to implement change. Participants learned how to navigate the bureaucracy at their clinics and, in doing so, became familiar faces to those who facilitate organizational change.

- *Customize the intervention to local conditions.*

SUD: The quality improvement objectives may differ depending on site characteristics, such as baseline compliance with best practices and readiness to change. This may require greater focus

on certain program elements at each site. One objective of the SUD project was to improve compliance with dosing recommendations for opioid agonist therapy. At baseline, study clinics ranged from poor compliance with dosing recommendations to full compliance. Among the poor compliance clinics, some were more ready than others to improve compliance with higher dosing of methadone. For those ready to change, education could be tailored more to how to change (what doses should be used), and how to track changes with the provision of frequent feedback. For those less ready to change dosing, educational efforts and frequent feedback were required to demonstrate the relationship between adequate dosing and the desired outcomes of substance use reduction. Clinics with full compliance on dosing recommendations focused quality improvement efforts on other recommendations (e.g., implementing contingency management interventions).

CHF: Based on the preliminary outcomes from the CHF translation project, we recognize the importance of applying different strategies depending on the type of facility (small vs. large), types of caregivers (MD - cardiologist, PA or RN), and the facility's ability to identify at-risk CHF patients. Consider these kinds of variables in developing strategies.

- *Tailor data collection and feedback to varying QI goals at each site, rather than providing the same for all.*

SUD: Monthly data collection and feedback on methadone dosing was important for those clinics working to change dosing strategies, since it provided rapid documentation of progress (or lack thereof) toward goals. For clinics that were already in compliance with dosing benchmarks, periodic feedback on dosing was adequate to assure that they maintained compliance. For clinics whose QI goals were focused on changes in program orientation (moving towards a maintenance orientation) or other longer-term goals, quarterly assessments were sufficient to track changes. More frequent feedback on longer-term goals can be discouraging as the clinic may feel that they are not making progress. We learned that when goals are different at each site or change during the project, the type and frequency of data collection and feedback should be varied based on the QI objectives and the short or long term nature of the change of interest.

- *Using peer (VA) norms rather than national norms was helpful.*

SUD: Using peer feedback from other VA organizations was more powerful than outside or community benchmarks. It avoided arguments such as, "... but VA is different because... so we cannot be expected to be the same as those standards."

- *Use a flexible approach to meet local needs and differences.*

SCI: In order for a center to adopt one of our interventions other steps were required that had not been anticipated. By paying attention to these unanticipated barriers, we learned a great deal about changing the system at levels that are more likely to last. For example, after recommending that everyone use the computerized reminders for respiratory vaccines it was discovered that the programming in the reminders did not identify the target patients. Thus it may not be possible to

start with a completely mapped out process to meet your goal, but progress toward the intended goal will inform your future work.

- *Organizational and design issues impact intervention effectiveness.*

HIV: For our projects using clinical reminders, we found that many providers, particularly physicians, were not comfortable resolving reminders because they found them to be awkward (i.e., not intuitive) and time consuming. False alarming tended to intensify the latter complaint. A full report of a human factors assessment of clinical reminder use can be accessed at <http://www.va.gov/queri-hiv/>.

- *Plan for process evaluation and tracking of the degree of implementation.*

SCI: We have qualitative data from semi-structured and open-ended interviews, conference calls, e-mail messages and reports on our activities to implement and facilitate interventions from the beginning of our first translation project. This data has been useful not only for facilitation of the interventions and assessing their status, but also for evaluation purposes. Some of this data has been useful in ways we never expected. We intend to fully incorporate qualitative methods of data collection and analysis into our next project.

IHD: Qualitative interviews with key clinical participants in the interventions demonstrated that: 1) We did not know exactly what interventions were carried out in each facility, and facilities we had classified as "controls" actually did carry out interventions; 2) Intervention doses were low in all participating facilities; and 3) Organizational barriers were difficult to surmount because of inadequate planning and preparation by intervention participants.

DM: In a number of demonstration projects, we lacked information about some details of implementation. For example, in a project that offered education and feedback, we had limited information about: the extent to which the education and feedback materials sent to each site were distributed, whether they were used, or whether other information would have been preferred by the users. For a case management project, additional information on opinions of the providers about ways the case management activities were helpful or how they might have been improved or modified would have been useful in further understanding the results and in planning future projects. If funds or resources had been available, additional formative and process evaluation would have been helpful.

- *Keeping up momentum is important. Continue contacts, monitor, and respond quickly when the process stalls.*

CHF: It is important to keep up momentum and foster sustainability through communication and devoting attention to increasing understanding about the long-term program goals. It is important to maintain close collaboration with care providers, hospitals, VISN leaders, and others.

MH: Through close monitoring of performance measures (quantitatively) and the project's implementation (qualitatively), we were able to tell when momentum stalled. At these times, we

tried different strategies to re-engage the opinion leaders and other stakeholders at the sites. For example, we tried scheduling conference calls with opinion leaders across sites to stimulate discussion, seeking ideas from opinion leaders about alterations/additions to the intervention, conference calls with mental health chiefs to discuss the project to stimulate activity at the sites, and implementing new intervention tools. One such new intervention tool was a feedback system whereby patient identifiers of specific patients with very high-dose profiles of antipsychotics were delivered to opinion leaders at the intervention sites each month. The opinion leaders were able to approach the clinical teams responsible for these patients in order to explore their antipsychotic management. The feedback system was introduced toward the end of the project, but it produced new performance gains. As well, the opinion leaders were very satisfied with this addition to the intervention.

SUD: Ongoing contact and enthusiasm with the project staff makes a difference. Persons involved in day-to-day activities often have issues that are more pressing than a QI project. We learned that contact with the QUERI translation team was helpful in keeping the projects going. Also, "substantial outsider prompting to create/sustain momentum" was required to keep the project going.

DM: Over time some of the site clinical champions may have lost interest and may have not passed on information or resources sent to the sites. For other projects it was not always clear who was to deal with and problem solve certain issues (research staff or site contact). Questions that should be addressed during the planning of the intervention include:

- What are the roles of the site contacts and how are the roles communicated and agreed upon?
- What kinds of regular communication with site contacts will be part of the project?
- To what extent will site contacts be relied on to problem-solve at their location? How are site contacts perceived at their site?
- What are the best ways to orient the site liaison and keep them involved with the projects?
- What can be done when these persons/roles are not functioning well?

Consider establishing a climate of joint problem solving and distinguishing who is responsible for different kinds of issues.

- *Foster patient contact and facilitation. Find ways to reach patients, enhance patient empowerment, and account for patient differences.*

CHF: It is important to find ways to reach all patients. Possible communication vehicles include community outreach, group visits, making information available on the Internet, and enhancing our understanding of patient preferences. Collaborative efforts of translation and quality enhancement researchers and quality managers may be required to accomplish this. It is critical to empower and motivate patients by encouraging patients' responsibility for their own health, increasing sense of worth, providing knowledge and self-management support, as well as

assessing barriers, problem solving, and goal setting. In the CHF Coordinated Care Program, customization of the intervention for patients included taking into account the severity of illness, and their ability and willingness to implement rigorous follow-up (patient's adherence to the prescribed intervention).

- *Identify and use models and resources that are available.*

SCI: The descriptive model of facilitation by Kitson, Harvey and McCormack was very helpful.¹ It describes three components of facilitation – purposes, activities and skills/attributes of facilitators – on continua. For example, purposes of facilitation range from 'tasks' to 'holistic' roles (activities), which range from 'doing for others' to 'enabling others.'

Other Research Issues

- *The activity of facilitation can create tension in a team of "traditional" health services researchers.*

SCI: Tensions arose over which team members were to have contact with centers and what data was to be noted. This derived from a lack of shared understanding of qualitative and quantitative procedures. These issues can be reduced by regular team discussions about roles. Acknowledging the wide range of skills necessary for an implementation research project and broadening team knowledge about these skills can also help.

- *Select measures carefully, look at differing sources of information (e.g., qualitative and quantitative), and look further if things don't seem to add up.*

SUD: At first it was believed that identifying the number of patients working on a detoxification goal would be a good indicator of the treatment orientation of a clinic; that is, the clinic is either oriented toward detoxification/abstinence vs. indefinite maintenance on methadone (the more desirable treatment orientation), or not. This was not necessarily the case because clinics universally reported that 90 to 100% of their patients were not currently working on a methadone taper goal. However, other indicators of a "detox" orientation, including lower-dose methadone and more punitive responses to continued substance use, were identified through policy reviews with clinic leadership. So, rather than using the proportion of patients with a maintenance goal as demonstration of clinic change, SUD used a more direct measure of program orientation, the Abstinence Orientation Scale³² as the measure for achievement of a maintenance orientation in the clinic.

- *Be aware of benefits and problems of different staffing mechanisms and the impact of the immediate environment.*

DM: One research staff person, who was part time on the project and who spent time in clinical areas, began spending more time on non-project activities than allocated, probably because of her ongoing relationships within the organization and being drawn into high priority activities taking place in the immediate environment. We were not aware of this until it had gone on for some time. This may have affected the outcome because the staff person had less time available for patient and provider contact and follow-up. However, spending some time on non-project activities builds a sense of participation and being part of the team. For another of our projects, one of the nurses was new to the organization. As research staff, she was hired and paid for by the project and was a temporary employee. Because she was not a known entity, she was an outsider, and her tenure was seen as temporary. This appeared to limit her ability to engage with the providers in working with them to suggest and make changes for the organization. On the other hand, another nurse who had worked at the institution and then took on the project tasks was already well known to the clinicians, and this was beneficial to the project functioning. In yet another DM case management project, research project staff were treated differently (e.g., promotion opportunities) and negatively because they were temporary employees. At one DM site, project staff was perceived as being a group apart who did not attempt to "fit in" with the rest of the clinic staff. This then created tensions between the two groups – clinic staff and research staff.

- *Evaluate time and cost burden.*

HIV: We estimated that the average cost of implementing 10 HIV-related clinical reminders per site was moderate at about \$30,000 for the 12-month study period. The average cost of implementing a group-based social support, Institute for Healthcare Improvement-style collaborative intervention per site was estimated – by site personnel – to be minimal at \$6,000 for the 12-month study period. This intervention provided mentored application of a model for rapid quality improvement, adapted from the Institute for Healthcare Improvement's Breakthrough Series, offered to two key HIV care providers from each of eight facilities.⁴³ See the Institute for Healthcare Improvement website for further information about breakthrough collaboratives, <http://www.ihl.org/collaboratives/>.

*This section was collated and written by Mary Hogan, PhD, Implementation Research Coordinator (IRC) for DM QUERI and Hildi Hagedorn, PhD, IRC for SUD QUERI, with substantial input from other IRCs: Barbara Kimmel, PhD (CHF); Laura Kochevar, PhD (CRC); Candy Bowman, PhD (HIV); Anne Sales, PhD (IHD); Geoff Curran, PhD (MH); and Marcia Legro, PhD (SCI), and the Administrative Coordinator for CHF QUERI, Donna Espadas, MPH.

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Section II Part 2: Tools and Toolkits

This section of the Guide is devoted to the tools and toolkits developed and/or used by the QUERI groups in their translation projects.

QUERI-Developed Tools

As QUERI groups have conducted projects focusing on translating evidence-based practices into routine care, many groups developed their own tools to assist in the implementation of these projects. In this section of the Guide, we present brief descriptions of the tools and provide links to the tools themselves, which may be useful for future translation/implementation projects – either as tools to be adopted or to serve as models for new product development. It should be noted that most of these tools are still in a developmental stage. Also, given space constraints, only sample pictures (e.g., screen captures) of some tools (e.g., computerized clinical reminders) that have been developed could be provided. If you have an interest in using any of these reminders, which are not already nationally available, please contact the Implementation Research Coordinator (IRCs) from the relevant QUERI group for more information regarding implementation, evaluation, and the extent of reliability/validity data available, etc.

Other Tools Used in QUERI Projects

Many QUERI groups also have used tools developed by others in their projects, which are not yet at a point ready for distribution. We recommend contacting the IRC for the disease state of interest to see if there are additional tools available.

Structure of this Section

Common categories of tools in QUERI projects include:

- Provider education materials,
- Patient education materials, and
- Clinical practice support tools (e.g., guideline pocket cards or clinical reminders).

Some groups have their tools pre-bundled into electronic toolkits, while other groups have their tools available individually. Below are links to bundles of tools, as well as individual tools. The tools are organized around the disease-specific QUERI groups.

Diabetes Mellitus QUERI

Clinician Education Materials

DM QUERI developed educational briefs for the Diabetes Care Project – an education, profiling and

feedback initiative in VISN 11. The briefs target aspects of the goals of the project: better blood pressure control, glycemic control, and lipid management. Each brief summarizes recent research evidence on the topic and offers suggestions for patient care. The briefs were designed to be distributed to clinicians, either as a follow-up to an educational session, or as a stand-alone item. Because evidence in these areas continues to be developed, such briefs should be updated before use. These are offered as examples only. For more information, please contact Mary.Hogan@med.va.gov, Implementation Research Coordinator for DM QUERI.

