

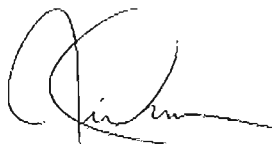
Connecting CME Metrics to Mission:
Assessing the Health, Gaps, and Practice of a CME Program.

by

Jennifer Steuck

A Research Paper
Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
in
Education

Approved: 2 Semester Credits

A handwritten signature in black ink, appearing to read "James Lehmann". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James Lehmann, Ed.D.

The Graduate School
University of Wisconsin-Stout

August 2010

**The Graduate School
University of Wisconsin-Stout
Menomonie, WI**

Author: Steuck, Jennifer A.

Title: **Connecting CME Metrics to Mission: Assessing the Health, Gaps, and Practice of a CME**

Graduate Degree/ Major: MS Education

Research Adviser: James Lehmann, Ed.D.

Month/Year: August 2010

Number of Pages: 91

Style Manual Used: American Psychological Association, 6th edition

Abstract

Achieving viable educational outcomes requires CME providers to carefully monitor activity data to identify practice gaps, needs data, outcomes improvements. Additionally, CME providers have been challenged by the Accreditation Council for Continuing Medical Education (ACCME) to demonstrate efforts to connect educational activities to their program's Mission Statement. Collecting educational data tied to a CME Mission Statement requires a provider to carefully interpret their Mission Statement to determine where measureable components can be assembled in a meaningful way to demonstrate viable connection. Achieving Mission-relevant measurements creates opportunities for CME providers to create tools used to accurately assess the connections between an individual educational activity and the over-riding goals of their

program. This study examines how Marshfield Clinic created a process to demonstrate mission-relevance through the creating of a system of metrics measurements assembled into a CME health/performance dashboard.

**The Graduate School
University of Wisconsin Stout
Menomonie, WI**

Acknowledgments

I would like to take this opportunity to acknowledge and thank those who contributed both professionally and personally to the completion of this study.

Professional Acknowledgements

James Lehmann, Ph.D., Program Advisor/Faculty, University of Wisconsin – Stout

Erik Stratman, M.D., FAAD, Director, Division of Education, Marshfield Clinic.

Mary Jo Knobloch, M.P.H., Resident Research Coordinator, Marshfield Clinic.

Barbara Bartkowiak, M.S., Library Specialist, Melvin R. Laird Medical Library,
Marshfield Clinic.

Continuing Medical Education (CME) Team, Marshfield Clinic.

Tanya Esser, CME Program Assistant

Leah Bruess, former CME Specialist

Theresa Yakovlev, CME Specialist

Janalee Landrie, CME Specialist

Nadine Punke, CME Manager

Personal Acknowledgements

I dedicate this study to the following people, who have supported me personally throughout this process:

To my parents, Brad and Linda Drews – to my Mom, who listens when I become frustrated, believes in me, encourages me, and has faith enough for the both of us when my faith in myself waivers; and to my Dad, who growing up taught me the importance of hard work and taking pride in one's craft, when he'd say, "If you're going to do something, do it all the way, or don't do it at all." Thank you.

To my husband Scott – I cannot even begin to thank you for your patience over the past two years as I have undertaken the pursuit of my Master's Degree. Despite the constant mess of papers strewn across the dining room table, the countless hours spent behind the computer, and the household chores I've neglected, Scott has supported me throughout this process and has taken on an enormous amount of extra responsibilities to provide me the time I needed to complete my degree. Thank you.

To our son, Braden – at only five-years-old, you have gotten a head start on understanding the importance of an education. Thank you for all the evenings that you spent your playtime at the table with me, doing your "homework" so that we could be together.

Table of Contents

	Page
.....	Page
Abstract	2
List of Tables	7
List of Figures	8
Chapter I: Introduction.....	9
Statement of the Problem.....	12
Purpose of the Study	13
Assumptions of the Study	13
Definition of Terms.....	14
Methodology	19
Chapter II: Literature Review	20
Introduction.....	20
CME Transformation of an Ideology.....	20
Adult Education and CME.....	26
The Role of Mission and Stakeholders	27
Metrics, Dashboards, and Strategic Planning	28
Chapter III: Methodology	33
Introduction.....	33
Subject Description	35
Instrumentation and Data Collection	36
Data Analysis.....	41
Limitations	41

Chapter IV: Results.....	43
Introduction.....	43
Purpose Metrics	44
Content Metrics.....	51
Audience Metrics.....	54
Activities Metrics.....	57
Chapter V: Discussion	60
Limitations	60
Conclusions.....	61
Recommendations.....	65
References.....	66
Appendix A: The ACCME’s Essential Areas and Their Elements	72
Appendix B: Marshfield Clinic CME Mission-based Metrics Dashboard.....	77
Appendix C: Marshfield Clinic Continuing Medical Education/Continuing Professional Development Mission Statement	80
Appendix D: Activity Planning Worksheet (APW).....	81
Appendix E: Marshfield Clinic Continuing Medical Education Committee Policy.....	85
Appendix F: Marshfield Clinic CME Staff, Facilities and Resources Policy.....	88
Appendix G: Mission-Based Metrics Excel Database.....	89
Appendix H: Stakeholder Reporting Form.....	90

List of Tables

Table 1: Frequency of Stakeholder’s Identified Outpatient Needs.....47

Table 2: Frequency of Stakeholder’s Identified Inpatient Needs.....47

Table 3: Generalists Claiming Credit (01/01/10-06/30/10).....49

Table 4: Specialists Claiming Credit (01/01/10-06/30/10).....49

Table 5: Activities Addressing Stakeholder Identified Needs.....51

Table 6: Activities By Division.....56

List of Figures

Figure 1: Accredited Activities by Type.....45

Figure 2: Accredited Hours Available by Activity Type.....46

Figure 3: Credit Awarded to Physicians at Marshfield Clinic.....48

Figure 4: Core Competencies Addressed by Marshfield Clinic52

Figure 5: Activities Focusing on Chronic Disease State Management, Preventative Health, and
Other Strategic Initiatives.....53

Figure 6: Target Audience.....54

Figure 7: Targeted Audience by Specialty.....55

Figure 8: CME Activity Hours Available by Activity Type.....58

Figure 9: Activities by Educational Format.....59

Chapter I: Introduction

Continuing Medical Education (CME) is a dynamic field aimed at improving the quality of medical care provided to patients through the education of physicians. Marshfield Clinic, headquartered in central Wisconsin, with a service area covering northern and western Wisconsin, is accredited as a provider of CME credit by the Wisconsin Medical Society in adherence with the guidelines of the Accreditation Council for Continuing Medical Education (ACCME). In 2011, Marshfield Clinic will be reviewed for re-accreditation, this time under the strict new guidelines outlined in The ACCME's Essential Areas and Their Elements (ACCME, 2006) (Appendix A), which have gone into effect since the Clinic's CME program was last accredited. Maintaining its current Accreditation with Commendation status will require Marshfield Clinic CME to demonstrate it fulfills the new criteria while focusing heavily on the ability of the program to act as an agent for change within the institutional framework.

Historically, the formal course, conference, symposium or workshop has become the standard format of educational delivery for most CME providers (Davis, Davis & Bloch, 2008). However, researchers have found that despite the broad range of CME aimed at educating practicing physicians, therapeutic and diagnostic interventions are commonly overused, underutilized, or misused (Marinopoulos, et al., 2007). Ebell and Shaughnessy (2003, p. S53) noted, "CME has too often failed to deliver the most important and useful information to clinicians: patient-oriented evidence on common or important problems that has the potential to change practice." The effectiveness of CME, as a result, has been viewed as ambiguous, with questionable benefit to participating physicians (Moran, Kirk & Kopelow, 1996).

Relationships or perceptions of relationships with pharmaceutical companies and the potential for conflict of interest in educational venues, in particular, have become areas of

significant interest and criticism by these oversight bodies (Kober, 2010). The history of physician educators and CME faculty accepting payments and elaborate gifts from pharmaceutical companies in exchange for the promotion of their products within the context of an educational venue has tarnished the image of CME, calling into question the methods, motives and outcomes of CME as a whole (Fox, 2010). The ACCME, whose mission “is the identification, development, and promotion of standards for quality continuing medical education (CME) utilized by physicians in their maintenance of competence and incorporation of new knowledge to improve quality medical care for patients and their communities” (Retrieved July 19, 2010, from Accreditation Council for Continuing Medical Education Web site, <http://www.accme.org/index.cfm/fa/about.home/About.cfm>.) defines the gold standard in CME accreditation. The ACCME has set forth a series of changes and recommendations designed to address conflict of interest and the need for a broad-based, non-biased approach to educational content delivery (Kober, 2010). Resolving conflict of interest and actively addressing institutional gaps or those issues that plague a department or institution as a result of insufficient knowledge or ability to successfully implement information or techniques in practice, in education should improve the public’s perception of CME and demonstrate improvements in patient outcomes.

Continuing Medical Education is a challenging field because content should be delivered using adult learning principles aimed at addressing an individual’s need for knowledge and skill development while simultaneously addressing gaps in performance at an institutional level – all in an effort to improve patient outcomes. Educators in CME have found it necessary to look beyond the requested topics of individual learners who may or may not be accurately aware of where their deficiencies occur and focus on the performance of an entire system of learners (Fox, 2010). Continuing Medical Education organizers should take into account the needs of identified

stakeholders, patient feedback, balanced scorecards, trends in population health both on a local and national level as well as physician errors in practice and documentation, morbidity and mortality rates, and a variety of other indicators depicting where educational interventions can assist in improving overall healthcare delivery (Khan, Bagley & Tyler, 2007). The movement toward outcomes driven CME will likely continue to evolve, forcing CME providers, such as Marshfield Clinic, to change the way they approach education, or risk losing their accreditation status.

Marshfield Clinic has approached this call to action by examining the internal structure of its own program. The Clinic has begun the improvement process, by shifting away from the individualistic approach to educational activities where each activity arose by its own accord and was then reviewed and approved in isolation, toward a conceptual framework that establishes an understood, shared vision providing direction for the whole program. The Clinic has gathered key stakeholders, including representatives from: Quality Improvement, Patient Safety, Peer Review, Drug Evaluation Committee, Systems Operating Group, and other strategically targeted groups to guide and influence the direction of educational planning attempting to comply with its own CME mission statement, and the requirements of the ACCME. Representatives on the CME Committee are responsible for identifying areas of needed improvement and existing gaps in education or patient care as they relate to their respective oversight.

The 2006 release of the ACCME's Updated Essentials and their Elements (Appendix A) brought to the forefront of all CME, the importance of the mission statement. According to Passin (2008, p. 29),

The "enhancement mission" referred to in the new ACCME criteria is a central force in the new accreditation paradigm. The CME mission must focus on changing outcomes, particularly in competence, performance-practice, and/or improved patient health. The

accomplishment of this mission requires support of the mission drivers, reflected in the way the provider selects the issues to be addressed. At a minimum, these fundamental questions must be answered:

- Is content based on evidence that is considered best practice?
- Is content based on a gap that exists between current and best practice?
- Does closing the gap between current and best practices result in improvements in the health and/or outcome of patients?
- Will the proposed educational intervention result in changes in current practice?

To quantifiably measure these gaps, Marshfield Clinic CME has undertaken the task of creating and implementing a series of measurements, known as the mission-based metrics, in an effort to develop a visual assessment of the health of its educational program. The CME Dashboard (Appendix B) has been designed to identify where gaps in educational programming exist. Linking key components of Marshfield Clinic's Continuing Medical Education/Continuing Professional Development Mission Statement (Appendix C) to specific data collection provides CME committee members the opportunity to strategically target education with the overall goal of improving knowledge, competence, performance and patient outcomes in the broad field of healthcare provided by Marshfield Clinic physicians and allied healthcare staff.

Statement of the Problem

A problem exists in that Marshfield Clinic CME is held accountable to its Mission Statement to remain compliant with the accreditation standards defined by the ACCME. Demonstrating mission relevance requires that Marshfield Clinic CME create a mechanism to measurably demonstrate it meets the components outlined in its mission statement. Using the CME Mission Statement and its five primary categories of purpose, content, audience, activities, and expected results as a guide, Marshfield Clinic CME must define the measures of success in

accordance with its mission statement. Future demonstrations of program improvement hinge on the ability to Marshfield Clinic CME adequately demonstrate mission relevance.