- [Summary – Blood Pressure Control](#)
- [Summary – Diabetes and Glucose](#)
- [Summary – Diabetes and Lipids](#)

Diabetes Mellitus Tools

The Need for Tight Blood Pressure Control in Patients

Inadequate treatment of hypertension in people with type 2 diabetes results in many cases of preventable stroke, myocardial infarction, end-stage renal disease, visual impairment/blindness, and premature death. Most veterans with diabetes also have hypertension and meticulous control of their blood pressure is probably the single most important medical intervention in improving their health and prolonging their life. The VA guidelines committee and the Quality Enhancement Research Initiative for Diabetes (QUERI-DM) have made improved blood pressure control one of the priorities for quality improvement in VHA. Here is an excellent opportunity for us to provide the highest quality of care to our patients, allowing them to live longer, healthier lives.

Benefits of Tight Blood Pressure Control in Diabetic Patients

Important studies conducted over the past two years have demonstrated that:

1. Patients with diabetes get at least twice the benefit out of blood pressure control than do non-diabetics.¹
2. Blood pressure has at least as much impact on eye and kidney disease in diabetes as does blood sugar control.²
3. Patients with diabetes require much more rigorous blood pressure control than most patients without diabetes.^{2,3}

Just how tightly blood pressure must be controlled is not precisely known, but for diabetics 140/90 is not sufficient. The HOT Trial³ and the UKPDS² have shown conclusively that lowering diastolic blood pressure to at least less than 85 mg Hg results in substantial improvements in cardiovascular risk. The ADA recommends 130/85. The VA guidelines, which use an evidence-based approach, recommend a target of at least <140/85 but also recognize that even lower blood pressures may be beneficial.

In practice, what is most important is that we are willing to use at least three to four blood pressure medications in pursuit of tight blood pressure control, and that it is a goal important enough to search for the optimal 3-4 medication regimen. However, we must also realize that it will not always be possible to reach the desired blood pressure goal (especially the systolic blood pressure goal, which is particularly difficult to achieve) and we must balance patient side effects while attempting to achieve these tight levels of control. In doing so, the level of blood pressure achieved appears to be much more important than which anti-hypertensive agent is used to achieve it.⁴

This being said, current evidence tends to support ACE-inhibitors as the best first choice agent for most patients with diabetes (with ARBs being an excellent choice for those who cannot take ACE-inhibitors). Calcium channel blockers are not appropriate first line treatments for hypertension for those with diabetes and are best used as a third or fourth choice agent. Not only are calcium channel blockers more expensive than most other agents, but two studies have suggested that when used as a single first choice agent, they are less effective in preventing important cardiovascular outcomes.^{3,5,6} This should not keep us from using calcium channel blockers if needed to decrease blood pressure, but given the higher cost and the possibility of being inferior to other agents in preventing adverse outcomes, they should generally be reserved for instances in which other agents are insufficient or contra-indicated. Also, low dose hydrochlorothiazide (HCTZ) and beta-blockers can be extremely effective in improving blood pressure and decreasing adverse outcomes in people with diabetes. Indeed, in the UKPDS, beta-blockers appeared to be at least as effective in preventing adverse outcomes in type 2 diabetics when compared to ACE-inhibitors.⁴ Low dose HCTZ (often starting at 12.5 mg/day) is an inexpensive and highly effective anti-hypertensive especially for elderly and African-American patients with hypertension and diabetes.¹

Although it may seem preferable to use home readings to treat and monitor blood pressure, only office blood pressures have been used in studies showing adverse outcomes with elevated blood pressures. Thus, office blood pressures are an important monitor of the quality of care. Moreover, monitoring and implementing optimal therapy for our diabetic patients with

Diabetes Mellitus Tools

hypertension must be a key priority. This may not be easy given busy practices and the many important treatments and problems of patients with diabetes. However, tight blood pressure control is substantially more important than many other conditions that might occupy our time and our attention⁷ and we must become more vigilant in addressing this important clinical issue. In particular, evidence suggests that physicians often do not treat systolic hypertension aggressively, even though there is now compelling evidence that aggressive treatment of systolic hypertension is beneficial.¹⁻³

Recommendation

- Be willing to use 3-4 anti-hypertensive medications with a goal of blood pressure <130-135/80-85.
- In, general, blood pressure control is more important than which agent is used, but ACE-inhibitors are the preferred first-choice agents for most patients with diabetes.
- Low doses of HCTZ and beta blockers are effective, inexpensive, and safe
- Calcium channel blockers are sometimes very useful, but should generally be relegated to a third or fourth choice agent

Diabetes Mellitus Tools

1. Curb JD, Pressel SL, Cutler JA, Savage PJ, Applegate WB, et. al. Effect of Diuretic-Based Antihypertensive Treatment on Cardiovascular Disease Risk in Older Diabetic Patients With Isolated Systolic Hypertension. *JAMA*. 1996;276:1886-92.
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3. Kjeldsen SE, Hedner T, Jamerson K, et al. Hypertension optimal treatment (HOT) study: home blood pressure in treated hypertensive subjects. *Hypertension*. 1998;31:1014-20.
4. UK Prospective Diabetes Study Group. Efficacy of atenolol and captopril in reducing risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 39. *BMJ*. 1998;317:713-20.
5. Estacio RO, Jeffers BW, Hiatt WR, Biggerstaff SL, Gifford N, Schrier RW. The effect of Nisoldipine as compared with Enalapril on cardiovascular outcomes in patients with non-insulin-dependent diabetes and hypertension. *N Engl J Med*. 1998;338:645-652.
6. Tatti P, Pahor M, Byington RP, et al. Outcome results of the Fosinopril versus Amolodipine cardiovascular events randomized trial (FACET) in patients with hypertension and NIDDM. *Diabetes Care*. 1998;21:597-603.
7. The CDC Diabetes Cost-effectiveness Group. Cost-effectiveness of Intensive Glycemic Control, Intensified Hypertension Control, and Serum Cholesterol Level Reduction for Type 2 Diabetes. *JAMA*. 2002;287:2542-51.

Diabetes Mellitus Tools

Glycemic Control and Self-Monitoring of Blood Glucose

Self-monitoring of blood glucose (SMBG) is an important part of the care and management of people with diabetes. Nevertheless, how often patients need to perform SMBG can vary substantially between patients, and whether routine monitoring is necessary for all diabetics, especially those not treated with insulin, remains controversial.

Benefits of self-monitoring of blood glucose (SMBG)

For type 1 diabetes, frequent SMBG is considered standard of care.¹ Most often it is recommended that such patients check their sugar about 3-4 times a day but frequency may vary depending on the individual patient's characteristics and treatment goals. Routine SMBG is also generally considered important for patients with type 2 diabetes who are on insulin. This is particularly true for those who are having their insulin doses adjusted regularly, but it is also considered important in minimizing insulin reactions. Unfortunately there is not good evidence from the literature to guide us in the benefits of different intensities of SMBG for type 2 diabetics on insulin.

For those patients not on insulin, the majority of studies have failed to produce evidence of benefit for routine SMBG. Of six randomized controlled trials of SMBG for individuals with diabetes not on insulin, only one showed any sign of improved glycemic control.²

Costs of SMBG

It is important to use SMBG effectively and efficiently since it is a relatively expensive intervention and patients often find it both onerous and painful. In VISN 11, the average cost of monitoring is roughly \$75 per patient per year with a total cost of over \$1.5 million per year. In addition, the costs for SMBG for patients not on insulin vary widely across facilities without any evidence that more aggressive SMBG results in better glycemic control. Responsible use of SMBG supplies can help the VA use its resources more

effectively and reserve the resources for other important diabetes care pharmaceuticals (such as anti-hypertensive and lipid lowering medications).

Recommendation

Self monitoring of blood glucose (SMBG) is an important part of diabetes care and management. All patients should be educated in SMBG. In addition, all patients should know the signs and symptoms of hyperglycemia and hypoglycemia and should be instructed to check their blood sugar if such symptoms occur.

The VA guidelines recommend that the frequency of SMBG be tailored to meet the needs of each individual patient. Occasional routine SMBG (once to 3 times a week), and more frequent monitoring before visits, should suffice for type 2 diabetic patients who are:

- At low risk for hypoglycemia
- Not making regular adjustments to their medications (especially those not on insulin)

Factors that should increase the frequency of routine SMBG include:

- Being on insulin therapy, especially when striving for tight glycemic control
- History of serious hypoglycemia
- Patient preferences and goals
- Lability and fluctuations of patient's glycemic control
- Recently diagnosed diabetes or actively undergoing medication adjustments
- Illness or treatments that put the patient at risk for worsening control (e.g., infection, prednisone, etc.) or hypoglycemia (e.g., poor oral intake of calories and fluids, renal insufficiency, etc.)

1. American Diabetes Association. American Diabetes Association: Clinical Practice Recommendations 2000. *Diabetes Care*. 2000;23, supplement 1.



Quality Enhancement Research Initiative **Diabetes Mellitus**

Diabetes Mellitus Tools

2. Faas A, Schellevis FG, Van Eijk JTM. The efficacy of self-monitoring of blood glucose in NIDDM subjects. *Diabetes Care*. 1997;20:1482-6

Diabetes Mellitus Tools

The Importance of Eliminating Poor Lipid Control in Patients with Type 2 Diabetes

Although treatment of blood sugar can help prevent devastating eye, kidney, and nerve complications, we must never forget that the most common causes of death and morbidity in type 2 diabetes are related to cardiovascular disease. Therefore, we must aggressively treat modifiable cardiovascular risk factors and substantial elevations of LDL must be one of our highest treatment priorities.¹

The optimal LDL-cholesterol level in patients with type 2 diabetes is uncertain. Some evidence suggests that there may be benefit in pushing levels below 100 mg/dL (as recommended by the ADA).²⁻⁴ However, it is likely that the majority of the excess mortality risk occurs at LDL levels above 130 mg/dL. Even for those with known coronary artery disease (CAD) extreme lowering of LDL values has mainly been associated with fewer non-fatal events, not with improved survival. Recent studies suggest that patients with diabetes with known CAD may achieve more benefit than the general population when those with LDLs greater than 130 mg/dL are treated with statins.^{1,4} Elimination of substantially elevated LDL levels in individuals with type 2 diabetes is likely to be highly cost-effective and must be one of the highest priorities for VA diabetes care. In addition, since diabetics have a high annual incidence of cardiovascular events, it is critical to get LDL-C below this high-risk level within 4-6 months whenever possible.

Just when and how aggressively triglycerides and low HDL syndrome should be treated in type 2 diabetes remains controversial. It is well established that low HDL, particularly in combination with elevated triglycerides, is an independent risk factor for CAD in patients with type 2 diabetes.^{3,5-8} However, there is no clear evidence that treatment of this syndrome is beneficial in patients with type 2 diabetes.⁸ Recently, a study of patients with low HDL and low LDL syndrome demonstrated substantial improvement in cardiovascular events with gemfibrozil treatment.⁹

Recommendation

- Lipid profiles should be obtained on patients with diabetes annually or as indicated to guide therapy
- Treatment with aggressive lipid lowering therapy should be instituted as needed to achieve an LDL value < 130 mg/d.
- Get LDL-C under-control within 4-6 months whenever possible (by dosing statins so as to meet goals quickly and arranging 1-2 month follow-up until the minimum LDL-C goal (< 130mg/dl) is achieved

1. The CDC Diabetes Cost-effectiveness Group. Cost-effectiveness of Intensive Glycemic Control, Intensified Hypertension Control, and Serum Cholesterol Level Reduction for Type 2 Diabetes. *JAMA*. 2002;287:2542-51.

2. Pyorala K, Pedersen TR, Kjekshus J, Faergeman O, Olsson AG, Thorgeirsson G. Cholesterol lowering with simvastatin improves prognosis of diabetic patients with coronary heart disease. A subgroup analysis of the Scandinavian Simvastatin Survival Study (4S). *Diabetes Care*. 1997;20:614-20.

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5. Haffner SM. The Scandinavian Simvastatin Survival Study (4S) subgroup analysis of diabetic subjects: implications for the prevention of coronary heart disease [editorial; comment]. *Diabetes Care*. 1997;20:469-71.

6. Lehto S, Ronnema T, Haffner SM, Pyorala K, Kallio V, Laakso M. Dyslipidemia and hyperglycemia predict coronary heart disease events in middle-aged patients with NIDDM. *Diabetes*. 1997;48:1354-9.

7. Uusitupa MI, Niskanen LK, Siitonen O, Voutilainen E, Pyorala K. Ten-year cardiovascular mortality in relation to risk factors and abnormalities



Quality Enhancement Research Initiative **Diabetes Mellitus**

Diabetes Mellitus Tools

in lipoprotein composition in type 2 (non-insulin-dependent) diabetic and non-diabetic subjects.

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Ischemic Heart Disease QUERI

Assessment of Organizational Readiness for Evidence-Based Care for IHD

This survey was designed by IHD QUERI to assist in the planning stages of a translation/quality improvement project in IHD. The survey elicits information on beliefs about the strength of the evidence base in IHD management and the context of care provision. A few of the domains covered in the survey include: organizational leadership, process, culture, and resources. Please contact Anne Sales, PhD, IHD QUERI Implementation Research Coordinator, (ann.sales@med.va.gov) for more information on the survey.

- [IHD Pilot Organization tool](#)

Facilitator Packet for IHD QUERI Quality Improvement

This packet was developed specifically for IHD QUERI's translation project concerning monitoring lipid levels in patients with ischemic heart disease. The packet outlines strategies for developing an intervention to improve lipid monitoring and provides tools to help in the implementation. The packet is designed to assist small group facilitators in a kick-off meeting to help participants plan and carry out an intervention in their facilities.

- [IHD Facilitator Packet](#)

IHD Tracking Database

This database was developed in Microsoft Access to assist in conducting process evaluations concurrently with implementation of interventions to improve lipid measurement and management. It has been adapted for use in other process evaluations. Adaptation requires some knowledge of MS Access and, for advanced adaptation, the ability to program in Visual Basic.

- [IHD Tracking Database](#)

IHD National Lipid Clinical Reminders

These two reminders were developed by IHD QUERI in collaboration with Systems Design and Development, an office of the VA national Office of Information. The first reminder is triggered to appear in the reminders folder of a patient's CPRS record if the patient has ischemic heart disease, is being seen in primary care or selected other clinics, and does not have a low-density lipoprotein (LDL) cholesterol value recorded within the last 24 months. The second reminder is triggered if the patient has a current LDL value recorded, and the value is above 130 mg/dL.

- For information about National Lipid Reminders, contact Anne Sales, PhD, IHD QUERI's Implementation Research Coordinator at Ann.Sales@med.va.gov

Ischemic Heart Disease Tools

Assessment of Organizational Readiness for Evidence-Based Health Care Interventions

Name of Station: _____

I. Evidence Assessment

Finding: Patients with Ischemic Heart Disease should have a current LDL-c measurement at or below 100 mg/dL.

Based on your assessment of the evidence basis for this statement, please rate the strength of the evidence in your opinion, on a scale of 1 to 5 where 1 is very weak evidence and 5 is very strong evidence:

very weak	weak	neither weak nor strong	strong	very strong
1	2	3	4	5

Now, please rate the strength of the evidence basis for this statement based on how you think respected clinical experts in your institution feel about the strength of the evidence, on a 1 to 5 scale similar to the one above:

very weak	weak	neither weak nor strong	strong	very strong
1	2	3	4	5

For each of the following statements, please rate the strength of your agreement with the statement, from 1 (strongly disagree) to 5 (strongly agree)

(Research) The proposed practice changes or guideline implementation:

- a) are(is) supported by RCTs or other scientific evidence from the VA
- b) are(is) supported by RCTs or other scientific evidence from other health care systems
- c) should be effective, based on current scientific knowledge
- d) are(is) experimental, but may improve patient outcomes
- e) likely won't make much difference in patient outcomes

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5



Quality Enhancement Research Initiative

Ischemic Heart Disease Tools

(Clinical Experience) The proposed practice changes or guideline implementation:

- a) are supported by clinical experience with VA patients
- b) are supported by clinical experience with patients in other health care systems
- c) conform to the opinions of clinical experts in this setting
- d) have not been attempted in this clinical setting

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Patient Preferences) The proposed practice changes or guideline implementation:

- a) have been well-accepted by VA patients in a pilot study
- b) are consistent with clinical practices that have been accepted by VA patients
- c) take into consideration the needs and preferences of VA patients
- d) appear to have more advantages than disadvantages for VA patients

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

II. Context Assessment

For each of the following statements, please rate the strength of your agreement with the statement, from 1 (strongly disagree) to 5 (strongly agree).

(Culture) Senior leadership/clinical management in your organization:

- a) reward clinical innovation and creativity to improve patient care
- b) solicit opinions of clinical staff regarding decisions about patient care
- c) seek ways to improve patient education and increase patient participation in treatment

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

Ischemic Heart Disease Tools

(Culture) Staff members in your organization:

- a) have a sense of personal responsibility for improving patient care and outcomes
- b) cooperate to maintain and improve effectiveness of patient care
- c) are willing to innovate and/or experiment to improve clinical procedures
- d) are receptive to change in clinical processes

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Leadership) Senior leadership/Clinical management in your organization:

- a) provide effective management for continuous improvement of patient care
- b) clearly define areas of responsibility and authority for clinical managers and staff
- c) promote team building to solve clinical care problems
- d) promote communication among clinical services and units

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Measurement) Senior Leadership/clinical management in your organization:

- a) provide staff with information on VA performance measures and guidelines
- b) establish clear goals for patient care processes and outcomes
- c) provide staff members with feedback/data on effects of clinical decisions
- d) hold staff members accountable for achieving results

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Readiness for change) Opinion leaders in your organization:

- a) believe that the current practice patterns can be improved
- b) encourage and support changes in practice patterns to improve patient care
- c) are willing to try new clinical protocols
- d) work cooperatively with senior leadership/clinical management to make appropriate changes

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5



Quality Enhancement Research Initiative

Ischemic Heart Disease Tools

(Resources) In general in my organization, when there is agreement that change needs to happen:

- a) we have the necessary support in terms of budget or financial resources
- b) we have the necessary support in terms of training
- c) we have the necessary support in terms of facilities
- d) we have the necessary support in terms of staffing

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

III. Facilitation Assessment:

For each of the following statements, please rate the strength of your agreement with the statement, from 1 (strongly disagree) to 5 (strongly agree):

(Characteristics) Senior leadership/clinical management will:

- a) propose a project that is appropriate and feasible
- b) provide clear goals for improvement in patient care
- c) establish a project schedule and deliverables
- d) designate a clinical champion(s) for the project

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Characteristics) The Project Clinical Champion:

- a) accepts responsibility for the success of this project
- b) has the authority to carry out the implementation
- c) is considered a clinical opinion leader
- d) works well with the intervention team and providers

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Role) Senior Leadership/Clinical management/staff opinion leaders:

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
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Quality Enhancement Research Initiative

Ischemic Heart Disease Tools

- a) agree on the goals for this intervention
- b) will be informed and involved in the intervention
- c) agree on adequate resources to accomplish the intervention
- d) set a high priority on the success of the intervention

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Role) The implementation team members:

- a) share responsibility for the success of this project
- b) have clearly defined roles and responsibilities
- c) have release time or can accomplish intervention tasks within their regular work load
- d) have staff support and other resources required for the project

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Style) The implementation plan for this intervention:

- a) identifies specific roles and responsibilities
- b) clearly describes tasks and timelines
- c) includes appropriate provider/patient education
- d) acknowledges staff input and opinions

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Style) Communication will be maintained through:

- a) regular project meetings with the project champion and team members
- b) involvement of quality management staff in project planning and implementation
- c) regular feedback to clinical management on progress of project activities and resource needs
- d) regular feedback to clinicians on effects of practice changes on patient care/outcomes

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5



Quality Enhancement Research Initiative

Ischemic Heart Disease Tools

(Style) Progress of the project will be measured by:

- a) collecting feedback from patients regarding proposed/implemented changes
- b) collecting feedback from staff regarding proposed/implemented changes
- c) developing and distributing regular performance measures to clinical staff
- d) providing a forum for presentation/discussion of results and implications for continued improvements

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Resources) The following are available to make the selected plan work:

- a) staff incentives
- b) equipment and materials
- c) patient awareness/need
- d) provider buy-in
- e) intervention team
- f) evaluation protocol

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

(Evaluation) Plans for evaluation and improvement of this intervention include:

- a) periodic outcome measurement
- b) staff participation/satisfaction survey
- c) patient satisfaction survey
- d) dissemination plan for performance measures
- e) review of results by clinical leadership

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

Ischemic Heart Disease Tools

Facilitator's Packet

Ischemic Heart Disease Tools

Group Facilitation Outline

Problem: Monitoring lipid levels in-patients with IHD.

Goal: Reduce LDL levels to below 100mg/dl in patients with IHD

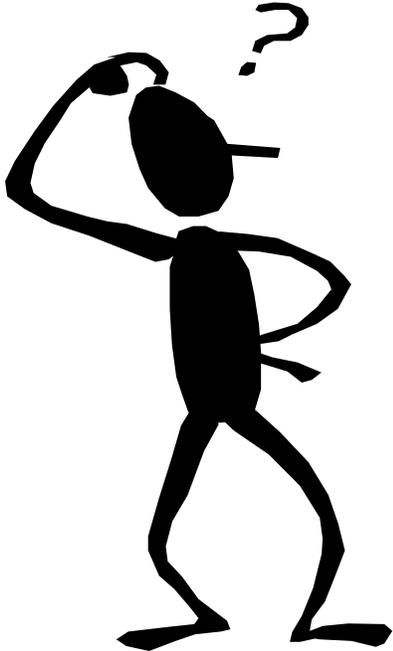
Force Field Analysis:

- I. Driving forces vs. Restraining forces (overhead)
 - A. Patient influences
 - B. Personal influences
 - C. Educational influences
 - D. Economic influences
 - E. Administrative factors
 - F. Other factors (not included above)
 - G. Questions to add if group is lost:
 1. What about your VA facility makes it easy for clinicians to comply with this intervention?
 2. Why might clinicians NOT wish to participate with this intervention?
- II. If you get stuck on one issue...
 - A. Use affinity grouping (like groups organize to present items)
 - B. Multivoting to identify the most likely items to present the most significant barriers/driving forces to implementation
- III. Support Strategies
 - A. Give specific examples of strategies
 1. Buy in from Chief of Medicine (Staff)
 2. Verbal support by COM for PR purposes
 3. Clinician education
 - B. Alternative courses of action
 - C. Prioritize strategies
 - D. Get feedback as to what strategies can be used for each facility
- IV. Brief presentation from each group summarizing the general key implementation problems and general key support strategies identified by each facility.
- V. Review the intervention step-by-step (overhead)
 - A. How could the process of care breakdown or fail to follow the recommended guideline (failure mode effects analysis table)
 1. Brainstorm about reasons this may occur

Ischemic Heart Disease Tools

2. The severity of each failure (scale of 1 to 5)
 3. Likelihood of failure occurring (scale 1 to 5)
 4. Impact (S X L)
 - B. What would support the implementation of the guidelines and address the potential problems cited above.
- VI. Prepare brief presentation for summarizing the key implementation problems and key support factors identified by each facility specific for the intervention.
- VII. Design a Measurement System
- A. Input measures (patients being managed with the intervention)
 1. Lipid Measurement and Management System should correctly identify these patients
 2. Validation can occur at the facility
 - B. Process measures (key elements of the intervention being followed)
 1. Are patients being contacted to have their lipids checked?
 2. Educational materials up-to-date and accessible?
 3. Proportion of patients participating (where applicable)
 4. Proportion of providers participating (where applicable)
 - C. Outcome measures (intervention achieving its key goals)
 1. Feedback from LMMS—changes in LDL levels
 2. Other key outcomes include: hospital admissions, cardiac procedures, death, etc
- VIII. Data Collection Questions/Technique
- A. What forms should be used to collect the data?
 - B. Who will collect the data?
 - C. How often will the data be collected?
 - D. Who will be responsible for maintaining the measure?
 - E. What is the unit of analysis?
 - F. How will the data be fed back to Seattle?
- IX. Logistics
- A. Assess environment/technical issues
 - B. Leader/director needs to be chosen
 - C. Assign responsibilities
 1. When will activities be done?
 2. How much time each activity will take?
 - D. Do any additional people need to be recruited?
 - E. Brain-storm alternatives
- X. Groups should prepare a brief presentation to summarize what their measurement system will look like.

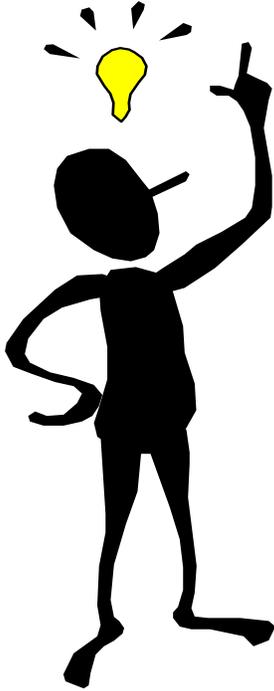
Ischemic Heart Disease Tools



I'm hoping a lot less of you are looking like this...

...and a lot more are looking like this.

Ischemic Heart Disease Tools



Ischemic Heart Disease Tools

Driving Forces

1. Patient Influences

2. Personal Influences

3. Education Influences

4. Economic Influences

5. Administrative Factors

6. Other factors

Restraining Forces

1. Patient Influences

2. Personal Influences

3. Education Influences

4. Economic Influences

5. Administrative Factors

6. Other factors

Questions to clarify points:

- 1. What about your VA facility makes it easy for clinicians to comply with this intervention?**
- 2. Why might clinicians NOT wish to participate?**

Ischemic Heart Disease Tools

Comment:
This page can be used on an overhead projector as a transparency.

Support Strategies

◆ Examples should be given to help participants brainstorm

Support from the Chief of Medicine (Staff) is important :

- (a) Logistically he has to know what research projects are taking place in the institution**
- (b) He is an opinion leader and is respected by other clinicians**
- (c) Other clinicians will accept the intervention more readily if the COM verbally supports it.**

Clinician Education

- (a) Clinical champion should do short educational sessions**
- (b) Review IHD Module 8 Guidelines**

◆ Alternative Courses of Action

Specify if certain strategy does not work what is the alternative?