Demonstrating Marshfield Clinic's CME Mission Relevance

1. A systematic collection tool is necessary to translate a mission statement into measureable components
2. A CME mission statement can be transferred into a visual representation of the health, gaps, and practice of a CME Program
3. A CME Dashboard assessment can be used to identify gaps in existing educational programming

Purpose of the Study

This study is designed to create and describe data for a series of metrics tied to Marshfield Clinic's CME Mission Statement. The data generated will be formulated into a visual dashboard format to easily identify Marshfield Clinic's CME Mission relevance to comply with the rigorous accreditation standards defined by the ACCME (Appendix A). Deriving quantitatively-measurable elements from a mission statement will provide the catalyst for adequately assessing the overall health of a Marshfield Clinic's CME program. These measurements will allow those in a position of influence to make real-time adjustments to educational content and programming to meet the program's mission statement.

Assumptions of the Study

The utilization of a mission-based metrics will provide the necessary incitation for change in CME programming at Marshfield Clinic. Focusing on measureable improvement in the knowledge, competence and performance of learners should result in positive patient outcomes.

Assumptions 1: The use of mission-based metrics will identify where gaps in mission performance exist

Assumption 2: Marshfield Clinic CME will demonstrate improvement on closing the gaps in existing education as a result of available data indicated in the mission-based metrics

Definition of Terms

Accreditation: The process for assigning credit to a particular CME activity (Davis, Davis & Bloch, 2008).

Activity: Activity refers to any individual educational presentation, computer-based training, or other learning opportunity that has been approved for CME credit. Any educational opportunity that has not been approved for credit will now be referred to as an “activity.”

Activity Director: The Activity Director is an individual who oversees the educational design of a specific activity or grouping of CME accredited activities. This individual is fundamental in determining needed topics, assigning learning objectives and assisting the speakers, in developing content.

Activity Planning Worksheet (APW): (Appendix D) A tool designed by CME staff to collect information about an accredited educational activity from an Activity Director or expert faculty member input data into the mission-based metrics that supplies the data for the CME Dashboard (Appendix B).

Allied Health Provider: Allied Health Providers refers to non-physician healthcare providers.

Clinic: The term Clinic refers solely to Marshfield Clinic and no other healthcare provider unless otherwise specified within the context of the statement.

Competence: The ability to implement knowledge through meaningful action with the intention of achieving positive patient outcomes.

Content Expert: Content Expert refers to an individual who is an expert in the field, topic, or specialty that is being covered in an educational activity. In most references, the term “content expert,” when used in this paper, refers to the speaker who provides the content of the education.

Continuing Education (CE): Continuing Education refers to education received after the completion of an individual’s degree-required education. In this paper, CE is often interchangeable with CME, discussing education received by practicing physicians.

Continuing Education Unit (CEU): CEU refers to the educational unit award to learners who complete the defined steps of an educational activity. CEUs are awarded based on length of activity. One hour of CEU is reflected as 0.10 CEUs. Ten hours of CEUs are reflected as 1.0 CEUs.

Continuing Medical Education (CME): Educational activities that serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships a physician uses to provide services for patients, the public or the profession (American Medical Association, 2006).

CME Committee: The CME Committee refers to a group of physicians and healthcare professionals who review and approve all activities offering CME credit through Marshfield Clinic. Representatives consist of key stakeholders from within the Marshfield Clinic system, as well as representation from other affiliated hospital systems. The CME Committee is the oversight body for all issues related to CME programming at Marshfield Clinic. (See Marshfield Clinic CME Committee Policy, Appendix E, for a complete list of CME Committee functions.)

CME content: That body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of Clinical medicine, and the provision of healthcare to the practice (American Medical Association, 2006).

CME Specialist: CME Specialists are individuals who are experts in the field of CME and serve as the educational staff dedicated to promoting and maintaining the rigorous requirements for the accreditation of educational activities. (See Marshfield Clinic CME Staff Policy, Appendix F, for a complete list of the essential functions of a CME Specialist.)

Dashboard: (Appendix B) A dashboard is a visual representation of the status of the CME program.

Education: In the context of this paper, the term education refers only to CME accredited activities offered to medical professionals for CME credit.

Evidence-based medicine: The incorporation of utilizing the best, scientifically-proven practices and information available into one's clinical practice.

Grand Rounds: The term "grand rounds" has different meaning for different institutions. Marshfield Clinic uses this term to describe the didactic lecture presentation, which occurs weekly on a set schedule to educate learners, consisting of both physicians and allied health professionals, on a variety of topics such as updates in medical procedures, new research and findings in disease state management, pharmacological updates, evidence-based medicine practices, interpersonal and communication skills, healthcare reform and other timely and relevant topics.

Key Performance Indicators (KPIs): "are the measurements that enable the organization to effectively monitor how they are performing in meeting their organizational objectives" (Buhler, 2008, p. 21).

Knowledge: The information that can be accessed with relative ease as a result of retained education.

Need: "Any 'gap' between what is and what should be" (Davis, et al., 2008, p. 654).

Patient Outcomes: The results or consequences of an action, or intervention with a patient.

Performance: The ability to put knowledge into action correctly.

Program: Program is an all-encompassing term used to describe an institution's overall educational offerings. Program refers to the education as a whole, whereas activity refers to individual components of education. The two terms are not interchangeable in official documentation.

Providers: The term providers describe individuals who provide a medical service to patients. This may include physicians as well as certain allied-health associates.

Stakeholder: "Individuals or groups who have a vested interest in the outcome of a specific project, can be from within or outside an organization, might directly or indirectly contribute to a provider's business, and stand to gain or lose from the outcome of the project" (Vanderpool, DuPont, Guadagnoli, O'Brien, & Rubinstein, 2010, p. 3).

Limitations of the Study

Significant effort and planning were dedicated to the development of the tools essential to collecting the information used to populate data into the metrics, as well as the metrics itself, and multiple revisions occurred as potential limitations were identified. However, 100 percent accuracy still cannot be guaranteed. Herein lays the most significant limitation of this study - as with any evaluation or assessment tool, the tool itself is only as effective as the individual supplying the data. In this instance, quantitative data is drawn from often qualitative assessment, allowing individuals to assign value to each activity which cannot be completely free of individual pre-conceptions and interpretations. Although efforts have been made to educate CME faculty on how to most efficiently, effectively, and accurately supply the necessary data to

CME staff through the use of the APW (Appendix D), individual bias and interpretation can again influence the application of information.

Another significant limitation to this study is the lack of technology needed by CME staff to input data with assurance of 100 percent accuracy. Currently, CME staff uses Peopleware, a system originally designed for registration purposes, which has been used as a credit-tracking system for some time, despite its significant limitations in capabilities. All credit hours awarded for an individual or series of accredited activities can be generated in a list, relative to individual people, or to an activity identifier, but cannot be calculated in a way that meets the needs of the metrics, nor can it automatically feed the Excel metrics, which populates the dashboard. Entry into Excel must be both hand entered and tabulated, allowing for the possibility of faulty calculation or incorrect data entry due to human error.

The tools used to collect the necessary data are living documents, presenting yet another notable limitation. Accreditation changes, such as the identifying and addressing barriers (C18 & C19 in Appendix A), necessitate alterations to the tools used within this study. Modifications to the CME mission statement, to reflect both accreditation changes and the philosophical outlook of the CME program, trigger additional changes in the collection tools. These changes may cause variance in reporting as well as presenting potential confusion in documentation procedures.

The availability, input and buy-in of stakeholders presents another potential limitation to this study. Significant pieces of the data collection center on the ability of CME to connect its educational activities to the identified needs of key stakeholders. Similar to many large organizations, Marshfield Clinic addresses the needs of many groups, each with their own focus and agenda, simultaneously. Insufficient communication between CME and stakeholders hinders the ability of CME staff to accurately represent its ability to meet stakeholder needs.

Methodology

This study is designed to describe to the reader the creation of a series of metrics tied to a CME Mission Statement. Chapter Two, the literature review, familiarizes the reader with the history and current status of CME while demonstrating the usefulness of metrics and dashboards in strategic planning, despite limited literature on the subject with direct relation to the field of CME. Chapter Three will describe Marshfield Clinic's process of implementing the CME mission-based metrics from conceptualization to utilization. Chapter Four will demonstrate early results of the mission-based metrics and discuss how it is being currently utilized to identify Marshfield Clinic's ability to meet its mission statement. Finally, Chapter Five will offer recommendations to the reader on how Marshfield Clinic can further improve its programming through the utilization of the mission-based metrics dashboards and provide lessons to other institutions interested in implementing a similar mission-based metrics.

Chapter II: Literature Review

Introduction

The purpose of this study is to demonstrate how the implementation of mission-based metrics can demonstrate mission relevance assess the health of a CME program. Serving as a mechanism for continual program evaluation and improvement, Marshfield Clinic's CME mission-based metrics will be essential in strategically planning the program's future. An extensive literature search revealed limited information relating to the concepts of CME mission-based metrics measurements and dashboard technologies in the practice of CME. However, significant resources were located depicting how metrics and dashboards, traditionally utilized in corporate settings, has been frequently used in the non-profit environment and can be incorporated into CME as a tool for assessing and satisfying the rigorous accreditation requirements of the ACCME.

This literature review is structured to provide the reader with basic knowledge of CME. A review of the history, current status, and forward movement of the field is examined. Additionally, the role of adult learning principles within the context of CME is explored. Finally, the usefulness of metrics measurements and dashboard technologies across multiple professional realms, including the role of mission statements, stakeholder identification, understanding key performance indicators, and continual evaluation are discussed.

CME: Transformation of an Ideology

Historical perspective: How did we get here?

Physicians maintained their competence for centuries and likely practiced with the greatest competency at the end of their career, as a result of self-reflective individual learning (Davis, et al., 2008). Dedicated physicians demonstrated professional growth initiative by actively seeking to remain current in the science of medicine, using CME as a transportation

vehicle for the individual expansion of knowledge in the evolving techniques relative to their field of practice (Davis et. al, 2008). Tremendous growth in knowledge during the twentieth century was “characterized by the multiplication of specializations, whose major reason was the inability of professionals with similar and standardized characteristics to dominate knowledge that goes beyond the limits of man’s mnemonic ability” (Vettore, 2004, p. 38). Subsequently, the publication of The Flexner Report on Medical Education in the United States and Canada, published in 1910, initiated significant changes in the approach to medical education (Kokemueller & Osguthorpe, 2007).

Abraham Flexner’s assessment that the overproduction of uneducated, poorly trained medical physicians prompted a call for a new national effort to strengthen the medical profession (Kokemueller & Osguthorpe, 2007). During the late 1950s and early 1960s, the American Medical Association (AMA) took the reins of the growing educational field. The term “continuing medical education” became a standard in medical nomenclature as the AMA devised criteria and standards to improve physician education, identifying CME as a unique form of study. The advent of CME credit came to fruition and was initially performed in 1968 as the AMA focused their attention on developing initial goals and ideal objectives of postgraduate medical education programs. Significant volume increases in physician accreditation between 1968 and 1976 resulted in the “formation of a dedicated subsidiary organization, the Liaison Committee for Continuing Medical Education, which morphed into the current Accreditation Council for Continuing Medical Education (ACCME) in 1981,” under which CME is currently regulated (Kokemueller & Osguthorpe, 2007, p. 1334). 1989 brought the implementation of the ACCME Accreditation Elements model for activity planning, which guided CME planning until the release of the updated compliance criteria in 2006 (ACCME, 2006, p. 3).

A shifting paradigm: Assessing the status quo.

Today 47 of 54 state and territorial medical licensing boards require 12 to 50 hours of CME credit hours per year (Tian, Atkinson, Portnoy & Gold, 2007). These requirements appear to be founded on the belief that the acquisition of knowledge will lead to improvement in physician practice performance and ultimately improve patient outcomes (Davis, et al., 1999). Hence, CME has come to be viewed as a time-based credit system, fulfilled through the passive participation in short courses or conferences (Davis et al., 2009). Subsequently, physicians have frequently gravitated toward the inadequate transfer of knowledge and competence through the seat-time lecture approach to learning as the advent of CME credit took hold (Holmboe, 2008), receiving “little more than documentation of attendance” (Moore, Green & Gallis, 2009, p. 1). Despite estimates that physicians spend approximately 50 hours per year on CME activities that are reportedly designed to improve practice performance and patient outcomes, conflicting evidence demonstrates their lack of effect on reaching the intended goals (Davis et.al, 2009).

Davis, Davis and Bloch (2008) attributed this lack of effect to the absence of CME in everyday practice, while Holmboe (2008) cited the decay of performance over time and Moran, Kirk and Copelow (1996) claimed that the reported five- to seven-year half-life of medical knowledge or the lack of a formal structured curriculum for physicians beyond their residency and fellowship may be to be to blame. Despite practicing physicians having access to a broad spectrum of existing continuing education, designed to provide core skills necessary to remain current in the practice of high-quality healthcare, (Ahlers-Schmidt, Wetta-Hall, Berg-Copas, Cusik Jost & Jost, 2008) Mazmanian (2010, p. 1) citing the Institute of Medicine (IOM), suggested the “science underpinning continuing education (CE) for health professions is fragmented and under-developed, and the role and value of CE are not uniformly understood.” The effectiveness of available continuing education has also been questioned as evidence

suggests that CME does not adequately narrow the gap between what is done in Clinical practice and what should be done based on current evidence to achieve improvement in patient outcomes (Marinopoulous et al., 2007). Regardless of the origin of the inadequacies in current CME practices, it is evident that “problems exist in transferring new knowledge and skill from the CME setting to the hospital, Clinic, or office” (Davis et al., 2008, p. 660).

Redirecting: The future of CME.

According to Zimitat, “the need for CME is intertwined with the future of medical practice and follows the expansion in scientific knowledge, increasingly sophisticated diagnostic technologies and the evolving complexities of Clinical practice” (2001, p. 117). Citing the IOM, Mazmanian (2010, p. 1) claimed that “continuing education lacks a patient-based focus, with quality and patient safety poorly integrated into continuing education processes and with little recognition of the need for a multidisciplinary approach to continuing education.” In an ideal world, every patient would receive the best possible care each time they need it, from every physician with whom they interface (Mazmanian, 2009). Achieving this requires recognition that a physician’s practice does not occur in a vacuum. (Holmboe, 2008).

Medical insiders are well aware that “medical practice is evolving away from the one-doctor-one-patient-one exam room model of care” (Price, 2005, p. 259). Today’s physician operates within a team of allied health providers, support staff, and colleagues, all of whom play an essential role in providing quality patient care. Addressing these influences requires educational organizers to consider CME within a complex system of healthcare. Continuing Medical Education planners must recognize influences at the macro-level from societal, governmental and CME regulatory forces, such as the ACCME, as well as the organizational healthcare system in which they operate, to a more personal, micro-level of sub-specialty support teams including allied health professionals and support staff, in addition to the educational needs

of the individual physician as essential elements in creating an environment driven by identified needs (Davis et al., 2008).

Ongoing physician education has long been recognized by physicians' organizations as an essential component to maintain medical knowledge and skills (Asher, Kondziolka & Selden, 2009). Kahn, Bagley and Tyler (2007) argued that although for more than half a century traditional CME, consisting primarily of didactic lectures followed by testing, sent the message to the public that physicians were well trained, maintaining their education throughout their careers; however, in recent years the effectiveness of CME in improving patient outcomes and changing physician practice behaviors has been questioned. Studies have indicated that sizable gaps exist between real and ideal physician performance, bringing into question the ability of physicians to identify gaps in their own education (Davis et al., 1999). In 2003, Shannon noted that "the principle that adults are self-directed and can identify what they need to know has not been proven" (p. 266). Citing Reiter and colleagues, Shannon further stated that

adults are not innately self-directed in taking control of their own learning and are not good at assessing their own strengths and weaknesses. Some educational needs may be identified from specific practice experiences, but there are often educational needs that are unperceived. (Shannon, 2003, p. 266)

Holmboe (2008, p. S5) reiterated these comments, stating "without meaningful assessment activities, physicians cannot effectively identify their weaknesses, make improvements, and when necessary help regulatory bodies remove those physicians from practice who have become incompetent."

According to Armstrong and Parsa Parsi (2005, p. 680), "changes in healthcare delivery systems and in the global burden of disease call for reassessment of how tomorrow's physicians should be educated." Leaders in healthcare recognize that "Clinical problem solving is not a

generic skill. Experienced Clinicians use models or schemas developed from Clinical cases” (Wearne, 2008, p. 846). Baig, Violato and Crutcher (2010) added

a good physician possesses a mix of knowledge, attitudes, and skills used to provide patient care and other professional services so that the requirements of relevance, quality, cost-effectiveness, and equity are met. Among all of the traits of an effective doctor, the most important ones are Clinical skills, interpersonal aspects of patient physician encounter and professionalism– in short, competence. (p. 19)

Although indications that CME can be effective when based on sound educational principles do exist (Moran, et al., 1996), elucidating that, to some degree, maintaining educational objectives can be achieved (Marinopoulos, et al., 2007), those responsible for creating the optimal learning environments must recognize that single interventions are not highly successful in sustaining behavioral change (Passin & Sweetnam, 2008). Subsequently, it becomes essential that educational planners recognize that the goal of CME is not merely to increase knowledge, but to encourage patient outcomes through the promotion of appropriate physician behavioral changes (Ebell & Shaughnessy, 2003).

Historically the emphasis on credit for attendance as evidence of life-long learning and documentation of the comprehensive knowledge acquisition has led CME astray. According to Moran, Kirk and Kopelow (1996, p. 272), “the effectiveness of CME...is ambiguous and continues to be debated.” Davis et. al (1999) reiterated this point stating:

CME activities appear underpinned by a belief that gains in knowledge lead physicians to improve how they practice and thus improve patient outcomes. Despite this belief and the level of participation in and resources for CME, many studies have demonstrated a lack of effect on physicians’ performance of current practice guidelines or sizable gaps between real and ideal practice. (p. 867)

Ultimately,

the current system of continuing education for health professionals is not working.

Continuing education for the professional health workforce needs to be reconsidered if the workforce is to provide high quality care. A more comprehensive system of CE is needed.” (Institute of Medicine of the National Academies, 2009, p. 3)

Adult Education and CME

CME professionals agree that meeting the educational needs of busy healthcare professionals remains a difficult and challenging task. According to Moore, Green and Gallis (2009, p. 5),

at any given time, physicians are engaged simultaneously in several different kinds of learning. Systematic reading, self-directed improvement at work, participation in formal CME courses, and consultations with colleagues are woven into the basic fiber of their professional lives to create an approach to learning that is unique to each individual physician. Several studies examining physician learning have outlined a learning process that consists of several stages. In general, these stages begin when a physician learner becomes aware of a problem or challenge, and end when all stages are completed, with the physician learner comfortable and confident in applying newly learned knowledge and/or skills to the practice setting.

Continuing Medical Education professionals recognize that success in healthcare “requires a commitment to continuous relearning” from providers (Gaff, Aitken, Flouris, & Metcalfe, 2007, p. 451). Effective CME requires CME organizers to make an effort to better understand physicians as learners, grasping what motivates them, what their needs are, how they learn, and what assists them in achieving change (Shannon, 2003). According to Dornan and David (2000), continuing education should be designed with the endpoint focus on the adoption of the most effective healthcare practices in mind. Achieving this goal requires CME educators to “remain

at the forefront of theoretical and practical discussions regarding the scope, design and intent of CE programs, utilizing modern learning principles” (Asher et. al, 2009, p. 223).

Knowles (1979, p. 40) describes adult education as “a set of organized activities carried on by a wide variety of institutions for the accomplishment of specific educational objectives.” Beebe, Mottet and Roach (2004) added that adult education is based on the assumptions that learning must be relevant to the learner who possesses a wealth of experience and knowledge is intrinsically motivated, is self-directed and aware of his or her own deficiencies, and who is problem-oriented. In their 2008 study, Das, Malick and Khan found several key principles of adult learning essential to effectively teaching evidence-based medicine, or “the conscientious, explicit and judicious use of current best evidenced in making decisions about the care of individual patients” (p. 493). Among these suggestions, they claimed that adult learners will commit when the subject matter is both realistic and important to them with real world validity supplemented by direct, concrete experiences, making it useful to their day-to-day professional development and practice. Das, Malick and Khan also emphasized the importance of understanding that “adult learners come to learning with a wide range of previous experiences, knowledge, self-direction, interests and competencies” (p. 494).

The Role of Mission and Stakeholders

The effort to create a comprehensive educational system begins by determining the overriding goal, or mission, of the organization’s educational providers. Different advisory boards have different priorities, making it essential to determine what is important to the organization (Redding, 2010). Understanding the “big picture” provides the basic foundation to guide decision making, allowing content planners to determine a unified direction in strategically planning educational interventions (Buhler, 2008). Focus on the core values of changing

knowledge, competence, performance and patient health outcomes is essential to a quality CME mission (Passin & Sweetnam, 2008).

The successful implementation of the mission as a guide-post can only be accomplished with the support of the organization's mission drivers, otherwise known as the key stakeholders, who influence the selection of issues to be addressed (Passin & Sweetnam, 2008). The ACCME asserted the importance of stakeholder involvement when it released its updated criterion for accreditation in their Essential Areas and Their Elements (Appendix A), specifically addressing this issue in Criterion 20 (C20), which states "The provider builds bridges with other stakeholders through collaboration and cooperation" (ACCME, 2006). When considering the key stakeholders, CME providers must look beyond the confines of their own institution, as those organizations that look only inward are missing a valuable component of the equation when making effective decisions (Buhler, 2008). CME providers should collaborate with both internal and external stakeholders who recognize that the relationship as a win-win for both sides (Vanderpool, et al., 2010). Partnering with stakeholders such as quality improvement, process improvement and other organizational stakeholders to design, deliver and evaluate multi-faceted CME programs will improve the likelihood of achieving change in physician practice (Price, 2005). Aligning CME with identified stakeholders to achieve common interests in support of the CME program and mission will directly or indirectly contribute to the provider's functions and strategic planning.

Metrics, Dashboards, and Strategic Planning

According to Redding (2010), the metric against which all others should be evaluated is the organization's ability to accomplish its mission. Electing to collect quality data over quantity of data, organizations are forced to strategically select 10 to 20 key indicators, such as audience share, variety of programming, the ability to address core competencies, and summarize them,

replacing voluminous reports with a mindset of continuous improvement through performance measurements (Society of Hospital Medicine, 2007). Yet, many organizations are so inundated with raw data, including potentially valuable performance measurements, they are uncertain what to do with it (Riedel, 2007) or they don't know how to interpret it (McGovern, Court, Quelch & Crawford, 2004). Additionally, the question of whether the right data is getting to the right person, and if it is being used to make informed decisions about the strategic direction of the organization, often remains unclear (Buhler, 2008).

In the midst of this information overload, it becomes essential to carefully select measurements (Buhler, 2008) and implement a disciplined approach to link elements of a strategic plan to specific metrics to achieve mission impact (Redding, 2010). Movement toward mission-based relevance in pursuit of CME accreditation is emphasized in the ACCME's Criterion for Compliance, described in the Essential Areas and Their Elements (2006, p. 3) Criterion 12, which states: "The provider gathers data or information and conducts a program-based analysis on the degree to which the CME mission of the provider has been met through the conduct of the CME activities/educational interventions." The ACCME further solidifies its stance on mission-based relevance in Criterion 13, 14, and 15, which state: "The provider identifies, plans and implements the needed or desired changes in the overall program that are required to improve on ability to meet the CME mission," "The provider demonstrates that identified program changes or improvements, that are required to improve on the provider's ability to meet the CME mission, are underway or completed," and "The provider demonstrates that the impacts of program improvements, that are required to improve on the provider's ability to meet the CME mission, are measured" respectively (Appendix A). Satisfying the ACCME Criterion in the pursuit of Accreditation can be assisted through the implementation of a mission-based metrics dashboard.

Successful organizations have an ability to measure key indicators (Riedel, 2007) utilizing real-time information provided by user-friendly dashboards (Ceniceros, 2009). Dashboards are frequently used by corporations for board members to quickly assess the health and overall performance of their organization (Redding, 2010) by viewing complex and important information or data that would ordinarily be hidden (Riedel, 2007). Organizations that identify and capture key performance indicators (KPIs) and create visual representations such as dashboards of those measurements can reflect the health of the organization (Bauer, 2004).