◆ Prioritize Strategies

Numerically list them in order of priority to get a clear picture of the importance of each

Ischemic Heart Disease Tools

Comment/Suggestions:
Simultaneously write strategies on the flip chart or white board while participants make suggestions with an

Presentations from each facility describing general intervention implementation problems and support strategies

Ischemic Heart Disease Tools

**Step-by-Step Review of the Intervention
(Failure Mode Effects Analysis Table)**

Intervention Step	Reasons for Breakdown	Severity (1 to 5)	Likelihood (1 to 5)	Impact (S X L)	Support factors
1. Personnel: Physician Director Lipid Nurse Specialist Pharmacist	1. No \$ to hire new employees 2. No incentive for new employees to take on more responsibility 3. No qualified personnel	5	3	15	No \$ needed present clinical champions willing to take on responsibilities and are qualified

Comment/Suggestion:
You can use this as a transparency and add steps specific to your intervention so have the steps ready in mind to jot down. The other columns can be filled in by the participants. Example given was for the case management intervention

Ischemic Heart Disease Tools

Each Group prepares a brief presentation summarizing the key implementation problems and key support factors identified for the intervention

Measurement System

❖ Input Measures

Patients managed with the intervention

Lipid Measurement and Management System database should correctly identify patients
Validation can occur at the facility level

❖ Process Measures

Specific to the intervention: key elements of the intervention that need to be followed

Examples:

- 1) Are patients being contacted to have their lipids checked?
- 2) Are educational materials up-to-date and accessible?
- 3) What is the proportion of patients participating?
- 4) What is the proportion of providers participating?

❖ Outcome Measures

Is the intervention achieving its goals?

Lipid Measurement and Management System will be gathering this data.

Ischemic Heart Disease Tools

Data Collection Questions

Measure	What forms/databases should be used to collect the data?	How Often?	Who is responsible for maintaining the measure?	Who will collect the data?	Feedback method and frequency

Comment/Suggestion: Since LMMS will be able to track outcomes, the emphasis on data collection should be to track process measures ideally with a local database.

Logistical Questions

➤ Environment/Technical Questions

Is there physical space for the intervention to take place?

Is there access to computers/software to keep track of data and patients?

➤ Personnel Issues

Let's start naming names:

Leader/Director needs to be chosen

Who will serve what function?

When will activities be done?

How much time will each activity take?

➤ Do additional people need to be recruited?

➤ Brainstorm alternative plans

Ischemic Heart Disease Tools

Facility Groups should meet to summarize what their measurement system will look like

Mental Health QUERI

Schizophrenia Project (ATIP)

Fact Sheet on VHA Schizophrenia Guidelines

This one page fact sheet provides succinct information on VHA guideline recommendations for the use of antipsychotic medications (e.g., dosing, switching from conventional to novel antipsychotics).

- [Schizophrenia Guidelines Fact Sheet](#)

Fact Sheet on Cost-Effectiveness of Novel Antipsychotic Medications

This one page fact sheet briefly summarized the literature on the cost-effectiveness of novel antipsychotic medications.

- [Cost-effectiveness of Novel Antipsychotics Fact Sheet](#)

Pocket Card on Antipsychotic Treatment for Schizophrenia

This pocket card presents information from the VHA guidelines on the appropriate use of novel antipsychotic medication.

- [Pocket Card on Antipsychotic Treatment](#)

VHA Psychosis Guidelines Help File

This help file/program can be loaded onto any computer. It is organized around the modules in the VHA Psychosis Guidelines. Diagrams and flowcharts visually depict the psychosis treatment algorithms. Users of the help file can use their cursor and mouse to highlight and view annotations on the nodes of the algorithms.

- [Psychosis Guidelines Help File](#) (To download this file, place your cursor on the link, right click, and save to your desktop.)

Pharmacy Order-Entry "Reminder" on Dose Recommendations for Antipsychotics

This tool is a dose "reminder" tag that appears on the pharmacy order entry screen in CPRS when a physician orders an antipsychotic medication. When this is installed on CPRS, every time an antipsychotic medication is ordered, the VHA guideline-recommended dose range appears in the order entry screen. See an example pharmacy order entry screen below. Contact the Mental Health QUERI Implementation Research Co-Coordinator (Jeffrey.Smith6@med.va.gov) for more information on how to use this tool.

- [Pharmacy Order-Entry "Reminder"](#)

Clinical Reminder on Olanzapine and Diabetes/high lipids

This clinical reminder notifies physicians that a patient is being treated with olanzapine and has also been identified as having diabetes mellitus and/or high lipids. Olanzapine has been associated with elevations in both blood sugar and lipids. The reminder offers responses or potential clinical adjustments to physicians. See the sample reminder depiction below. Contact the Mental Health QUERI Implementation Research Co-Coordinator (Jeffrey.Smith6@med.va.gov) for more information on how to install this reminder in your facility.

- [Clinical Reminder on Olanzapine and Diabetes](#)

Feedback Performance Report on Use of Antipsychotics

This report was designed specifically for Mental Health QUERI's initial translation project in the area of antipsychotic prescribing. Mental Health QUERI provided monthly feedback to intervention sites on several performance measures related to the use of antipsychotic medications, such as dosing, switching to novel medications, use of medications to treat side effects of antipsychotics, etc. MHQ can provide the programming code and associated steps necessary to produce these reports at any VA facility. Contact the MHQ Implementation Research Co-Coordinator (Jeffrey.Smith6@med.va.gov) for more information on how to use this tool.

- [Feedback Performance Report](#)

Flyer on Newer Antipsychotic Medications for Patients/Families

This flyer briefly presents information on novel antipsychotics and provides other treatment recommendations for schizophrenia. It was developed for patients and their families. The flyer was developed in collaboration with the South Central Mental Illness Research, Clinical, and Education Center.

- [Flyer on Newer Antipsychotics](#)

Wall poster: "Ask your Doctor If Newer Antipsychotics are Right for You"

This poster was designed for display in waiting rooms and clinics. It is designed also to hold the flyers listed above in a pocket on the poster. The poster was developed in collaboration with the South Central Mental Illness Research, Clinical, and Education Center.

- [Wall Poster](#)

Depression in Primary Care Project (TIDES-WAVES)

Education Program for Primary Care Providers on Collaborative Care for Depression

Materials for this program include:

- Three PowerPoint educational presentations for providers (recognizing depression, medication management, and interviewing patients):

- Depression care dissemination notebook with education materials (contact the Mental Health QUERI Implementation Research Co-Coordinator (Jeffrey.Smith6@med.va.gov) for more information), and
- Depression care pocket guide.

These materials were developed to use in clinics that are adopting a collaborative care model for treating depression in primary care. Please see the project description in the "Translation Studies" section of the Guide for more information on collaborative care for depression.

- http://www.va.gov/tides_waves/docs/RecognizingDepression.ppt
- http://www.va.gov/tides_waves/docs/medicmanag.ppt
- http://www.va.gov/tides_waves/docs/InterviePatients.ppt
- [MHQ Pocket Card](#)

Educational Programs for VISN Leaders on Collaborative Care for Depression

This program contains a PowerPoint presentation and a dissemination notebook with educational materials for VISN leaders (contact the Mental Health QUERI Implementation Research Co-Coordinator (Jeffrey.Smith6@med.va.gov) for more information on the notebook). The project that developed this program worked in three VISNs to promote VISN-wide adoption of collaborative care for depression in primary care. VISN leadership was integral to the success of the project, and this program facilitated VISN leader buy-in and activity in support of the project (e.g., redistribution of resources).

- http://www.va.gov/tides_waves/docs/tidesorientation.ppt

Depression Care Website

This website contains information about the TIDES-WAVES intervention. The study's procedures and outcomes are documented here, and you have access from the site to many of the tools (education materials, etc.) used in the intervention.

- http://www.va.gov/tides_waves

CPRS Progress Note Templates for Collaborative Care for Depression

These are progress note templates for use in the VA computerized medical record. See the following website for more details and examples.

- http://www.va.gov/tides_waves/docs/templateexplanationreview.htm

Mental Health Tools



Guidelines for Antipsychotic Treatment for Schizophrenia

Based on VHA Schizophrenia Practice Guidelines¹

What Are the Guideline Recommendations For Switching Patients From Conventional To Newer Antipsychotics?

- ▶ Treat patients who are intolerant of an antipsychotic due to extrapyramidal side effects with a newer antipsychotic: risperidone, olanzapine, quetiapine, or ziprasidone
- ▶ Treat patients who have had a failed trial of a conventional or newer antipsychotic agent with a newer agent not previously tried (risperidone, olanzapine, quetiapine, ziprasidone) or clozapine
- ▶ Treat patients with no history of antipsychotic treatment with a recommended dose of a conventional or newer antipsychotic

What Are the Recommended Doses for Antipsychotics?

VHA Schizophrenia Practice Guidelines recommend prescribing moderate doses of antipsychotic medications as follows:

RECOMMENDED DOSES FOR ANTIPSYCHOTIC MEDICATIONS	
Drug	Usual Daily Oral Dose (mg)
● New Antipsychotics	
Olanzapine	5 - 25
Quetiapine	150 - 750
Risperidone	2 - 8
Ziprasidone	40 - 160
● Clozapine	
Clozapine	250 - 800
● Conventional Antipsychotics	
Chlorpromazine	300 - 1000
Fluphenazine	2 - 20
Haloperidol	5 - 20
Loxapine	20 - 100
Molindone	20 - 100
Perphenazine	8 - 64
Thiothixene	5 - 30
Trifluoperazine	5 - 30

What Can Clinicians Do To Follow Guidelines?

To follow guidelines for switching—clinicians can utilize the Clinical Reminder in CPRS for switching inpatients from conventional to newer medications. This new reminder, developed by Mental Health QUERI, will be active for all inpatients with schizophrenia who are prescribed a conventional antipsychotic prior to admission. Clinicians and managers can also monitor switching rates at their facility using periodic Mental Health QUERI feedback reports.

To follow guidelines for moderate doses—clinicians can:

- ▶ Use periodic Mental Health QUERI feedback reports to determine rates of high-dose prescribing at their facility
- ▶ Document their reasons for prescribing out-of-range antipsychotic doses
- ▶ When out-of-range doses are not indicated, either gradually adjust the dose into the recommended range or gradually switch the medication to a previously untried antipsychotic

How Well Are VA Clinicians Following These Recommendations?

Variation exists in several areas among clinicians at VA Medical Centers, including:

- ▶ Prescribing rates for the newer antipsychotics
- ▶ Rates of switching inpatients with schizophrenia who may have had a failed trial of a conventional antipsychotic to the newer antipsychotics
- ▶ Rates of adhering to guideline recommendations for moderate antipsychotic dose—most studies show 40-50% of patients are prescribed doses outside of guideline-recommended ranges
- ▶ Rates of clozapine prescribing—only 3.0% of veterans nationwide receive this agent, far fewer than expected in a population of patients with chronic schizophrenia

What about Cost?

According to a review of the current literature on cost effectiveness of new antipsychotics, most studies report that annual savings from decreased hospital days of care exceed medication costs. This suggests a cost advantage in the short term. In addition, reducing inappropriately high doses of newer antipsychotic medications will reduce medication costs.

¹ Mental Health Strategic Health Care Group, The Psychosis Working Group. *Veterans Health Administration Clinical Guidelines for Management of Persons with Psychoses*. Washington DC: Department of Veterans Affairs, 1997

For more information about this project, contact:
Dale Chadwick, MBA
2200 Fort Roots Drive, 152/NLR
North Little Rock, AR 72114
Phone: 501-257-1068; Fax: 501-257-1707
E-mail: rousmanieredalec@uams.edu

For more information about clinical practice guidelines for schizophrenia, see:

American Psychiatric Association. Practice guideline for the treatment of patients with schizophrenia. *Am J Psychiatry* 1997; 154:1-63.
Lehman AF, Steinwachs DM, Co-Investigators of the PORT Project. Translating research into practice: The schizophrenia patient outcomes research team (PORT) treatment recommendations. *Schizophr Bull* 1998; 24: 1-10.
Owen RR, Thrush CR, Kirchner JE, Fischer EF, Booth BM. Performance measurement for schizophrenia: Adherence to guidelines for antipsychotic dose. *Int J Qual Health Care* 2000; 12: 475-482.

Novel Antipsychotics and Cost-Effectiveness

From a Review of Current Peer-Reviewed Literature on Cost Studies

Are Novel Antipsychotic Medications Cost Effective?

To answer this question, researchers from Mental Health QUERI examined current studies that evaluated cost differentials between second generation (or “novel”) antipsychotic medications and traditional antipsychotic medications. These studies were published in peer-reviewed publications over the past seven years.

Taken as a whole, these studies strongly support cost savings associated with novel antipsychotic medications. Twelve of the 20 studies revealed that novel antipsychotics were associated with cost savings. Of the eight remaining studies, six found no difference in cost, one found a significant increase in total costs, and one simulation of treatment of “high utilization” patients (with two relapses and/or hospitalizations within one year) reported a cost advantage for traditional depot antipsychotic medications over novel agents.

In studies indicating cost advantages, the most important factor associated with these savings was *reduced inpatient days for patients on novel agents*. Cost advantages for patients in acute stages of schizophrenia appeared within two months of starting the novel agent. Longer term cost comparisons of novel and traditional medications have not been conducted in clinical studies. However, simulation models suggest that cost advantages may continue over several years or more in certain patient populations.

Researchers at Mental Health QUERI are continually reviewing the literature for new studies directly related to cost effectiveness. The abstract of this literature review and a table that summarizes its findings are available upon request.