According to Redding (2010), the clarity, conciseness and ease of functionality a visual performance dashboard provides can make it a powerful tool for keeping focus on the organization's mission and for identifying problems when constructed carefully. However, establishing an effective dashboard requires an organization to devise performance metrics focused on the organization's highest priorities and broad enough to reveal its overall scope. Developing truly relevant metrics requires the organization to revisit and connect with its mission (Redding, 2010) while keeping in mind that the "purpose of metrics is to provide objective measurements for each of the levels of proficiency in each of the areas of competency" (Satava, Gallagher & Pellegrini, 2003). Allowing users to drill down into complicated information quickly to identify areas in need of improvement through simple analysis (Minnigh & Gallet, 2009), dashboards that are tied to measurable outcomes can be used to present the strategies and outcomes of the organization (Griffin, Staebler, Muery, McCorstin & Harrington, 2007) and provide benchmarking over time (Riedel, 2007).

Ensuring the effectiveness of the tool requires the organization to comprehend fully what drives their organization and how to correctly select and measure key performance indicators (McGovern, 2004). Bauer (2004, p. 1) suggested "the centerpiece of any dashboard design is the KPIs and how they are captured and combined visually to reflect the health of the business."

Once an organization has decided what to measure it should set forth on a course of action setting targets, analyzing reports that measure actual performance against desired performance targets and develop an action plan relative to its goals (Society of Hospital Medicine, 2007).

Davis et al. (2008) emphasized the importance of strategically planned education, stating that “CME activity planning should begin with the end or objective in mind” noting CME has, in itself, emerged as a distinct interdisciplinary field of study. This movement toward viewing physician education within a microsystem was similarly reinforced by Holmboe (2008) who stated that “continuing medical education activities should embrace assessment as a core component to improve both physician learning and patient care.” According to Gilman, Cullen, Leist and Craft (2002, p. 810) “while some CME providers have been able to demonstrate relationships between the CME organization’s educational activities, the organization’s mission, and outcomes of educational activities, it has been difficult for most CME providers to systematically do so.” However, reflecting upon the 2009 ACCME Annual Meeting in New Orleans, Pelletier (2010) noted,

continuing medical education can be a key driver in an organization’s move toward performance improvement. But healthcare-related organizations are complex entities that can take a lot of time and effort to turn around. To make change happen that will improve outcomes, CME providers have to learn how to collaborate with departments including informatics and quality and performance improvement, as well as the individual docs and their healthcare teams. (p. 21)

Strategic management, or planning, was routinely implemented in for-profit businesses in the past, while non-profit organizations such as Marshfield Clinic shied away from it (Buhler, 2008). Strategic planning has since evolved to be considered a critical approach for all businesses across all industries, and many non-profit organizations have adopted the future-

oriented process, enabling them to make informed, proactive decisions today, while positioning itself for success in the future. Similarly, CME providers must acknowledge the role of strategically planning education within the context of their institutional framework to position themselves to adequately address ACCME's updated criterion (Appendix A) and to find ways to demonstrate education's impact on patient outcomes. Wearne (2008) argued that achieving patient outcomes is impacted by the patient's situation, the healthcare provider and the system in which the physician practices. Buhler (2008, p. 20) stated "organizations that believe the process is complete once the plan is implemented will often find themselves with a failed plan. It is essential to continuously monitor the company's progress" adding that "today's pace of change dictates that the formulation and implementation phases be more closely integrated to ensure that as changes occur and implementation problems arise, the strategy is re-visited on a continuous basis." According to Buhler (2008, p. 20), "if an organization is not planning its direction, it is not taking control of its future," and therefore must view its dashboard as an ever-changing, living tool used to actively monitor progress. Moving forward, CME organizers must focus on creating comprehensive and enduring educational processes driven by the thorough assessment of learner needs at both the macro and micro levels.

Chapter III: Methodology

Introduction

The field of Continuing Medical Education has undergone several changes in recent years. Expectations by the ACCME, the oversight body for CME, require that CME providers demonstrate their ability to not only identify, but also implement strategies designed to address and document the educational gaps within their organization's program while demonstrating efforts to connect with the program's mission statement (Passin & Sweetnam, 2008). Continuing Medical Education has shifted away from an individualist approach to education in which each activity stood alone with its own objectives and outcomes independent of other activities to a program-centric approach. Continuing Medical Education providers must consider the needs of their organization and employ multiple interventions using a variety of resources, techniques, and activities to work toward a common goal of addressing those needs (Price, 2005). Providers of CME credit must also look beyond the needs and requested education of individual learners, who may or may not accurately address gaps in provider knowledge, competence and performance to address the needs of their organization (Holmboe, 2008).

A review of Marshfield Clinic's CME program revealed an inadequacy in its ability to demonstrate mission relevance. In the past, CME content was based on actual or perceived needs, which were collected primarily through qualitative responses collected on activity evaluation forms asking physicians to identify desired educational topics. Little emphasis was given to system-identified educational gaps and needs tied to quantitative data collected throughout the system. Accreditation requirements outlined by the ACCME's 2006 Essential Areas and Their Elements (Appendix A) require that CME programs demonstrate efforts to connect educational endeavors to the mission of the program. This study is Marshfield Clinic's response to that problem.

The long-term goal for this study includes demonstration of a direct link between education and improved patient outcomes. Achieving this goal will require Marshfield Clinic, a large multi-specialty healthcare system, consisting of more than 750 physicians at more than 40 locations servicing northern and western Wisconsin, to systematically document how educational interventions are influential in improving population health outcomes. Marshfield Clinic CME fully expects that evidencing these changes will come over time, as the implementation of the mission-based metrics dashboard and subsequent strategic planning takes hold. However, before testing this hypothesis, the Clinic must first implement a strategy for formally identifying where gaps, or shortfalls, in educational program exist, and set forth a mechanism to close those gaps. This study examines the implementation of those strategies used to identify existing gaps in Marshfield Clinic's CME program.

This study focuses on the development of a mission-based metrics system of data collection and analysis which was created to serve two needs. The first to demonstrate Marshfield Clinic's ability to connect its educational activities to its mission statement, and the second to address Marshfield Clinic's need to conduct an adequate program evaluation and identify where gaps in CME programming exist. Marshfield Clinic CME expects the creation of a CME program dashboard will serve as the mechanism for fluid transition from its individualist past to an institutionally-focused future. Through the collection of the mission-based metrics, Marshfield Clinic CME has undertaken the task of critically examining its programming, identifying existing gaps in education, and assessing the overall health of its program, all while connecting to its mission statement. This program evaluation will allow Marshfield Clinic to move forward, implementing strategic efforts to identify and prioritize educational gaps in an effort to achieve a direct link to promoting patient outcomes. Although data linking those predicted outcomes to educational efforts are not yet available, the process described in this

study outlines, for duplication, how other organizations can implement similar studies in an effort to improve their CME program.

Several data collection instruments, such as the Activity Planning Worksheet (APW) (Appendix D), mission-based metrics Excel database (Appendix G), and stakeholder reports (Appendix H), were created or revised, and implemented into Marshfield Clinic's CME accreditation process to provide the necessary information to conduct this study. Tools for this study underwent a plan-do-study-act model (PDSA), an implementation approach commonly utilized in healthcare quality improvement initiatives. The continuous process is designed as a logical system of quality improvement in which an organization plans for change and analyzes predicted results (plan), executes the plan under small, controlled circumstances (do), checks and studies the results (study) and takes action, through the standardization or improvement of the process (Act). This process is continuously repeated as an ongoing system of process improvement (Retrieved from Department of Community and Family Medicine, Duke University Medical Center Web site http://patientsafetyed.duhs.duke.edu/module_a/methods/pdsa.html on June 15, 2010). New instruments were not fully integrated into the CME process until they had been tested with sample populations, chosen at random, by CME Specialists.

Subject Description

Marshfield Clinic is comprised of more than 750 physicians representing a variety of specialties, subspecialties, and primary care medical disciplines. Demographically, the Clinic's physician population includes both men and women, of various ages, in various stages of their career from a variety of ethnic backgrounds. The entire physician population, excluding residents who are not required to obtain CME credit, are at some stage of initial board certification or recertification as required for employment at Marshfield Clinic. The CME

committee, the oversight body for all Marshfield Clinic CME, is authorized by the Wisconsin Medical Society to provide *AMA PRA Category 1 CME Credit*. The committee consists of both physician and allied health representation from Quality Improvement (QI), Patient Safety/Peer Review, the Drug Evaluation Committee (DEC), Accreditation Bodies, Systems Operation Group (SOG) as well as Ministry Saint Joseph's Hospital and other affiliated hospital systems.

Instrumentation and Data Collection

The mission statement as a guide.

The ACCME's release of the 2006 Updated Decision-Making Criteria Relevant to the Essential Areas and Elements (Appendix A) required CME providers to adhere to strict new standards to be deemed "In Compliance," or eligible to award CME credit. Among these requirements Essential Area 1 (E1): Purpose And Mission. Essential Area 1 stated, "The provider must, Have a written statement of its CME mission, which includes the CME purpose, content areas, target audience, type of activities provided, and expected results of the program" (2006, p. 2). The ACCME further specified under the Criteria for Compliance in referenced to E1, "The provider has a CME mission statement that includes all the basic components (CME purpose, content areas, target audience, type of activities, expected results) with expected results articulated in terms of changes in competence, performance, or patient outcomes that will be the result of the program" (2006, p. 2). Marshfield Clinic's CME Committee subsequently adopted an updated Continuing Medical Education/Continuing Professional Development Mission Statement in May 2008 (Appendix C) to comply with the new ACCME guidelines. This mission statement serves as the foundation for the mission-based metrics dashboard.

Using the mission statement as a guidepost, measurable components were extracted to bring forth the key performance indicators to be used within the dashboard. The following passages were identified as quantifiable measurable indicators of the CME program's health:

Purpose.

According to Kober (2010, p. 20) “no longer is educating healthcare providers for the sake of education good enough. The current focus is on what has been termed ‘performance improvement,’ which involved education that has a measureable impact on a participant’s performance.” Marshfield Clinic described why it offers the education that it does in the purpose section of its mission statement. The initiatives outlined in the purpose section underpin and describe the significance of all activities offered at Marshfield Clinic. The purpose section revealed four measureable components.

1. “Marshfield Clinic is a proud provider of diverse Continuing Medical Education / Continuing Professional Development (CME/CPD) activities.”
2. “improving quality and patient safety in outpatient and inpatient healthcare”
3. “Marshfield Clinic intends to be a significant and diverse source of CME for the majority of our Clinic physicians”
4. “Bringing together key stakeholders to identify gaps in knowledge, competency, performance and/or patient outcomes.”

Content.

Content defines how educational topics are chosen at Marshfield Clinic. Davis et. al (1999) found that CME is founded on the belief that gains in physician knowledge will improve patient outcomes. However, further analysis by Davis et. al (1999) demonstrated that in fact, there is often a lack of effect on physician performance as a result of CME interventions. Anderson (2001) responded recommending CME programs build links between CME and quality groups within the organization to benefit from each other and improve education. When selecting content, Marshfield Clinic CME considered these recommendations and intend to

document through the following measures how it incorporates connectivity to stakeholders such as quality improvement and patient safety when implementing educational initiatives.

1. “content will be structured in 6 competency areas including: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-Based Practice”
2. “Activities will be based on gaps identified by key stakeholders”
3. “Content will include all areas of general and specialty medical care with particular focus on chronic disease management, preventative health and other strategic initiatives based on Marshfield Clinic strategic planning”

Audience.

Marshfield Clinic is a large, multi-specialty, multi-centered health care system. Accommodating the educational needs of all of its physician providers requires an acute awareness of the target audience and intended outcomes for each activity. According to Armstrong and Parsa-Parsi (2005, p. 682), “Designers of CME offerings for practicing physicians must consider a number of factors: individual’s preferred learning styles, their previous education, the problem to be solved, and the available professional support for learning.” Marshfield Clinic CME identified three primary measurements in the Audience section to monitor who education is intended for, and to assess if any group of physicians were not being targeted. Those measurements include:

1. “physicians in over 90 specialties”
2. “on over 40 campuses”
3. “CME delivery will target the physicians as leaders of their team, with non-CME strategies”

Activities.

The activities section of the Continuing Medical Education/Continuing Professional Development (CME/CPD) Mission Statement (Appendix C) defines how Marshfield Clinic conducts its educational activities to promote effective learning. It has been suggested that CME providers should carefully consider the questionable retention rates of traditional methods of physician learning (Davis et. al, 1999). Research has demonstrated that the inclusion of adult learning principles in CME is an important facet in achieving the endpoint of continuing education aimed at the adoption of the most effective healthcare practices as described by Dornan and David (2000). According to Asher, Kondziolka and Selden (2010, p. 225), “modern healthcare education should seek to promote the skills required to maintain competency in practice. Instructional design should take into account the requirements of effective contemporary practice and incorporate techniques that promote deep learning and transfer of knowledge.” Marshfield Clinic CME outlined the following objectives as key considerations when implementing educational activities:

1. “Activities will include Clinic-wide, specialty specific and targeted interdisciplinary Regularly Scheduled Conferences, intramural and extramural primary care and specialty conferences, computer-based audiovisual enduring materials”
2. “Session interactivity through audience response, pre-testing, post-testing, discussions with audience questions and answers, problem-based learning, practice-centered learning, and hands-on learning including simulation will be a growing component of the program’s activities”

The Activity Planning Worksheet (APW) collection tool.

The Activity Planning Worksheet (APW) (Appendix D) was designed to serve as a facilitation tool in the accreditation process as well as to accurately capture the elements

necessary to document the measurable components of the mission statement listed above. This collection tool underwent multiple revisions, refining areas of identified confusion. This tool is used at all levels of the CME planning and approval process. Continuing Medical Education Specialists and Activity Directors collaborate to input data through appropriate option selection and free-text entry. Upon completion the CME Specialists present the APW to the CME committee for review. The CME committee may approve the activity as presented, approve with recommended modifications, or deny the program altogether. Throughout the approval process, the CME committee identifies if the activity meets the needs of any of the CME program's key stakeholders, which is documented on the final APW.

Compiling the data: Utilizing a mission-based metrics.

Activities approved for CME credit were manually entered into the mission-based metrics database, drawing from information provided in the Activity Planning Worksheet (APW) (Appendix D). A simple binary code was used to identify whether or not an individual activity met identified measurements. The mission-based metrics database was created by CME staff and underwent multiple revisions as the project evolved.

Identifying gaps in education: Key stakeholder reports.

Key stakeholder reports, such as Quality Improvement, Drug Evaluation Committee, and Patient Safety/Peer Review, were formally and structurally implemented into the CME process in January 2010. Prior to January 2010, stakeholder needs were brought to the CME committee in an informal, and at times, arbitrary manner. Members of the CME committee were educated on the concepts of CME gaps and needs, creating mutual understanding of the meaning of frequently used and increasingly significant, CME terminology. The education promoted an accepted nomenclature amongst CME committee members and staff, allowing for the effective exchange of ideas and information. Key stakeholders were provided a set of guidelines

(Appendix H) to assist the report development, including identification of gaps, barriers to closing those gaps, and recommendations for educational interventions. A reporting calendar was created, assigning each stakeholder a designated time in which to offer their annual report. Following a stakeholder's report, the gaps are entered into the strategic initiatives database providing CME staff guidance in initiating educational activities. Strategic initiatives are monitored throughout the year, guiding education content selection, and are documented within the mission-based metrics Excel database as they are met.

Data analysis

Utilizing data implemented into the mission-based metrics Excel database, a series of charts and graphs were combined to form the mission-based metrics dashboard (Appendix B). Each visual representation ties directly to an element of the mission statement, allowing the CME committee to easily recognize the status of the CME program. The variety of pie charts, bar graphs and plot charts were used to represent the data collected in the metrics Excel database. The dashboard was then evaluated by the reviewer and presented to the CME committee to facilitate strategic planning.

Limitations

Human error remains the most significant limitation of this study. Early in the process, Activity Directors play a key role in selecting signifiers for their data when completing the Activity Planning Worksheet (Appendix D). Although every effort has been made to identify where elements of confusion occur, at times, the interpretation of the Activity Director may not be the same as that of the CME Specialist facilitating the activity. Additionally, as the technology does not yet exist to automatically transfer the information collected in the APW into the mission-based metrics Excel sheet, CME staff are responsible for entering the data, allowing opportunities for incorrect entry. Potential for human error continues to plague this study, as

credits must be hand tabulated for several series of activities as reports cannot be accurately generated to provide the information needed to populate the mission-based metrics Excel database (Appendix B) in which the results of this study are captured. Although every effort was made to eliminate errors through rigorous recounts and validity verifications, the potential exists for errors to have occurred.

Chapter IV: Results

Introduction

Marshfield Clinic CME identified a problem existed in demonstrating mission relevance. According to Gilman, Cullen, Leist and Craft (2002), this problem is not unique to Marshfield Clinic. Gilman et al. (2002, p. 810) noted that “While some CME providers have been able to demonstrate relationships between the CME organization’s educational activities, the organization’s mission, and outcomes of the educational activities, it has been difficult for most CME providers to systematically do so.” This study is Marshfield Clinic’s response to the problem.

Beales (2005) stated that although some naysayers believe it is impossible to derive direct outcome measurements from a CME program, achieving those measurements is not impossible. However, Beales noted that achieving those outcomes requires an organization must first decide what it is measuring. Marshfield Clinic created and implemented a process in which it systematically monitors all educational activities, collecting quantifiably measurable metrics identified as relevant to its Continuing Medical Education/Continuing Professional Education Mission Statement (Appendix C). The results of those metrics are used to assess the current health of the CME program to strategically plan future educational endeavors, making real-time modifications to remain in compliance with its mission statement.

The results of this study were derived from Marshfield Clinic’s CME-accredited activities occurring between the dates of January 1, 2010, through June 30, 2010. Results are categorized into five sections in conjunction with the structure of Marshfield Clinic’s Continuing Medical Education/Continuing Professional Development (CME/CPD) Mission Statement (Appendix C). The sections, titled Purpose, Content, Audience, Activities, and Expected Results are reflective of the criteria defined in the ACCME’s Essential Areas and their Elements

(Appendix A). Criteria for measurements were extracted from the mission statement, as described in the methodologies section of this study.

Purpose metrics.

The Purpose section of the mission statement describes the intention of educational activities at Marshfield Clinic. Similar to Beales' (2005) suggestion CME providers must decide what they are measuring before they can demonstrate direct outcomes measurements, a CME program should determine its educational priorities, and consciously work to address those priorities. The purpose section of Marshfield Clinic's Continuing Medical Education/Continuing Professional Development (CME/CPD) Mission Statement (Appendix C) describes the purpose underpinning its educational activities. The purpose section revealed four measurable components.

Marshfield Clinic is a proud provider of diverse Continuing Medical Education / Continuing Professional Development (CME/CPD) activities.

Marshfield Clinic offers multiple types of CME/CPD activities. Those types include: Grand Rounds, Regional Grand Rounds (typically consisting of didactic presentations), Regularly Scheduled Series (RSS) (departmental or multi-departmental meetings held for collaborative learning purposes, typically focusing on current issues in specialties, patient cases, and inter-departmental communication and collaboration with the goal of improving patient outcomes through improved patient care), Mentoring/Cattails College (activities designed to improve individual performance of new physician associates and acclimation to Marshfield Clinic's unique systemic processes through guided learning by experienced mentors), Accreditation for Continuing Pharmacy Education (ACPE) Activities (activities designed to improve communication and collaborative efforts between pharmacy and clinical departments to improve knowledge in prescribing), Intramural Activities (multi-presentation, or topic

conferences intended for Marshfield Clinic personnel), Extramural Activities (multi-presentation or topic conferences open to internal and external healthcare professionals), Enduring Materials (Computer-Based Trainings) relating to a specific disease state's quality guidelines), and Other Activities (activities that are focused on continuing educational development, for example, St. Thomas Management Training Courses, designed to improve systemic practices). Upon approval for CME accreditation, each activity was entered into the CME Mission-Based Metrics Excel Database (Appendix G), categorized by type and listed as an individual activity. Figure 1 does not reflect the number of hours of accreditation associated with each activity type, focusing instead on the actual number of activities approved by type.

Figure # 1

Accredited Activities by Type

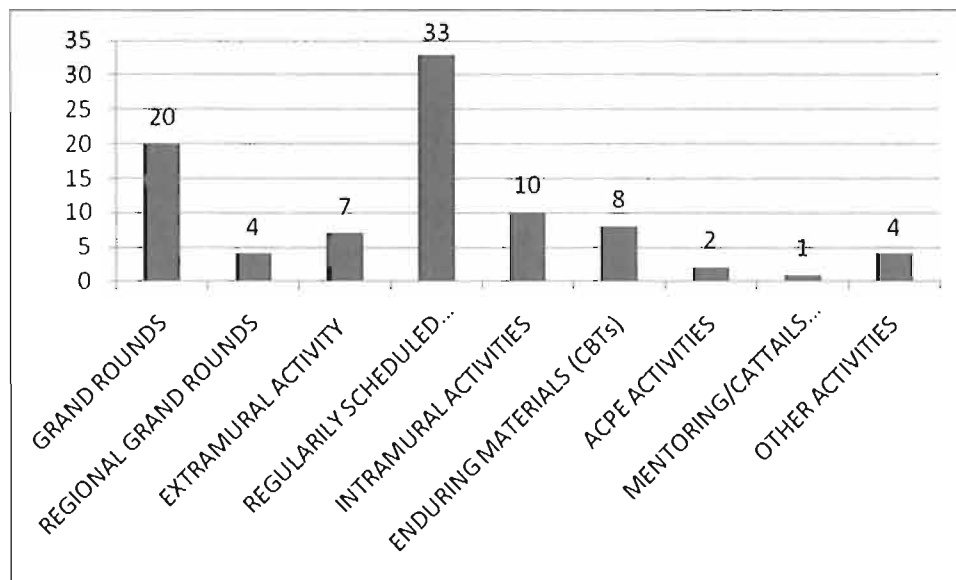
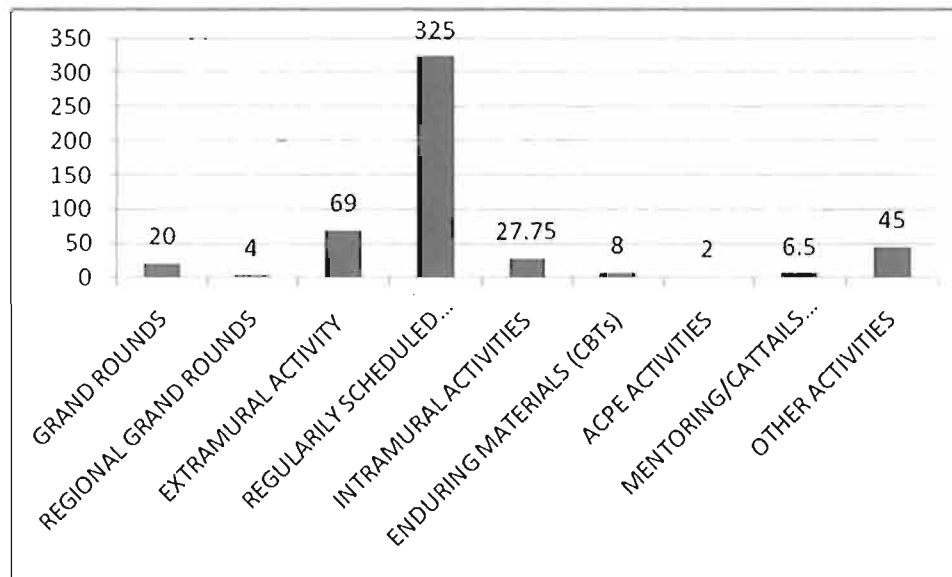


Figure 2 represents the number of potential hours of credit a physician could have received through participation in the various educational venues. Accredited activities vary in length, based on the educational objectives of the session. This table does not reflect the number of credit hours awarded, focusing solely on the credit hours available.

Figure 2

Accredited Hours Available by Activity Type***Improving Quality and Patient Safety in Outpatient and Inpatient Healthcare.***

Educational activities provided by Marshfield Clinic focus on improving outpatient and inpatient healthcare. Collaboration with stakeholders in Quality Improvement and Patient Safety increase Marshfield Clinic's ability to achieve that goal. Each activity is reviewed by stakeholders, such as Quality Improvement and Patient Safety, as members of the CME Committee, and assessed for relevance to their identified needs and goals. Table 1 and Table 2 represent the frequency of activities identified as relevant to Quality Improvement and Patient Safety in the areas of In Patient and Out Patient Care.