Studies had to focus on cost evaluation and be peer-reviewed to be included in this literature review. Details of this review can be found in *Economic Evaluations of Novel Antipsychotic Medications: A Literature Review*, by researchers at the Department of Psychiatry at the University of Arkansas for Medical Sciences and the VA HSR&D Center for Mental Healthcare and Outcomes Research in Little Rock, AR.

For additional information about cost-effectiveness of novel antipsychotics or this review, contact: Dale Chadwick, MBA, 2200 Fort Roots Drive, 152/NLR, North Little Rock, AR 72114; Phone: 501-257-1068; Fax: 501-257-1707; E-mail: rousmanieredalec@uams.edu.

Translating Research Into Practice

Antipsychotic Treatment for Schizophrenia

Mental Health QUERI seeks to improve medication management practices for patients with schizophrenia. Research has shown that antipsychotic prescribing often deviates from VHA schizophrenia guideline recommendations to:

- switch patients who are not responding to current treatment to newer antipsychotics, and
- use moderate doses of antipsychotics.

This pocket card summarizes these recommendations from the VHA Clinical Guidelines for Management of Persons with Psychoses (1997). Usual dose ranges and side effects are included.

RECOMMENDATIONS: Newer Antipsychotics

- Use one of the newer agents when the patient:
 - does not have a prior history of treatment with an antipsychotic,
 - is intolerant of his/her current antipsychotic (EPS), or
 - has had one failed trial of a conventional or other new antipsychotic.

Olanzapine	5 - 25 mg
Quetiapine	150 - 750 mg
Risperidone	2 - 8 mg
Ziprasidone	40 - 160 mg

- Use clozapine when the patient has had two failed trials of antipsychotics (including at least one trial of a new antipsychotic).

Clozapine	250 - 800 mg
-----------	--------------

May, 2001

RECOMMENDATIONS: Conventional Antipsychotics

- Use one of the conventional agents (or a newer agent) when the patient does not have a prior history of treatment with an antipsychotic.

Chlorpromazine	300 - 1000 mg
Fluphenazine	2 - 20 mg
Haloperidol	5 - 20 mg
Loxapine	20 - 100 mg
Molindone	20 - 100 mg
Perphenazine	8 - 64 mg
Thiothixene	5 - 30 mg
Trifluoperazine	5 - 30 mg

- Use one of these depot agents when there is a history of poor compliance.

Fluphenazine decanoate	6.25 - 25 mg q 2 weeks or 12.5 - 50 mg q 4 weeks
Haloperidol decanoate	50 - 200 mg q 4 weeks

Antipsychotic Side Effects

	Risperidone	Olanzapine	Quetiapine	Ziprasidone [†]
Anticholinergic	±	+ to ++	±	±
EPS	± to +	± to +	0 to ±	± to +
Orthostasis	++	+	++	+
↑ Prolactin	++	±	±	±
Sedation	+	++	++	+
Weight Gain	++	+++	++	+

	Clozapine [*]	Conventionals ^{**}
Anticholinergic	+++	± to +++
EPS	0 to ±	+ to +++
Orthostasis	+++	+ to +++
↑ Prolactin	0	++ to +++
Sedation	+++	+ to +++
Weight Gain	+++	+ to ++

[†]Also, QTc prolongation

^{*}Also, greater risk of agranulocytosis and seizures

^{**}See VHA Psychoses Guidelines for more information

MENTAL HEALTH
QUERI
Quality Enhancement Research Initiative

PHARMACY ORDER ENTRY

Medication Order [X]

OLANZAPINE TAB [Change]

Recommended dose range for patients with schizophrenia: 5-25 MG Daily

Dosage	Complex	Route	Schedule
		ORAL	<input type="checkbox"/> PRN
2.5MG	2.908	ORAL	AC
5MG	3.431	G TUBE	AC&HS
7.5MG	3.429		BID
10MG	5.215		BID-BEFORE MEALS
15MG	6.858		BID-DIURETICS
			BID-INSULIN

Comments: []

Days Supply: [0] Quantity: [0] Refills: [0]

Pick Up: Clinic Mail Window

Priority: [ROUTINE]

OLANZAPINE TAB
TAKE BY MOUTH
Quantity: 0 Refills: 0

[Accept Order] [Quit]

Olanzapine Reminder

Purpose of Reminder

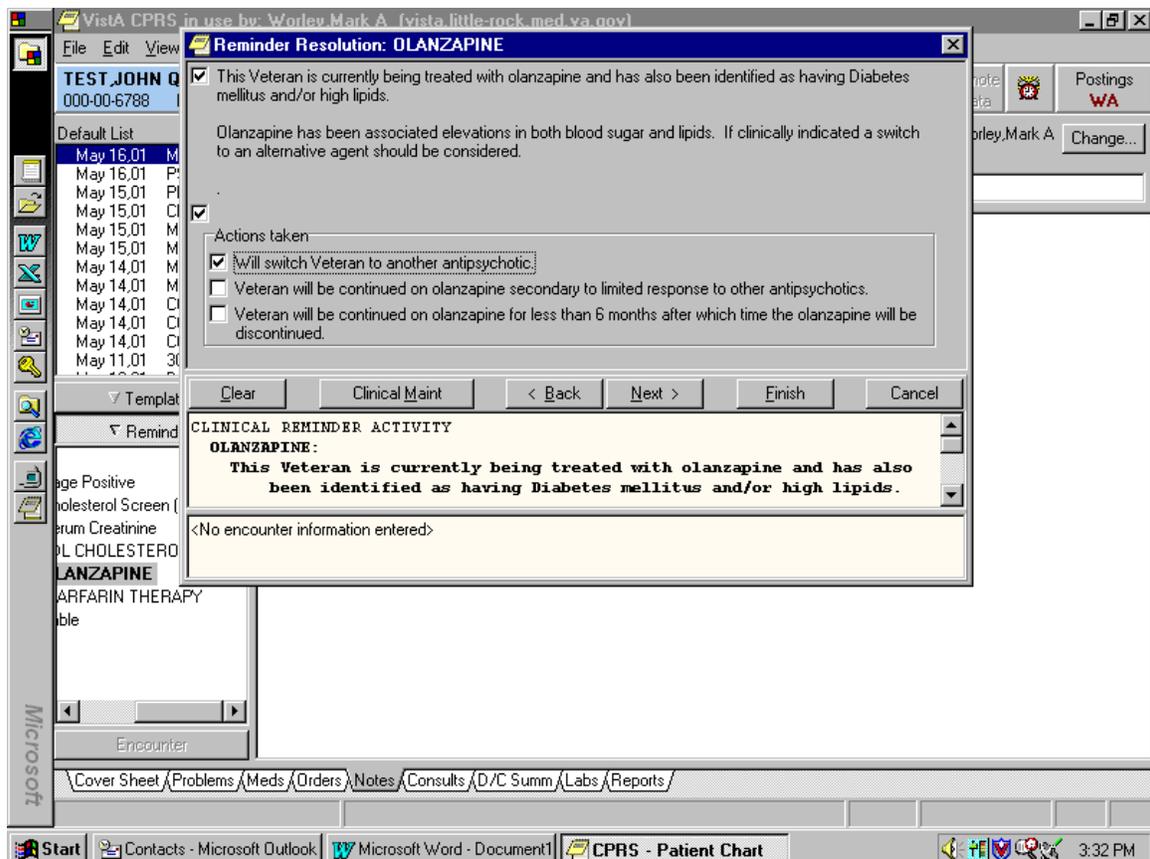
This reminder was developed to help clinicians identify medical conditions that may be worsened when olanzapine is used. Olanzapine has been identified in published reports to cause a worsening control of diabetes mellitus and hypertriglyceridemia. The reminder gives the provider information and allows the provider to select several options

Non-technical Explanation of Olanzapine Reminder

1. Cohort logic - Patients are identified in this reminder on the basis of taking olanzapine and also having previously been diagnosed with Diabetes mellitus or hyperlipidemia.

```
(SEX)&(AGE)&(FI(OLANZAPINE 10MG TAB)!FI(OLANZAPINE 2.5MG TAB)!  
FI(OLANZAPINE 5MG TAB)!FI(OLANZAPINE 7.5MG TAB))&(FI(VA-DIABETES)!  
FI(Hyperlipidemia))
```

2. Resolution logic - Processing of the olanzapine clinical reminder, will satisfy the reminder for 6 months. If the patient remains on olanzapine beyond 6 months the reminder will re-prompt the provider for possible reconsideration of the use of olanzapine



Olanzapine Reminder Definition

OLANZAPINE

No. 598019

Print Name:

OLANZAPINE

Related VA-* Reminder:

Reminder Dialog:

Olanzapine Reminder

Priority:

Reminder Description:

For all patients on olanzapine, who also have diabetes mellitus and/or hyperlipidemia. This reminder will alert the provider and remind of the above conditions may be worsened by olanzapine and recommend consideration of switch to a different antipsychotic.

Technical Description:

Baseline Frequency:

Do In Advance Time Frame: **Do if DUE within 10 days**

Sex Specific:

Ignore on N/A:

Frequency for Age Range: **6 months for all ages**

Match Text:

No Match Text:

Findings:

Finding Item: **VA-DIABETES (FI(2)=TX(28))**

Finding Type: **REMINDER TAXONOMY**

Match Frequency/Age: **6 months for all ages**

Found Text: **Patient carries the diagnosis of diabetes mellitus.**

Not Found Text:

Rank Frequency:

Use in Resolution Logic:

Use in Patient Cohort Logic: **AND**

Effective Period:

Use Inactive Problems: **N**

Within Category Rank:

Condition:

MH Scale:

Finding Item: **OLANZAPINE 10MG TAB (FI(3)=DR(7448))**

Finding Type: **DRUG**

Match Frequency/Age:

Found Text:

Not Found Text:

Rank Frequency:

Use in Resolution Logic:
Use in Patient Cohort Logic: **OR**
Effective Period:
Use Inactive Problems:
Within Category Rank:
Condition:
MH Scale:

Finding Item: **OLANZAPINE 2.5MG TAB (FI(4)=DR(7766))**
Finding Type: **DRUG**
Match Frequency/Age:
Found Text:
Not Found Text:
Rank Frequency:
Use in Resolution Logic:
Use in Patient Cohort Logic: **OR**
Effective Period:
Use Inactive Problems:
Within Category Rank:
Condition:
MH Scale:

Finding Item: **OLANZAPINE 5MG TAB (FI(5)=DR(7436))**
Finding Type: **DRUG**
Match Frequency/Age:
Found Text:
Not Found Text:
Rank Frequency:
Use in Resolution Logic:
Use in Patient Cohort Logic: **OR**
Effective Period:
Use Inactive Problems:
Within Category Rank:
Condition:
MH Scale:

Finding Item: **OLANZAPINE 7.5MG TAB (FI(6)=DR(7446))**
Finding Type: **DRUG**
Match Frequency/Age:
Found Text:
Not Found Text:
Rank Frequency:
Use in Resolution Logic:
Use in Patient Cohort Logic: **OR**
Effective Period:
Use Inactive Problems:
Within Category Rank:
Condition:
MH Scale:

Finding Item: **Hyperlipidemia (FI(7)=TX(598021))**

Finding Type: **REMINDER TAXONOMY**

Match Frequency/Age:

Found Text:

Not Found Text:

Rank Frequency:

Use in Resolution Logic:

Use in Patient Cohort Logic: **OR**

Effective Period:

Use Inactive Problems:

Within Category Rank:

Condition:

MH Scale:

General Patient Cohort Found Text:

General Patient Cohort Not Found Text:

General Resolution Found Text:

General Resolution Not Found Text:

Customized PATIENT COHORT LOGIC to see if the Reminder applies to a patient:

(SEX)&(AGE)&(FI(3)!FI(4)!FI(5)!FI(6))&(FI(2)!FI(7))

Expanded Patient Cohort Logic:

**(SEX)&(AGE)&(FI(OLANZAPINE 10MG TAB)!FI(OLANZAPINE 2.5MG TAB)!
FI(OLANZAPINE 5MG TAB)!FI(OLANZAPINE 7.5MG TAB))&(FI(VA-DIABETES)!
FI(Hyperlipidemia))**

Default RESOLUTION LOGIC defines findings which can resolve the Reminder:

Expanded Resolution Logic:

Improving Antipsychotic Treatment for Schizophrenia Performance Measures Summary Report

Site A : September - November, 2001

Measure 1: High Antipsychotic Doses

	Your Site		Highest Percent of any site in VISN	Lowest Percent of any site in VISN
	%	N		
Veterans Prescribed doses above recommended:	15.1%	52	15.1%	2.1%
Veterans prescribed doses below recommended	6.1%	21	16.0%	6.0%
Veterans who received antipsychotics (total):		344		

Historical

Veterans prescribed doses above recommended:

Veterans prescribed doses below recommended:

Baseline: Mar-May 01	Jun-Aug 01		
13.3%	14.2%		
5.2%	8.2%		

Doses within and outside range by medication:

Medication & Range	chlorpromazine 300-1000	clozapine 250-800	fluphenazine 2-20	haloperidol 5-20	loxapine 20-100	molindone 20-100	olanzapine 5-25	perphenazine 8-64	quetiapine 150-750	risperidone 2-8	thioridazine 200-600	thiothixene 5-30	trifluoperazine 5-30	Totals
Below Range	4	0	0	1	2	0	6	0	5	10	0	0	0	28
Within Range	1	13	6	12	1	1	125	1	17	122	0	9	7	315
Above Range	0	6	1	4	0	0	22	0	2	16	0	2	0	53
Total N	5	19	7	17	3	1	153	1	24	148	0	11	7	396

Measure 2: Inpatient Switch to Newer Agents

	Your Site		Highest Percent of any site in VISN	Lowest Percent of any site in VISN
	%	N		
Percent of inpatients switched to newer agents:	50.0%	3	63.2%	12.5%
Number of inpatients admitted on conventional agents :		6		

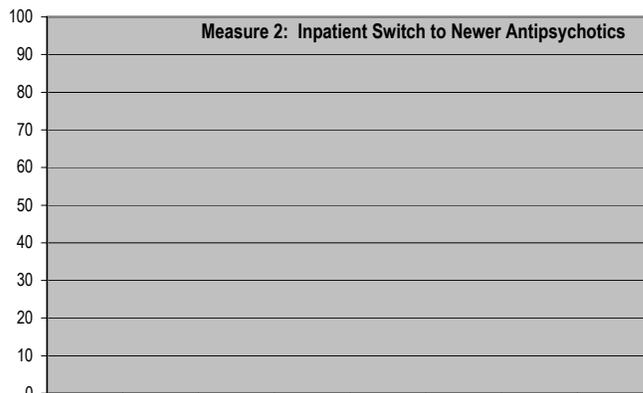
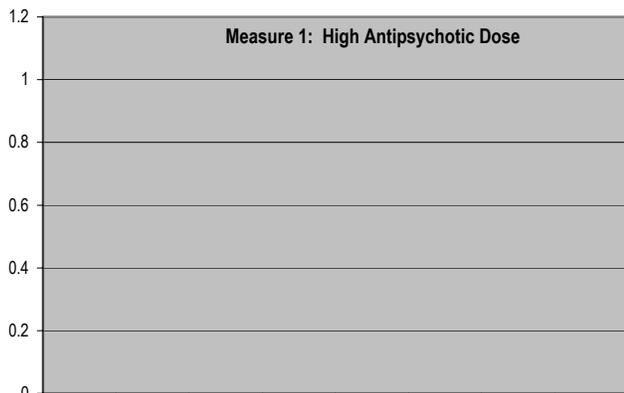
Historical

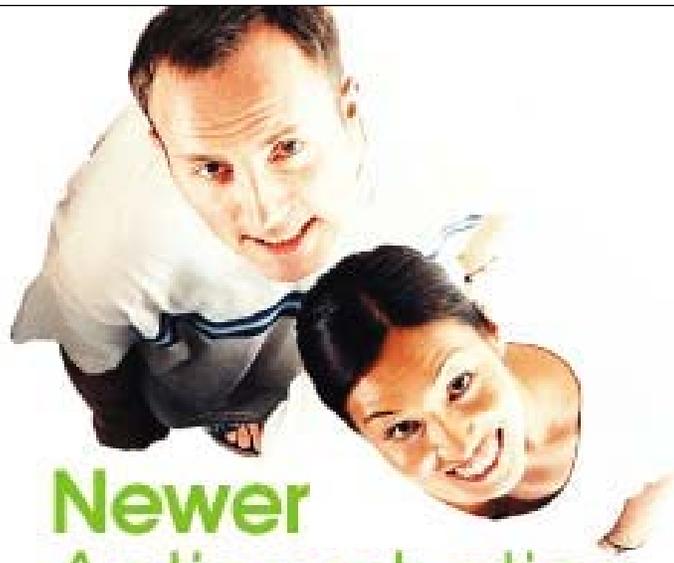
Percent of inpatients switched to newer agents:

Number of inpatients admitted on conventionals

Baseline: Mar-May 01	Jun-Aug 01		
55.6%	60.0%		
9	5		

South Central VA Health Care Network Site Comparison





Newer Antipsychotics May Help You!

One in 500 people have a serious mental illness such as bipolar disorder, schizophrenia, or other psychotic disorders and are treated with antipsychotic drugs

Symptoms of these serious mental disorders include:

- seeing or hearing things that others don't see or hear
- delusions or strong beliefs that are not based on reality
- jumbled or confused thinking
- acting without thinking
- not being able to trust others
- sudden fits of anger
- having no feelings or showing feelings that do not match the situation
- difficulty being understood
- lack of energy
- severe sadness or a very happy feeling

Ask your doctor about the best treatment for you!

What You Need to Know!

The Newer Antipsychotic Drugs Work Better Than the Older Ones and May Help You.

Ask Your Doctor If The Newer Antipsychotic Drugs Are Right For You!

“When will I feel better?”

How soon you feel better differs from person to person.

“Why should I take this drug as prescribed? What happens if I miss a dose?”

Missing a dose can be a problem. Taking less or more of a drug than is prescribed can make you feel worse.

“Will I have side effects?”

You may. Side effects from the newer drugs are fewer and less severe.

“What should I do if I have side effects?”

Tell your doctor. Often doses or treatments must be changed to find what works best for you.

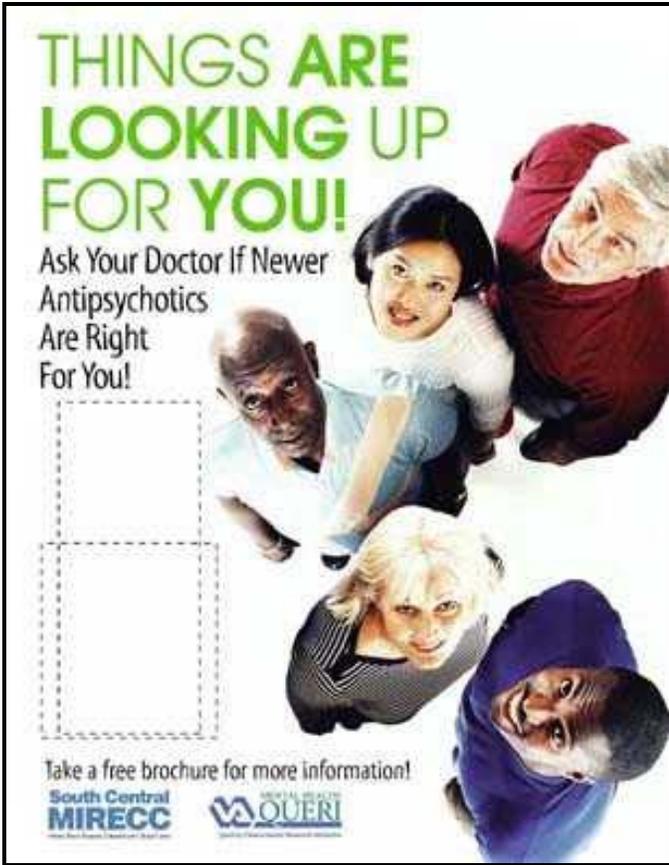
“What else can I do to feel better?”

Some things that may help you feel better are...

- improving family support
- keeping busy every day
- regular exercise
- counseling

Ask your doctor or counselor for more ideas.

A publication of the South Central Mental Illness Research, Education, and Clinical Center (MIRECC) and VA Mental Health Quality Enhancement Research Initiative (QUERI), Department of Veterans Health Administration, 2001.



**PATIENT/FAMILY EDUCATIONAL
MATERIALS**

17 x 22 Inch Framed Posters

Flyers

Translating Research Into Practice

Antipsychotic Treatment for Schizophrenia

Mental Health QUERI seeks to improve medication management practices for patients with schizophrenia. Research has shown that antipsychotic prescribing often deviates from VHA schizophrenia guideline recommendations to:

- switch patients who are not responding to current treatment to newer antipsychotics, and
- use moderate doses of antipsychotics.

This pocket card summarizes these recommendations from the VHA Clinical Guidelines for Management of Persons with Psychoses (1997). Usual dose ranges and side effects are included.

RECOMMENDATIONS: Newer Antipsychotics

- Use one of the newer agents when the patient:
 - does not have a prior history of treatment with an antipsychotic,
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Olanzapine	5 - 25 mg
Quetiapine	150 - 750 mg
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Ziprasidone	40 - 160 mg

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May, 2001

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Loxapine	20 - 100 mg
Molindone	20 - 100 mg
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Thiothixene	5 - 30 mg
Trifluoperazine	5 - 30 mg

- Use one of these depot agents when there is a history of poor compliance.

Fluphenazine decanoate	6.25 - 25 mg q 2 weeks or 12.5 - 50 mg q 4 weeks
Haloperidol decanoate	50 - 200 mg q 4 weeks

Antipsychotic Side Effects

	Risperidone	Olanzapine	Quetiapine	Ziprasidone [†]
Anticholinergic	±	+ to ++	±	±
EPS	± to +	± to +	0 to ±	± to +
Orthostasis	++	+	++	+
↑ Prolactin	++	±	±	±
Sedation	+	++	++	+
Weight Gain	++	+++	++	+

	Clozapine [*]	Conventionals ^{**}
Anticholinergic	+++	± to +++
EPS	0 to ±	+ to +++
Orthostasis	+++	+ to +++
↑ Prolactin	0	++ to +++
Sedation	+++	+ to +++
Weight Gain	+++	+ to ++

[†]Also, QTc prolongation

^{*}Also, greater risk of agranulocytosis and seizures

^{**}See VHA Psychoses Guidelines for more information

MENTAL HEALTH
QUERI
Quality Enhancement Research Initiative

Substance Use Disorders QUERI

All materials described below are part of the Opioid Agonist Therapy Monitoring System, a complete toolkit to support implementation of evidence-based practices in opioid agonist therapy (OAT) clinics. For a copy of the complete toolkit, please contact [Hildi Hagedorn, PhD](#), Substance Use Disorders (SUD) QUERI Implementation Coordinator .

Evidence Summary for Methadone Dosing

This fact sheet summarizes recent evidence regarding best practices in methadone dosing and the relationship of adequate dosing to treatment outcomes.

- [Methadone Dosing Summary](#)

Methadone Dosing Consensus Statement

This is a one-page consensus statement developed by a panel of experts in OAT that contains dosing recommendations for physicians prescribing methadone.

- [Dosing Consensus Statement](#)

Methadone Dosing Algorithm

This is an algorithm designed to assist physicians in establishing an effective methadone dose for new OAT patients.

- [Methadone Dosing Algorithm](#)

Methadone Dosing Review Form

This is a tool designed to assist OAT teams in evaluating their compliance with methadone dosing best-practice recommendations.

- [Methadone Dosing Review Form](#)

Evidence Summary for Counseling Services in Opioid Agonist Therapy Treatment

This fact sheet summarizes recent evidence regarding standards for counseling services in OAT and the relationship of adequate counseling services to treatment outcomes.

- [OAT Counseling Summary](#)

Evidence Summary for Maintenance Orientation in OAT

This fact sheet summarizes recent evidence regarding the relationship between a long-term maintenance orientation to OAT and improved patient outcomes.

- [Orientation Summary](#)

Abstinence Orientation Scale

This is a 14-item questionnaire developed by John Caplehorn that can be used to evaluate staff's acceptance of a maintenance-orientated approach to OAT treatment.

- [Abstinence Orientation Scale](#)

Evidence Summary for Contingency Management in OAT

This fact sheet summarizes the principles of effective contingency management interventions, as well as recent evidence regarding the relationship of contingency management interventions to improved treatment outcomes.

- [Contingency Management Summary](#)

Contingency Management Implementation Tools

This document contains several tools designed to assist OAT teams in implementing effective contingency management interventions. Tools include a detailed example of a contingency management intervention, a worksheet for staff to complete as a team to assist them in determining what type of contingency management intervention would fit into their clinic structure, and a sample case manager/patient contingency management contract.

- [Contingency Management Implementation Tools](#)

The Opioid Agonist Therapy Monitoring System

This CD ROM contains a Microsoft Excel program that OAT clinics can use to enter data on key patient treatment and outcome variables (e.g., dose, frequency of counseling visits, number of take-home doses, frequency of urine screens, and percentage of urine screens positive for opioids). The program allows clinics to quickly and easily view summary statistics and create feedback graphs by case manager, or for the clinic as a whole. The CD also contains a PowerPoint tutorial that walks users through the process of data entry and feedback production. For a copy of this CD please contact the SUD QUERI Implementation Research Coordinator (Hildi.Hagedorn@med.va.gov).

Abstinence Orientation Scale

Used with permission of J.R.M. Capelhorn

The *Abstinence Orientation Scale* is used as an indicator of a clinic's approach to Opioid Agonist Therapy. The 14-item scale asks questions about treatment goals and approaches. Each of these items is rated by the respondent on a 1-5 point scale, with lower scores reflecting a maintenance orientation, and higher scores indicating an abstinence orientation. A maintenance orientation is reflected by therapy that supports long-term opioid agonist therapy (OAT), whereas abstinence orientation supports an ultimate goal of detoxification from all opioid agonists. Abstinence orientation has been linked to lower retention rates, more restrictive dosing and take-home privileges and more punitive responses to illicit drug use. Counselors that endorse abstinence are also more likely to score lower on a test of knowledge of OAT risks and benefits. A score higher than three would suggest that at least some staff hold fairly strong abstinence orientation beliefs. If your clinic has scored close to 3 or higher, you may want to consider interventions for increasing your staff members' knowledge about the benefits of long-term OAT and the risks associated with detoxification. Suggestions include inviting guest speakers on this topic or developing a journal club for staff to read and discuss key articles related to this issue. Key references are listed in the orientation evidence summary.