Table 1

Frequency of Stakeholder's Identified Outpatient Needs

Stakeholder	Frequency (N=89)	%
Quality Improvement	17	19%
Patient Safety	9	10%

Table 2

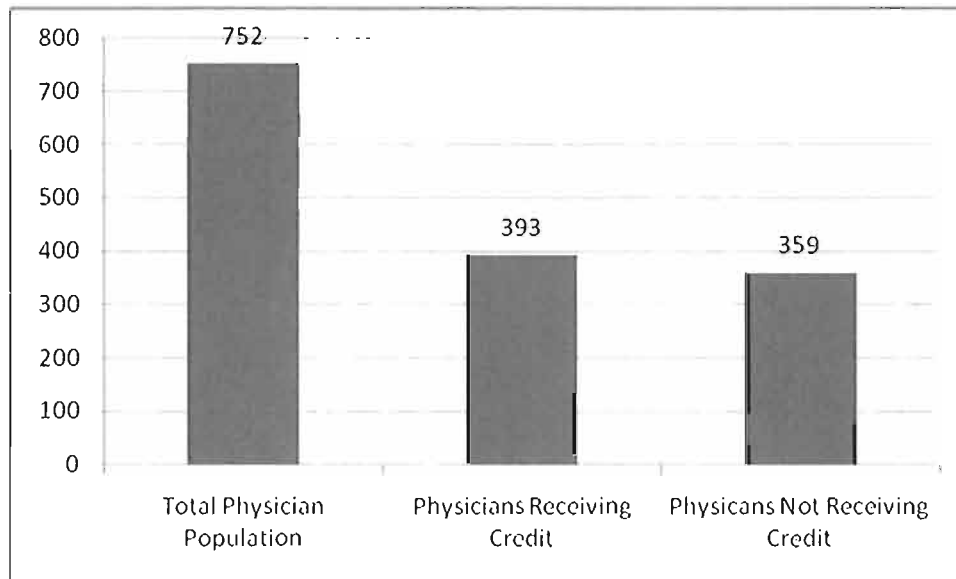
Frequency of Stakeholder's Identified Inpatient Needs

Stakeholder	Frequency (N=89)	%
Quality Improvement	15	17%
Patient Safety	12	13%

Marshfield Clinic intends to be a significant and diverse source of CME for the majority of our Clinic physicians.

A complete list of all physicians employed by Marshfield Clinic on July 1, 2010, was used as the official roster of physicians for the purpose of this study. The list revealed 752 physicians were employed throughout the Marshfield Clinic system on July 1. An examination of the individual transcript of each physician during the period of January 1, 2010, through June 30, 2010, revealed which physicians had utilized the opportunities to obtain credit hours provided internally by Marshfield Clinic CME.

Figure 3

Credit Awarded to Physicians at Marshfield Clinic

The physician list was then divided by department or service line in which the physician was employed, to provide trends in data for specialty-specific data. Data was further segmented into the categories of generalists and specialists. Table 3 depicts credit awarded to physicians who comprise the category considered generalists. Although the term generalist is widely accepted to include physicians practicing in the areas of Family Medicine, Internal Medicine, Med/Peds, Pediatrics, Primary Care and Family Practice, some argue that Pediatrics is a specialty field. Marshfield Clinic, though, considers Pediatrics to be encompassed within the realm of General Medicine. Although several sub-specialties exist within Marshfield Clinic's Pediatric Department, for the purposes of this paper, subspecialists were grouped within the primary field in which they study, such as Pediatric-Intensivists, who were categorized within the department in Pediatrics, similar to how they would be identified for internal budgeting processes.

Table 3

Generalists Claiming Credit (01/01/10-06/30/10)

Generalist	General Population	Credit Recipients	%
Family Medicine	28	15	54%
Family Practice	56	50	89%
Internal Medicine	65	31	48%
Med/Peds	4	2	50%
Pediatrics (All)	52	59	75%
Primary Care	7	7	100%

Table 4 depicts the credit trends of the various specialties identified within the Marshfield Clinic system. Similar to the example used to describe the segregation of Pediatric Sub-Specialists in the narrative regarding Table 3, Sub-Specialists, such as Orthopedics-Hand and Orthopedics-Ankle were grouped under the Orthopedics Service Line for clarity of reporting. Table 4 depicts the credit trends of Specialists at Marshfield Clinic.

Table 4

Specialists Claiming Credit (01/01/10-06/30/10)

Specialty	General Population	Population Receiving Credit	% of population receiving credit
Allergy	4	3	75%
Anesthesia	27	15	56%
Anesthesiology	3	0	0%
Behavioral Health	18	8	44%
Cardiology	24	11	46%
Cardiovascular Surgery	3	3	100%
CVT Surgery	1	0	0%
Dental - Hospital Based	1	0	0%
Dental - Oral Surgery	2	0	0%
Dermatology	14	7	50%
Emergency Medicine	18	3	17%
Endocrinology	7	4	57%
Epidemiology	1	1	100%

Eye Care	1	0	0%
Gastroenterology	12	1	>1%
Genetics	1	1	100%
Hospitalist	34	5	15%
Infectious Disease	7	5	71%
Lab-Pathology	19	15	79%
Neonatology	5	3	60%
Nephrology	12	10	83%
Neurology	20	6	30%
Neurology-Peds	3	3	100%
Neurosurgery	7	3	43%
NMS Medicine	1	0	0%
Nuclear Medicine	2	1	50%
Nursing Home Service	1	0	0%
Ob-gyn	35	16	46%
Occupational Health	4	3	75%
Oncology	21	14	67%
Ophthalmology	13	0	0%
Oral Surgery	7	5	71%
Ortho Service Line	30	19	63%
Otolaryngology	11	6	55%
Pain Management	2	1	50%
Palliative Medicine	3	1	33%
Pathology	2	1	50%
Physical Medicine	11	6	55%
Plastic Surgery	5	3	60%
Preop & Health Screening	5	2	40%
Pulmonary	8	4	50%
Radiation Oncology	5	4	80%
Radiology-Prof	39	23	59%
Research	1	0	0%
Rheumatology	8	3	68%
Sleep Lab	1	1	100%
Surgery, General	39	29	74%
Urgent Care	29	15	52%
Urology	12	3	25%
Wound Healing	1	1	100%

Bringing together key stakeholders to identify gaps in knowledge, competency, performance and/or patient outcomes.

Each accredited activity is assessed for its ability to meet the needs of identified by key stakeholders. An individual activity may meet the needs of every stakeholder, or none at all. Data representing an activity's ability to meet the needs of a specific stakeholder was documented in the Mission-Based Metrics (Appendix G), which was then tabulated and represented in Table 5. A percentage of total programs identified as meeting the needs of a stakeholder was established to represent to what degree stakeholder needs are being represented in accredited activities offered between January 1, 2010, and June 31, 2010.

Table 5

Activities Addressing Stakeholder Identified Needs

Stakeholder	Activities Meeting Identified Need (N=89)	%
Accreditation Bodies	5	>1%
Clinic Department Need/System Need	67	75%
Drug Evaluation Committee	13	15%
Other	11	12%
Patient Safety	16	18%
Public Organizations or Coalitions	10	11%
Quality Improvement/Care Management	17	19%
SJH / Ministry or Other Hospital Systems	22	25%
Specialty Society	14	16%

Content metrics.

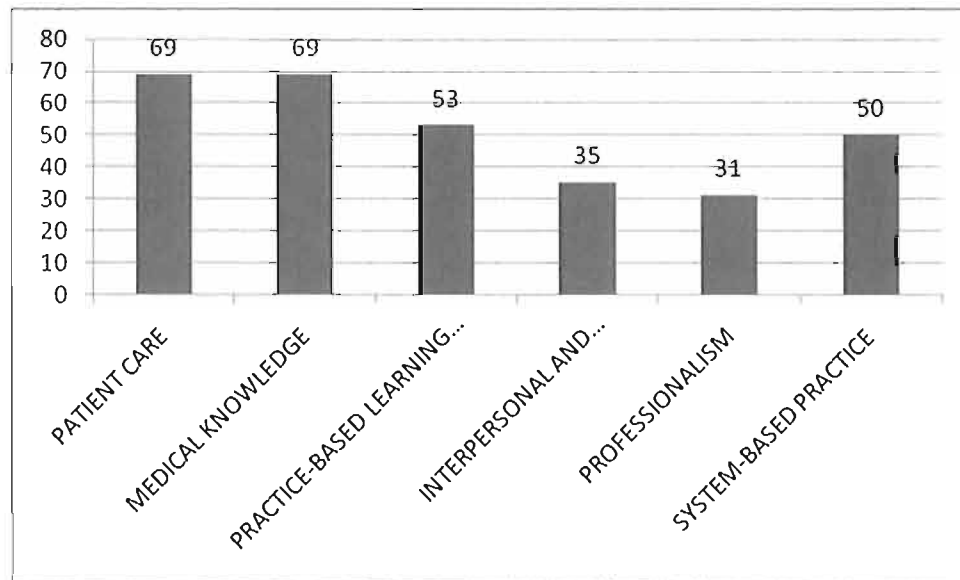
The Content section of Marshfield Clinic's CME/CPE Mission Statement (Appendix C) defines the criteria used in determining educational topics offered for CME credit. Three measurable components were extracted from the content section of the Mission Statement.

Marshfield Clinic CME/CPD content will be structured in 6 competency areas.

The American Board of Medical Specialties (ABMS) in 2000 (retrieved from www.abms.org/Maintenance_of_Certification/ABMS_MOC.aspx on July 31, 2010) identified of six core competencies essential for a physician to maintain their licensure certification. The six core competencies are defined as patient care, medical knowledge, practice-based learning, systems-based practice, professionalism, and interpersonal communication skills. Marshfield Clinic CME staff teamed with Activity Directors and faculty to determine which of these core competencies are addressed in each activity. A single activity may address all six competencies, but must address at least one.

Figure 4

Core competencies addressed by Marshfield Clinic



Activities will be based on gaps identified by key stakeholders

Review of all accredited activities included in the study (N=89) revealed that 61 (69%) denoted evidence connecting the activity to identified practice gaps. Practice gaps often included gaps identified outside confines of practicing physicians at Marshfield Clinic. Gaps could be

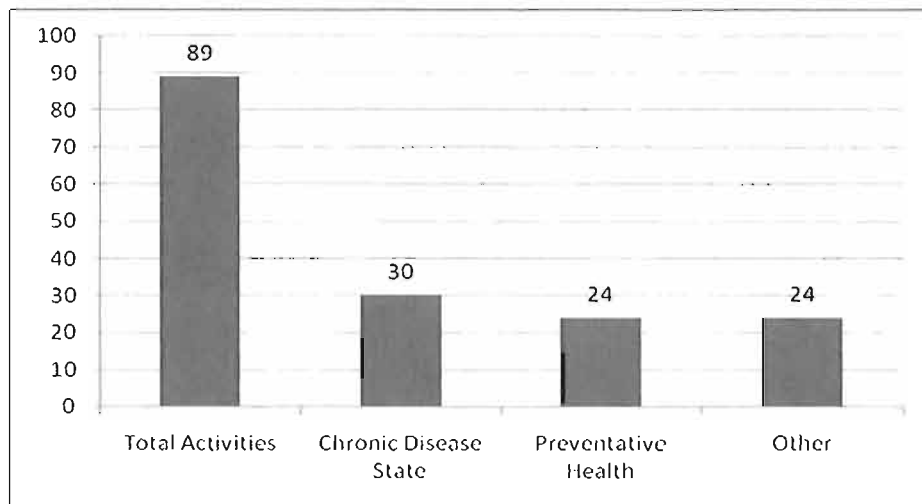
identified through local media outlets, current events and trends in health care and disease state management, such as the concern over H1N1 Flu Virus in late 2009 and early 2010.

Content will include all areas of general and specialty medical care with particular focus on chronic disease management, preventative health and other strategic initiatives based on Marshfield Clinic strategic planning.

Improving clinical knowledge of chronic disease states, such as diabetes, asthma, hypertension, and preventative health measures, such as immunization updates and drug-drug interactions, was a primary focus of Marshfield Clinic’s educational activities during the study period. Combined, the two topics accounted for more than half, approximately 61%, of all CME-accredited activities. “Other” activities were used to define programs focusing on the non-clinical softer-skills such as professionalism and communication, which accounted for approximately 27% of the total activities included in the study. 12% of total programming was not accounted for under the categories of chronic disease state management, preventative health or other.

Figure 5

Activities Focusing on Chronic Disease State Management, Preventative Health and Other Strategic Initiatives



Audience metrics.

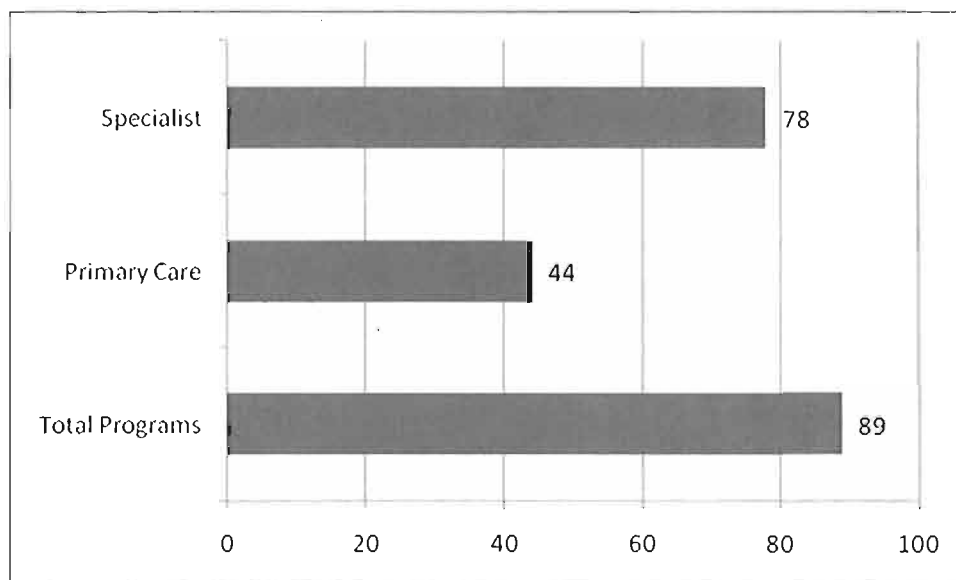
Audience describes the population for whom an activity is intended. Marshfield Clinic CME staff worked with Activity Directors and faculty to determine the intended audience for each activity. During the initial stages of this study, Marshfield Clinic monitored intended audience of each activity in two categories primary care (also known as generalists) and specialists.

The audience will vary by activity.

Each educational activity is designed with an audience in mind. Review of the sample activities indicated that 88% of educational activities (N=89) held during the study period included specialty physicians in the target audience. Further review indicated that primary care physicians were targeted for 49% of the total programs.

Figure 6

Target Audience



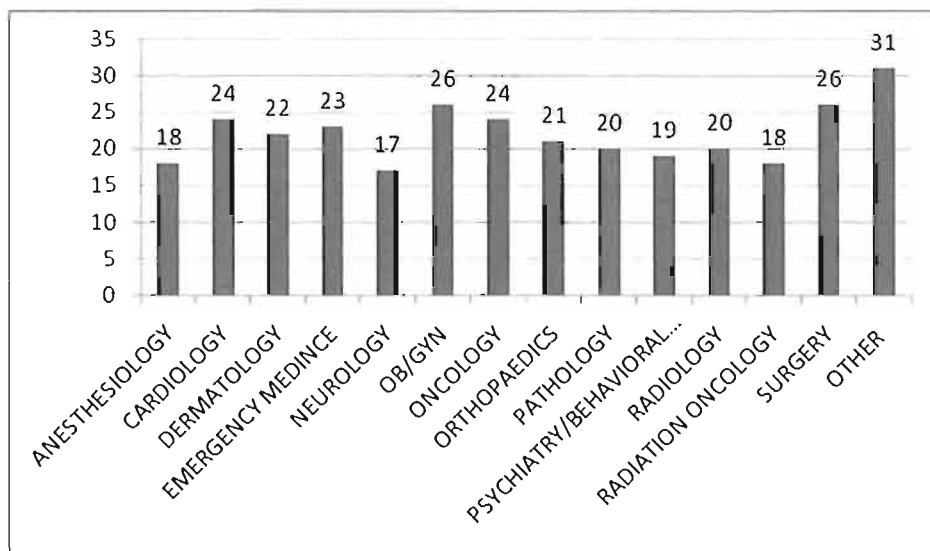
Activities will target audiences in over 90 specialties

A review of the target audiences revealed few of the 90 specialties were targeted frequently with educational activities. Only 14% of specialties within the Marshfield Clinic were

targeted prominently. Although other specialties, not represented on Figure 7 were targeted, they were not targeted with the frequency of those represented. Of those specialties prominently featured, OB-GYN and Surgery were targeted with the most frequency.

Figure 7

Targeted Audience by Specialty



Marshfield Clinic is a large organization with over 40 campuses.

Marshfield Clinic is a large organization with over 40 campuses located throughout northern, central and western Wisconsin. The system is divided into divisions for organizational fluidity and continuity. Currently, the Marshfield Clinic system is divided into 12 divisions, organized by geographical location and service line. Marshfield Clinic's Marshfield Center, functions as the central hub for the entire system. Due to the size and physician population housed at the Marshfield Center, it has been divided into three separate divisions by departments. However, departments, such as cardiology, orthopedics and anesthesia are divided by service line regardless of geographical location.

Activities are conducted in live and home-study formats. Live activities include any activity that requires live attendance, either on site, or via remote video conference, to receive

credit. Home study activities include any activity that can be completed without live attendance. This often includes recordings of live presentations, offered through MediaSite technology and Computer Based Trainings (CBTs). Regional centers within the Marshfield Clinic System are typically targeted through home-study offerings and video conferencing capabilities.

Table 6

Targeted Audience by Division

Division	Targeted Activities (N=89)	%
Central 1	51	57%
Central 2	46	52%
Central 3	50	56%
North	46	52%
East	54	60%
West	47	53%
Northwest	49	55%
Anesthesia	28	31%
Cardiology	33	37%
Orthopedics	31	35%
Oncology/Radiology-Oncology	31	35%
Radiology-Nuclear Medicine	30	34%

CME delivery will target the physicians as leaders of their team, with non-CME strategies.

Non-educational strategies are non-accredited educational efforts used to compliment an accredited educational activity to improve knowledge retention and implementation into practice with the overall goal of improving patient outcomes through improved practice. Non-educational strategies can be implemented at any point and connected to the educational activity

as it appropriately relates and complements the intent of the educational activity. Data documenting accredited activities offered by Marshfield Clinic between the dates of January 1, 2010, through June 30, 2010, demonstrated that eight of 89 total activities were complemented with a non-educational strategy. This is a less than one-percent implementation of this methodology.

Activities metrics.

Marshfield Clinic designed educational activities with adult-learning principles in mind. Offering a variety of venues and educational methodologies concur with the findings of Asher, Kondziolka and Selden (2010, p. 224) who stated:

Current changes designed to improve the quality, safety, and accountability of care through improved physician education should proceed in concert with efforts to design learning programs based on a sound understanding of human cognitive architecture and modern disciplinary knowledge. These approaches are likely to be complimentary, and will allow for the development of instructional design that will not only improve care, but also advance the science of care.

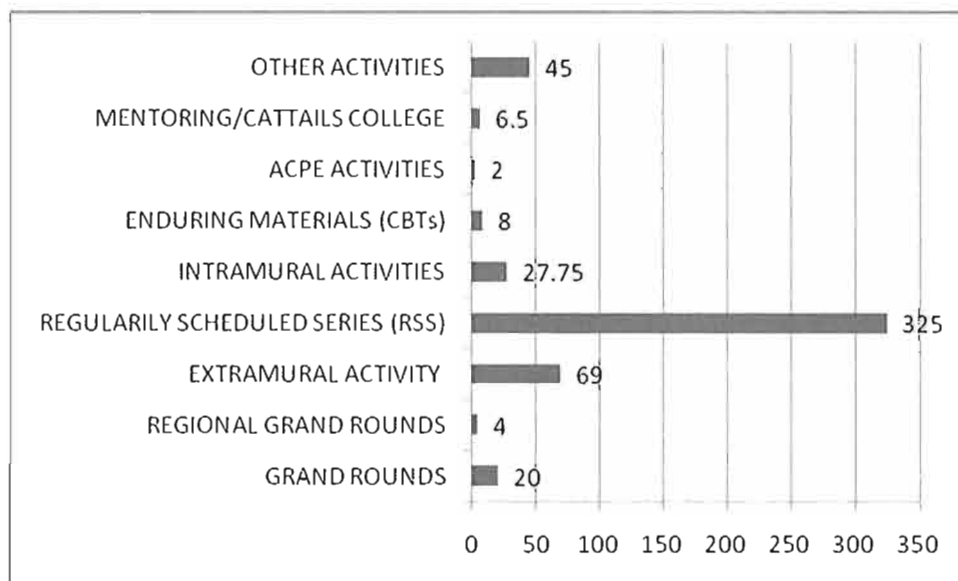
Activities will include Clinic-wide, specialty specific and targeted interdisciplinary Regularly Scheduled Conferences, intramural and extramural primary care and specialty conferences, computer-based audiovisual enduring materials.

Figure 1 (*Accredited Activities by Type*) depicted the distribution of activities by frequency of credit approval for each type of activity identified by Marshfield Clinic. However, it did not distinguish the hours of credit associated with each credit type. Documentation of hours indicates that Regularly Scheduled Series (RSSs) are the substantial leader in available credit type, having offered 325 hours of available credit during the period of January 1, 2010,

through June 30, 2010, Extramural activities came in second, offering 69 total hours of available credit in the conference venue, where as in Figure one, it was documented as fifth in frequency.

Figure 8

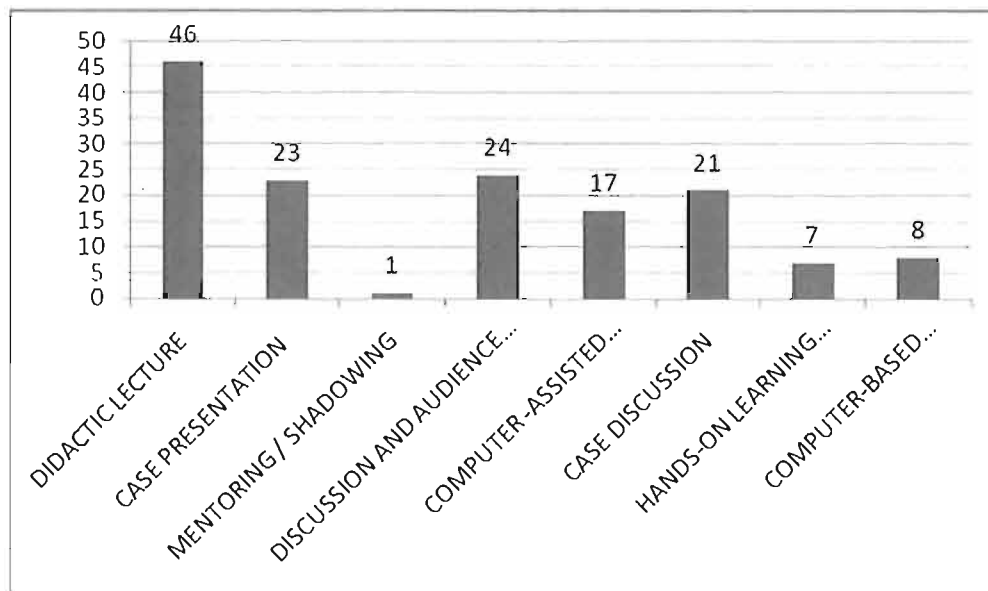
CME credit hours available by activity type



Session interactivity utilizing multiple learning formats.

Marshfield Clinic utilized multiple learning formats. A review of the study sample revealed that didactic lecture remains the most frequently utilized educational format, encompassing 52% of the educational activities. Case presentations, which can be used as an independent learning methodology, or in conjunction with didactic lecture was utilized in 26% of activities. The study revealed that mentoring/shadowing experiences were utilized with the least frequency, implement in >1% of activities.