Scoring the Orientation Scale:

The items are scored on a five point Likert scale with strongly disagree having a score of 1; disagree = 2; uncertain=3; agree = 4; and strongly agree =5. On questions 3, 5, 12, and 14, the score was reversed, with strongly disagree = 5, disagree = 4, uncertain = 3, etc. Scores are calculated by dividing the total for the scale by the number of questions answered, with a range of 1-5. If you are using the Excel *Case Management Log*, you do not need to reverse score questions 3, 5, 12, and 14. The computer program will automatically reverse score them for you.

Substance Use Disorders Tools

Abstinence Orientation Scale

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Please indicate your level of agreement with each of the following statements, using the scale provided. Please select only one answer for each statement.

1. Methadone maintenance patients who continue to use illicit opiates should have their doses of methadone reduced.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

2. Maintenance patients who ignore repeated warnings to stop using illicit opiates should be gradually withdrawn off methadone.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

3. No limits should be set on the duration of methadone maintenance.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

4. Methadone should be gradually withdrawn once a maintenance patient has ceased using illicit opiates.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

5. Methadone services should be expanded so that all narcotic addicts who want methadone maintenance can receive it.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

6. Methadone maintenance patients who continue to abuse non-opioid drugs (e.g., benzodiazepines) should have their dose of methadone reduced.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

7. Abstinence from all opioids (including methadone) should be the principal goal of methadone maintenance.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Substance Use Disorders Tools

8. Left to themselves, most methadone patients would stay on methadone for life.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

9. Maintenance patients should only be given enough methadone to prevent the onset of withdrawals.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

10. It is unethical to maintain addicts on methadone indefinitely.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

11. The clinician's principal role is to prepare methadone maintenance patients for drug-free living.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

12. It is unethical to deny a narcotic addict methadone maintenance.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

13. Confrontation is necessary in the treatment of drug addicts.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

14. The clinician should encourage patients to remain in methadone maintenance for at least three to four years.

- Strongly Disagree Disagree Uncertain Agree Strongly Agree

Thank you for your help

Substance Use Disorders Tools

Practice 1: Dose



“I got a fact sheet from [Translation Facilitator] about our dosing. We’ve experienced a 15% increase in patients that are receiving doses of 60mg or more. That was one of the things we used for the JCAHO survey, it was very helpful.” –clinic coordinator

Appropriate methadone dosing is a critical component of effective opioid agonist therapy (OAT). If a patient’s methadone dose is inadequate, she cannot benefit fully from improvements made in the three other practice areas, which are counseling frequency, program orientation, and contingency management. Therefore, it is recommended that your clinic focus first on current dosing practices and how they might be improved to better meet the needs of your patients. The following section contains a *Dosing Evidence Summary* with references, an *Expert Panel Consensus Statement*, a *Dosing Algorithm*, a *Dose Review Form*, a *LAAM-Methadone Conversion Chart*, and some examples of dosing policy changes made by OpiATE Initiative clinics.

Methadone has been used for the treatment of opiate addiction for more than 30 years. However, programs using methadone maintenance treatment vary greatly in their daily dosages. Several studies suggest that higher doses of methadone are more effective in treating narcotic addiction. Two areas of study focusing on dosage that have received much attention are dosage and its effects on program retention, as well as its effects on illicit opiate use.

Caplehorn and Bell (1991) looked at retention and dosing rates of patients on methadone and found that the maximum daily dose of methadone dispensed during the study period was a highly significant predictor of retention ($p < 0.00001$). This study stratified the maximum daily dosage into three levels: $< 60\text{mg}$, $60\text{-}79\text{mg}$, and 80+mg ; and looked at retention rates of patients during a 450-day period. Using the lowest dose group as a baseline, they found the relative risk of leaving treatment was reduced by nearly half (0.47) for those in the middle dose group ($60\text{-}79\text{mg}$ maximum daily dose). The relative risk was halved again for those in the highest dose group (0.21). A retrospective, longitudinal study by Magura, Nwakeze, & Demsky (1998) also found that higher methadone dosage was one variable significantly associated with longer retention ($p \leq 0.01$). Rhoades, Creson, Elk, Schmitz, & Grabowski (1998) similarly reported that higher doses of methadone (80mg vs. 50mg) resulted in lower dropout rates. In a large observational study looking at treatment retention of heroin users in Italy, methadone dosage was found to be one of the most important factors affecting retention of the 721 patients in a methadone maintenance program (D’Ippoliti, Davioli, Perucci, Pasqualini & Baragagli, 1998). Patients receiving at least 60mg were 70% more likely to stay in treatment when compared to those at a dosage of 30mg or less. This same study found that treatment retention over one year was 54% for patients with an average daily dose of 60mg or more. Patients with psychiatric comorbidity or cocaine dependency may require even higher doses (Maremmani et al., 2000; and Magura, Nwakeze, & Demsky, 1998).

In 1997 the National Institutes of Health Consensus Development Conference stated “A dose of 60mg given once daily may achieve the desired treatment goal: abstinence from opiates.” Several other studies had similar findings in this area. A 1998 study on retention, HIV risk and illicit drug use during treatment, found the opiate-positive results on urine screens were approximately 20% in the 80mg group (Rhoades, Creson, Elk, Schmitz, & Grabowski, 1998). This was compared to 45% at the 50mg group. Strain, Stitzer, Liebson & Bigelow (1993) conducted a study in which patients were divided into three different dosage groups: 0mg , 20mg and 50mg . By treatment week 20, only the 50mg group experienced a reduced rate of opiate-positive urine samples; however, the rate of positive urine samples was still 56.4% (vs. 67.6% and 73.6% at the 20mg and 0mg groups, respectively). In a later study, Strain and colleagues (1999) investigated moderate dose ($40\text{-}50\text{mg/day}$) vs. high dose ($80\text{-}100\text{mg/day}$) methadone maintenance patients, and found the patients in the high dose group reported

Substance Use Disorders Tools

using illicit opiates no more than once a week, whereas the moderate dose group reported using two to three times per week. Similarly, Hartel and colleagues (1995) looked at heroin use during methadone treatment with high doses of methadone. They concluded that patients on less than 70mg were twice as likely to use heroin as those receiving 70mg or more.

Determining dose for an individual patient is based on a clinical evaluation of the patient, taking relevant factors into consideration (Blaney and Craig, 1998). A flexible approach, along with patient participation in the dose decisions, helps find the optimum dose to stabilize patients' lives (Maddux, Prihoda, & Vogtsberger, 1997).

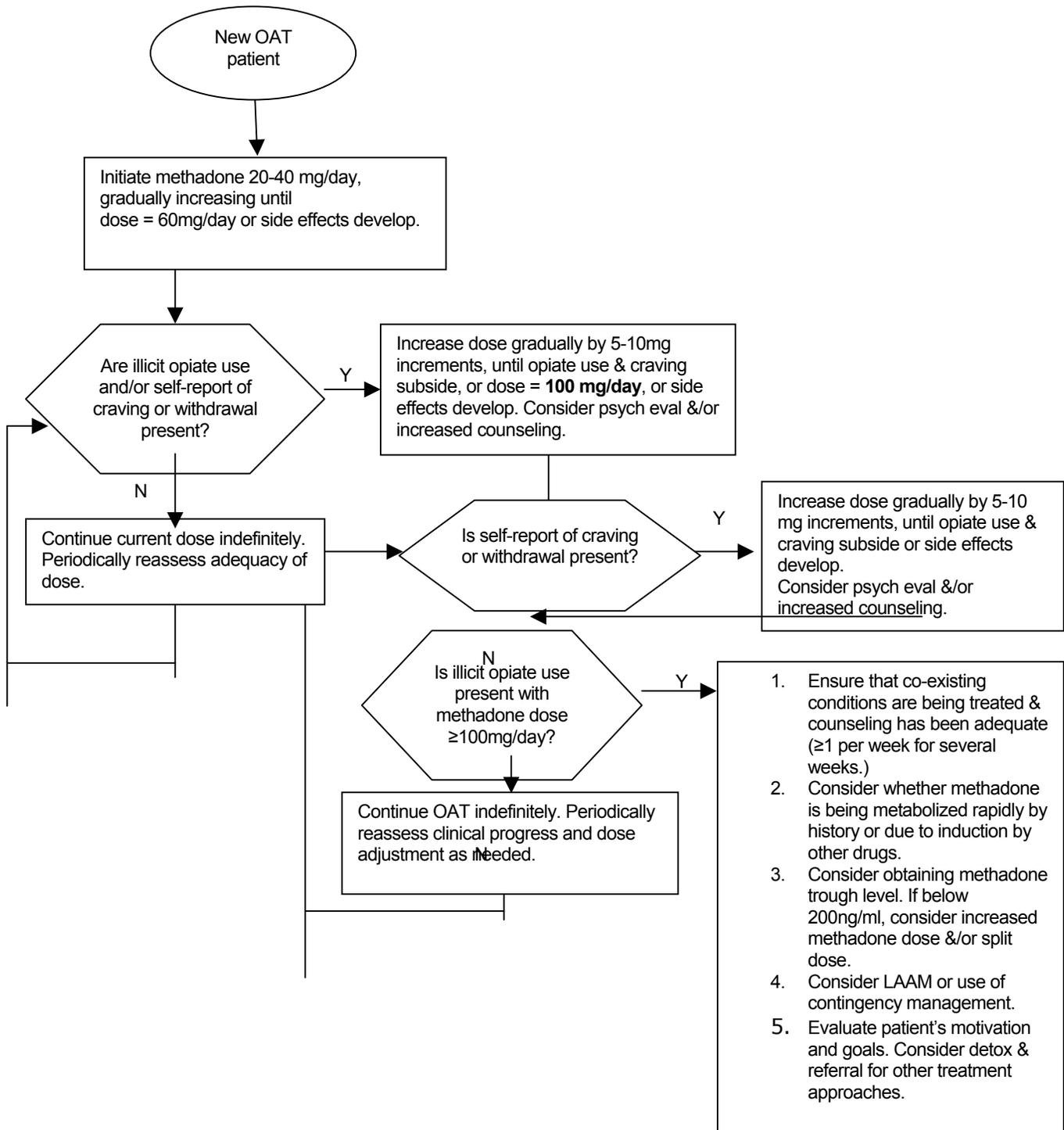
In general, most studies of methadone maintenance treatment recommend that higher doses of methadone are more effective in retaining patients. In addition, several studies strongly support higher doses to promote abstinence from illicit opiates. Coexisting psychiatric and other drug dependence may indicate a need for a higher dose.

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Substance Use Disorders Tools

Opioid Agonist Dose Algorithm



Substance Use Disorders Tools

Expert Panel* Consensus on Dosing Practices in Methadone Maintenance

Evidence Base

There is very strong evidence that methadone doses between 60-100mg daily are more effective than doses less than 60mg.

There is moderate evidence that within the recommended range of 60-100mg, higher doses are generally more effective than lower doses.

There is no evidence supporting an absolute upper limit on methadone dose.

Although clinically some patients require doses above 100mg, research on the efficacy of doses over 100mg is limited.

Consensus Statements

- 1) Dosage should be determined clinically, using clear outcome measurements (e.g., illicit opiate use, self-report of craving or withdrawal) to indicate effectiveness.
- 2) Clinical outcome is measured primarily by illicit opiate use by urine toxicology screen and self-report. Secondary measures include self-report of craving or withdrawal, other drug and alcohol use, and psychosocial function (e.g., employment or training, interpersonal functioning, illegal activities).
- 3) Most patients will require doses between 60-100mg to achieve stable outcomes. An estimated 10-20% of methadone patients has a good clinical outcome on stable daily doses of less than 60mg daily.
- 4) If illicit opioid use continues after methadone maintenance has been started, the dose should be increased gradually, until illicit opioid use stops, side effects develop, or the dose reaches 100mg daily.
- 5) If illicit opioid use continues at a methadone dose of 100mg daily, dose should be raised if the patient complains of withdrawal, craving, or "it's not holding me." There is no absolute upper limit on dose, nor is there convincing evidence that doses above 100mg are more effective for patients not complaining of withdrawal or craving.
- 6) If illicit opioid use continues at a dose of 100mg or more, and the patient is not complaining of withdrawal or craving, or if a patient receiving less than 100mg daily repeatedly refuses dose increases, consideration should be given to changing the treatment plan in other ways. Examples include:
 - a) Increasing counseling frequency
 - b) Implementing contingency management
 - c) Evaluation for coexisting mental disorders
 - d) Switching to LAAM
 - e) Discontinuation of agonist treatment and referral to drug-free treatment and naltrexone therapy.

**Members: Eric Strain, MD; George Woody, MD; Thomas Kosten, MD; Joseph Liberto, MD.*

Substance Use Disorders Tools

Instructions for use of *Dose Review Form*

The *Dose Review* forms can be used as part of baseline data collection to assist in determining the extent to which the clinic is meeting best-practice dosing recommendations. Dose reviews can be repeated at specified intervals to document continued compliance with dosing recommendations (e.g., yearly) or to monitor progress toward increasing clinic performance on dosing recommendations (e.g., quarterly).

- 1) Counselors complete the Dose Review Form for each client that is on a dose of less than 60mgs of methadone or methadone equivalent per day.
- 2) *Dose Review* forms are reviewed in team meetings.
- 3) *Dose Review* forms with an **ACTION** item checked should be retained by the team coordinator for follow-up in one month to ensure that appropriate action has been taken.

Substance Use Disorders Tools

Dose Review Form

(for patients on doses less than 60mg/day of methadone or equivalent)

Patient ID:

Current Dose (mg/day):

Reason for Current Dose:

1. Patient refuses dose increase despite continued use of illicit opiates.
 - a. **ACTION for patients concerned about risks of higher doses:**
 - 1) Counsel regarding risks/benefits of increased dose compared to continued illicit opiate use.
 - 2) Refer for a consultation with the medical director.
 - b. **ACTION for patients intentionally keeping dose low so he/she can continue to feel the effects of using heroin (i.e., “chip” or “shoot over their dose”):** Patient may need to be asked to choose between following clinic recommendations and leaving the program.
2. Patient is abstinent from illicit opiates.
 ACTION: Monitor patient urine screen results for a minimum of six months to document stability.
3. Patient is currently on a voluntary taper from methadone/LAMM
 - a. **ACTION for patients using illicit opiates:** Counsel patient regarding the need to cease taper and return to a blocking dose.
 - b. **ACTION for patients abstinent from illicit opiates:** Monitor patient urine screens closely during taper. If illicit opiate use reoccurs, counsel patient regarding the need to cease taper and return to a blocking dose.
4. Patient is currently on an administrative taper from methadone/LAMM.
5. Patient cannot be on higher dose due to side effects or other medical concerns.
6. This is a new patient whose dose is still being titrated.
7. **NONE:** Patient does not fall into any of the above categories.
 ACTION: Dose increase followed by monitoring of illicit opiate use, reports of cravings/withdrawal symptoms, and side effects (see dosing algorithm).

Substance Use Disorders Tools

Practice 2: Counseling Frequency

Once your clinic has implemented a quality improvement strategy for methadone dosing and a system for measuring improvement, it may be appropriate to begin reviewing your clinic's current policies regarding one of the other three target practice areas discussed in the following sections. Quality improvement can be made in more than one target practice area at a time.

"That was surprising [that our counseling frequency was low]. It seems like we see patients all the time, but I guess it's just that we see so many of them.

—clinic coordinator



Opioid Agonist therapy (OAT) clinics provide a wide array of services beyond simply dispensing methadone and LAAM. These services generally include drug abuse counseling, urine monitoring, and social work services, and may include medical and psychiatric care, employment and educational counseling, and family services. While the major goal of OAT is to reduce illicit opioid use, much more has come to be expected of OAT, including reduced use of other drugs and alcohol, reduced criminal behavior, increased productive activity, and increased psychological well-being and social functioning (Cacciola, Alterman, Rotherford, McKay & McLellan, 1998). Beyond adequate methadone dosing, controversy continues regarding which elements of methadone maintenance therapy can be considered “active ingredients.” If methadone dosing alone were sufficient to prompt client change in the multiple outcomes that OAT clinics are expected to effect, unnecessary and expensive psychosocial services could be eliminated and more patients could be enrolled in OAT clinics. Logically, it seems unrealistic that dosing alone could have such a broad impact on so many areas of patients' lives. In fact, there is a strong clinical consensus that dosing alone does not meet appropriate standards of treatment for opiate addiction.

The clinical consensus that patient contact beyond dosing is a necessary ingredient in OAT is supported by a particularly well designed, randomized, controlled study comparing three levels of psychosocial services (McLellan, Arndt, Metzger, Woody, & O'Brien, 1993). Patients in all conditions received a minimum dose of 60mg of methadone. Minimal methadone services (MMS) consisted of virtually no counseling. Counselors saw patients for 15-minute appointments once per month. Standard methadone services (SMS) consisted of weekly counseling visits in the first month. After the first month, if a patient showed improvement (e.g., decreased illicit opioid-positive urine screens and positive social change), counseling could be reduced to twice monthly. Patients who did not improve, or whose performance declined, were asked to attend sessions twice a week or more. Enhanced methadone services (EMS) consisted of counseling, as described for SMS, plus on-site

Substance Use Disorders Tools

medical and psychiatric, employment, and family therapy services. The results indicated that patients receiving MMS had significantly greater cocaine and illicit opioid use throughout the six-month treatment compared to the patients assigned to SMS or EMS. In addition, patients receiving SMS had significant changes in legal, family, and psychiatric problems that were not seen in the MMS group. Patients receiving EMS demonstrated significantly greater improvement than SMS patients in the same areas did. Most significantly, 69% of patients in MMS were protectively transferred to SMS because of eight consecutive illicit opioid or cocaine positive urine screens or three emergencies requiring immediate health care. Of the transferred patients, significant reductions in illicit opioid and cocaine use were evident within four weeks of the transfer with no change in methadone dose.

Kraft and her colleagues completed a cost-effectiveness study comparing the three conditions from the above study (Kraft, Rothbard, Hadley, McLellan, & Asch, 1997). They concluded that large amounts of support for methadone patients (EMS) improve outcomes as compared to moderate amounts of support (SMS), but only to a modest degree. On the other hand, moderate amounts of support improve outcomes as compared to minimum support (MMS) to a degree that offsets the additional expense of increased counseling. They concluded that SMS is the most cost-effective of the three treatment conditions, and that the findings of their analysis suggest a level below which supplementary support should not be allowed to fall.

In summary, it appears that “more is better” when considering services to offer as part of an OAT program. However, the incremental benefit of additional services may decline as more services are added. Given budget constraints that may affect many clinics, a *minimum* standard of weekly counseling visits in the first month of OAT involvement and monthly counseling visits during the next year is a reasonable standard. However, the design of the McLellan et al. (1993) study suggests that it is not simply time spent with a counselor but rather the responsiveness of the OAT program to patient behavior that affects patient outcomes. Several other studies have found that involvement of the patient with the program staff is an essential ingredient of effective OAT programs (Broome, Simpson, & Joe, 1999; Hser, Grella, Hsieh, Anglin & Brown, 1999; Joe, Simpson, & Broome, 1999; Magura, Nwakeze, & Demsky, 1998). Therefore, while monthly visits are set as a minimum standard for a stable patient, programs are encouraged to increase counseling frequency contingent on client behavior. For example, as in the McLellan study, patients who do not demonstrate a reduction in illicit opioid-positive urine tests in the first month of treatment should not have their counseling schedule reduced, and patients who enter a period of crisis (e.g., relapse, medical, interpersonal) should have their counseling schedule increased. Additional services such as medical and psychiatric care, employment counseling, and family services are encouraged.

Substance Use Disorders Tools

If clinic leadership determines that increasing compliance with counseling frequency is an appropriate QI goal, there are several factors to consider. First, is it the clearly stated policy of the clinic that new patients (i.e., enrolled less than one month) and unstable patients (i.e., those testing positive for illicit substances) should be seen by their case manager a minimum of once per week, and that stable patients should be seen by their case manager a minimum of once per month? If not, the first step toward meeting best-practice recommendations is to make policy changes supportive of these recommendations and to clearly communicate these expectations to the clinic staff and patients.

If counseling frequency consistent with recommended levels is already clinic policy, the next step would be to assess clinic caseloads. In general, a caseload of no more than 50 clients is considered reasonable for a full-time case manager. However, this number assumes that case managers have a case mix that includes stable, long-term patients as well as new and unstable patients who require significantly greater time to manage. If a case manager has predominately new or unstable patients, a caseload of 35 to 40 may be more reasonable. If this is not possible, the clinic may have to limit the number of new intakes until the clinic census stabilizes at a level that can be adequately served by the existing staff.

If policies supporting counseling frequency recommendations are in place and clearly communicated to staff, and caseloads are assessed to be within a reasonable range, it may be a matter of educating staff about the importance of regular case management contact to client outcomes. The monthly *Case Management Forms* can be used by the clinic leadership to monitor an individual case manager's progress toward meeting counseling expectations.

Counseling frequency is a relatively simple practice to monitor, but implementing changes may be more challenging, depending on your clinic's current policies and available resources (e.g., staffing, program funding).

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Substance Use Disorders Tools

Practice 3: Program Orientation (Abstinence vs. Maintenance)



A treatment provider's orientation toward abstinence or maintenance directly influences patient treatment outcomes, as the following evidence-based summary explains. Provider and clinic level orientation can be easily assessed using the 14-item *Abstinence Orientation Scale* (AOS) (Caglehorn, Lumley and Irwig, 1998). How to score and interpret this scale can be found following the evidence summary. Finally, there are examples of how clinic coordinators and directors participating in the OpiATE Initiative have used these materials to educate both themselves and their staff regarding the benefits of a maintenance oriented approach to OAT.

"In general, there has been an attitudinal shift in some of the counselors from the notion of detox orientation to maintenance orientation; more of them are accepting of maintenance than they were when we started this process a year ago. More of them are willing to consider that methadone is a medication, just as insulin is a medication."

—clinic coordinator

Retention of patients in opioid agonist therapy (OAT) reduces heroin use and criminality, health risk behaviors from drug injections, and HIV and mortality rates. (Caglehorn, McNeil, & Kleinbaum, 1993). In fact, patients who are receiving OAT are at one quarter the risk of dying compared to addicts who are not currently receiving OAT (Caglehorn, Dalton, Halder, Nisbet, & Petrenas, 1996). Therefore, it is important to identify program characteristics that are correlated with treatment retention. One treatment factor that has received significant research attention is the orientation of the OAT program. Caglehorn and his colleagues have identified what they refer to as an abstinence orientation (Caglehorn, Irwig, & Saunders, 1996). Abstinence orientation is characterized by beliefs that it is unethical to maintain patients on an opioid agonist indefinitely, and that the goal of any treatment program should be abstinence from all substances, including opioid agonists. They compared OAT clinics whose physicians scored high on the *Abstinence Orientation Scale* to clinics whose physicians scored low on the scale and found that programs whose physicians were more committed to an abstinence orientation had a significantly greater rate of premature discharges. Caglehorn and his colleagues (1993) also compared two clinics with very different treatment attitudes. Clinic 1 was strongly abstinence oriented and attempted to limit OAT to no more than two years. Clinic 2 provided long-term OAT maintenance. Clinic 1 had a significantly shorter average time in treatment (less than clinic policy of two years). Patients in Clinic 1 were twice as likely to leave treatment in the second six-month period and three times more likely to leave treatment in the third six-month period compared to patients in Clinic 2.

In a survey of 172 OAT programs in the United States, D'Aunno and Vaughn (1992) also found that an abstinence orientation was associated with other treatment factors that are correlated with poor outcomes (i.e., shorter treatment periods, lower limits on methadone dose, and lower average methadone dose). A strong abstinence orientation has also been shown to correlate with clinic policies such as less patient participation in dose strategy, more stringent take-home policies, and more punitive responses to illicit drug use (Caglehorn et al., 1993). Caglehorn and colleagues (1993) speculate that

Substance Use Disorders Tools

these types of clinic policies lead to an “us-them” frame of mind that interferes with the patients’ ability to feel a connection to the treatment team and subsequently interferes with program retention. Caplehorn, Hartel, and Irwig (1997) also reported that high *Abstinence Orientation Scale* scores were negatively correlated with scores on a test of knowledge of OAT risks and benefits. This finding supports increasing continuing education funding and time to educate program staff regarding the benefits of long-term OAT maintenance.

Poor outcomes have not only been documented in patients who drop out of treatment but also in patients who are discharged after successful treatment and withdrawal from OAT (Milby, 1988). Because of the continued controversy over the ethics and expense of maintaining addicts on OAT for indefinite periods of time, Magura and Rosenblum (2001) completed a literature review to determine if it is ever wise to encourage detoxification and if so, for which patients under what conditions. Magura and Rosenblum looked at studies assessing time-limited OAT programs, planned detoxifications from OAT, and outcomes for patients leaving OAT for unspecified reasons. They identified three main conclusions from their review: 1) most patients who leave OAT are not identified by their clinic as ready for discharge, 2) among patients who begin a planned discharge, most leave treatment before completing their detoxification, and 3) among patients who do complete a planned discharge, most relapse to heroin. They concluded that the number of patients who can achieve a narcotic-free state is low. Even among patients who express high motivation to detox and who are identified by clinic staff as rehabilitated and ready for discharge, the majority return to narcotic use.

A study by Sees and colleagues (2000) provides an example of the kind of findings that were summarized by Magura and Rosenblum’s (2001) review. This study compared one-year outcomes for patients randomly assigned to methadone maintenance or to a 180-day, psychosocially enriched detoxification treatment in which patients were maintained on methadone for four months and then tapered off over the next two months. During months six through twelve, aftercare services, including individual and group psychotherapy and social services, were available to detoxification patients. The findings indicated that there was no significant difference in illicit opioid positive urines for the two groups during the first four months of treatment when both were on maintenance doses of methadone. Starting with month five, when detoxification was initiated, the positive urine rate for the detoxification group increased markedly compared to the maintenance group and remained high through month twelve. In addition, the dropout rate for the detoxification group increased as the methadone dose decreased. The major finding was that the maintenance patients were retained in treatment significantly longer than the detoxification group (483 vs. 174 days). Both Sees and colleagues (2000) and Magura and Rosenblum (2001) reach the conclusion that, given the dire consequences to the addict and the cost to society of a return to injecting heroin (e.g., increased criminality, HIV infection rates, and mortality), indefinite maintenance in OAT is the only satisfactory treatment alternative for opiate dependence.

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