Figure 9

Activities by Educational Format

Chapter V: Discussion

Marshfield Clinic recognized a problem in its CME Program in that the ACCME's (2006) updated accreditation requirements hold CME providers accountable to their mission statements. This study describes Marshfield Clinic's effort to demonstrate its program is guided by its mission statement through the implementation of mission-based metrics data collection. Asher et al. (2009) noted the importance of data collection and analysis in the field of CME stating, "Through new learning systems that incorporate collaborative learning and data collection, we can foster interchange that stimulates innovation, builds consensus, and harnesses the collective experience of our fellow physicians for the good of our patients and society." Similarly, this study describes Marshfield Clinic's effort to stimulate innovation and build consensus with internal stakeholders through the evaluation of its CME program. Through the implementation of data collection based on metrics linked directly to its mission statement, Marshfield Clinic has created a system that can quantifiably measure if Marshfield Clinic educational programming is in sync with its mission statement, and if it can demonstrate mission relevance as required by the ACCME (2006) in its upcoming re-accreditation scheduled to take place in 2011.

Limitations

Human error and inefficient data collection technologies remain the greatest limitations to this study. The implementation of a new system of data monitoring required that CME staff not only understand, but also adapt to new procedures. Resistance to change by some members of the staff presented obstacles to the timeliness of data collection. To date, limited amounts of data relevant to the period spanning January 1, 2010, to June 31, 2010, were unavailable as a result of staffing concerns, such as understaffing and resistance to change. Human error additionally causes concern for the researcher as Marshfield Clinic CME does not currently

utilize a software system capable of creating reports necessary to most effectively and efficiently correlate the information reported in this study. Instead, data must be manually extracted, and in many instances, hand tabulated. The researcher countered the potential for human error by conducting multiple tabulations for the variety of metrics; however, human error remains a potential concern.

Insufficient communication with key stakeholders presented an additional limitation to this study. Time constraints, sporadic attendance of some stakeholder representatives at CME committee meetings and the evolution to the new system of staff and stakeholder collaboration, presented barriers to fully documenting when educational programming was meeting the needs of stakeholders. Additionally, the researcher noted that some stakeholders may not have fully grasped the design of the study to demonstrate connectivity between stakeholders and educational activities. Opportunities to fully uncover to what extent educational programming was on track with stakeholder initiatives require significant improvement.

Conclusions

Purpose Metrics Conclusions

Marshfield Clinic offers a diverse array of CME activities. These activities included didactic lecture-based Grand Rounds, collaborative learning communities such as the Regularly Scheduled Series (RSSs) and independent Computer-Based Trainings (CBTs). Review of activities held during the study period focused on both the quantity of variety of activity and quantity of credit hours available in the various activity types (Figures 1 and 2). The study revealed Regularly Scheduled Series (RSSs) offered the greatest opportunity for physicians to receive credits during the first six months of 2010.

Review of Marshfield Clinic's ability to demonstrate connections between educational activities and identified needs of Quality Improvement and Patient Safety in the areas of

outpatient and inpatient care demonstrated limited correlation. Tables 1 and 2 denoted a trend across all four samples (Quality Improvement and Outpatient Care, Quality Improvement and Inpatient Care, Patient Safety and Outpatient Care and Patient Safety and Inpatient Care) in which fewer than 25% of educational activities were identified as meeting the needs of stakeholders in Quality Improvement and Patient Safety in the areas of Outpatient and Inpatient Care. This trend may be the result of a multitude of factors. First, this trend may be the result of intermittent representation of the two identified stakeholders at CME committee meetings where each activity is discussed, therefore eliminating opportunities for activities to be identified as congruent to identified needs in Quality Improvement and Patient Safety. Second, this trend may be the result of the stakeholder reporting schedule. Each month, a different stakeholder is responsible for preparing and presenting to the CME committee a list of its identified needs. Some stakeholder needs may not have been identified within the duration of the study, and therefore went unnoted. Thirdly, this trend may be the result of a lack of connectivity between CME activities and stakeholder needs. Should that be the case, it would be noted that Marshfield Clinic has not yet met this component of its mission statement and has identified a gap within its own program to address.

According to Davis et. al, (2008, p. 652) “CME should be developed and based upon actual and perceived needs.” Further analysis of stakeholder collaboration in CME programming (Table 5) revealed another area for potential improvement. With the exception of the categories of Department Need/System Need, which demonstrated connectivity with 75% of CME’s activities, and Saint Joseph’s Hospital (SJH)/Other Affiliated Hospitals, which demonstrated connectivity with 25% of CME activities, stakeholder collaboration resulted in connectivity to programming in less than 25% of the activities. A variety of factors, as described in the prior paragraph, may have a negative correlation on the ability of CME to accurately capture when

stakeholder needs are being addressed. Although conducting effective needs assessments can be re-source intensive (Davis et. al, 2008) this discovery presents an opportunity for improvement in Marshfield Clinic's CME programming.

Marshfield Clinic's Continuing Medical Education/Continuing Professional Development (CME/CPD) Mission Statement (Appendix C) states that it will be a provider of educational credit to the majority of its physicians. Review of physicians receiving credit during the study period, revealed that 52% of Marshfield Clinic physicians received credit through participation in internal activities. Marshfield Clinic may benefit from future analysis of the number of physicians receiving 15 credits or more, which is half of the minimum credit requirement for a two-year period.

Content Metrics Conclusions

Armstrong and Parsa-Parsi (2005) found that curriculum planners are questioning both the content and the methods of instruction and training in medical education. Marshfield Clinic has set out to purposefully incorporate educational activities centered on six core competencies, defined as patient care, medical knowledge, practice-based learning, systems-based practice, professionalism, and interpersonal communication skills. Through the CME Mission-Based Metrics Excel Database (Appendix G) this study revealed that Marshfield Clinic conducted educational activities in each of the six areas during the study period. Review of Figure 4 revealed that the areas of professionalism and communication skills lag slightly behind the other four competencies in frequency, indicating that Marshfield Clinic should make a conscious effort to target education in these two areas.

Review of Figure 5 reveals that a majority, 61%, of activities are classified as addressing chronic disease states or preventative care. Marshfield Clinic has met its mission-defined goal of offering educational topics focused on chronic disease states and preventative health. However,

indications that approximately 12% of the total activities do not fall into any category, suggests that further education for both Activity Directors and staff may be necessary to ensure that proper documentation is occurring. Additionally, future studies examining the educational formats used in relation to the topic of chronic disease states and preventative health may provide insight into developing methodology effective in promoting physician retention and promoting positive change in practice.

Audience Metrics Conclusions

Review of Audience Metrics measurements revealed that Specialists were targeted for educational activities more frequently than their Generalist colleagues. However, it should be noted that of the 90 plus specialties practicing in the Marshfield Clinic system, 13 receive the bulk of targeted education. This result is likely due in part to the population size of the departments. Larger departments frequently partake in Regularly Scheduled Series (RSSs) as an opportunity to collaborate on patient case-based education, drawing from the interaction between colleagues, whereas smaller specialties, particularly those with limited numbers of physicians (reference Table 4) are less inclined to utilize collaborative group learning opportunities, such as RSSs.

Activities Metrics Conclusions

Armstrong and Parsa-Parsi (2005) found that significant evidence in CME literature supports the implementation of active, self-directed learning to promote change in physician behavior; however, didactic lecture remains the staple of most CME programs despite its questionable results. This study found that Marshfield Clinic is not an exception to this example. Didactic lectures remain the most significant educational methodology implemented through CME programming. However, this study also revealed that although most individual activities center on the didactic model, the case-based learning approach, most frequently utilized in

Regularly Scheduled Series (RSSs) offers the most significant number of credit hours for participation.

Asher et. al (2010, p. 223) recommended “physician educators should therefore remain at the forefront of theoretical and practical discussions regarding the scope, design, and intent of CE programs, utilizing modern learning principles.” Marshfield Clinic could benefit from further research and implementation into best-practices in adult learning methodologies and increase the number of programs centered on interactive, case-based education.

Recommendations

Areas identified for potential improvement as a result of this study include:

1. Increasing meaningful communication and collaboration with key stakeholders to more effectively determine where needs are being met and gaps exist. Recommend some further research or a change in practices
2. Acquire data tracking software capable of streamlining monitoring process and diminishing the potential for human error
3. Increase faculty development opportunities to ensure complete understanding of the data collection process, its elements, and appropriate designations of key components
4. Continue to measure progress over time, including possible future research into the effectiveness of real-time program monitoring through the use of dashboard technologies and the ability to make necessary adjustments to activities to ensure the health of the overall CME program
5. Continue research into the ability of Marshfield Clinic to demonstrate mission-relevance in the area of Expected Results, through cooperation with stakeholders such as Quality Improvement and Patient Safety.

References

Accreditation Council for Continuing Medical Education, The ACCME's Essential Areas

and Their Elements (2006). Retrieved May 22, 2010 from

[http://www.accme.org/dir_docs/doc_upload/f4ee5075-9574-4231-8876-](http://www.accme.org/dir_docs/doc_upload/f4ee5075-9574-4231-8876-5e21723c0c82_uploaddocument.pdf)

[5e21723c0c82_uploaddocument.pdf](http://www.accme.org/dir_docs/doc_upload/f4ee5075-9574-4231-8876-5e21723c0c82_uploaddocument.pdf)

Ahlers-Schmidt, C., Wetta-Hall, R., Berg-Copas, G., Cusik Jost, J., & Jost, G. (2008).

Evaluating program effectiveness: Creating a reliable and valid tool. *The Journal of Continuing Education in Nursing*, 39(3), 139-144.

American Board of Medical Specialties (2006). ABMS Maintenance of Certification core

competencies. Retrieved July 31, 2010 from

http://www.abms.org/Maintenance_of_Certification/ABMS_MOC.aspx

American Medical Association (2006). The physician's recognition award and credit

system: Information for accredited providers and physicians. Retrieved May 22, 2010

from <http://www.ama-assn.org/ama1/pub/upload/mm/455/pr2006.pdf>

Anderson, G. (2001). Measurement of the outcome of learning: Health care performance

measurement and continuing medical education. *The Journal of Continuing Education in the Health Professions* 19, 222-226.

Armstrong, E. & Parsa-Parsi, R. (2005). How can physicians' learning styles drive

educational planning? *Academic Medicine*, 80(7), 680-684.

Asher, A., Kondziolka, D., & Selden, N. (2010). Addressing deficiencies in American

healthcare education: A call for informed instructional design. *Neurosurgery* 65(2) 223-230.

Baig, L., Violato, C. & Crutcher, R. (2010). A construct validity study of clinical competence:

A multitrait multimethod matrix approach. *Journal of Continuing Education in the Health Professions*, 30(1), p. 19-25.

- Bauer, K. (2004). The power of metrics: KPI's: The metrics that drive performance management. *Information Management Magazine*. Retrieved May 22, 2010 from <http://www.information-management.com/issues/20040901/1009207-1.html>
- Beales, D. (2005). 10 steps to real outcomes measurements. Retrieved May 22, 2010 from http://meetingsnet.com/cmepharma/cme/meetings_steps_real_outcomes/
- Bebbe, S. A., Mottet, T. P., & Roach, K. D. (2004). *Training and development: Enhancing communication and leadership skills*. Boston, MA: Pearson Education, Inc.
- Buhler, P., (2008). Managing in the new millennium: The use of dashboards in the strategic management process. *Supervision*, 19-21.
- Ceniceros, R. (2009). Dashboard technology helps select, measure, respond to risks. *Business Insurance*, 43(16), 21.
- Das, K., Malick, S., & Khan, K. (2008). Tips for teaching evidence-based medicine in a clinical setting: Lessons from adult learning theory. Part one. *Journal of the Royal Society of Medicine*, 101(1), 493-500.
- Davis, D., Bordage, G., Moores, L., Bennett, N., Marinopoulos, S., Mazmanian, P., Dorman, T., & McCrory, D. (2009). The science of continuing medical education. *CHEST*, 135, 8S-16S.
- Davis, N., Davis, D., & Bloch, R. (2008). Continuing medical education: AMEE education Guide No 35. *Medical Teacher*, 30, 652-666.
- Davis, D., Thomson O'Brien, M., Freemantle, N., Wolf, F., Mazmanian, P., & Taylor-Vaisey, A. (1999). Impact of formal continuing medical education: Do conferences, workshops, rounds, and other traditional continuing education activities change Physician

behavior or healthcare outcomes? *The Journal of the American Medical Association*, 282(9), 867-874.

Department of Community and Family Medicine, Duke University Medical Center. Retrieved June 15, 2010 from http://patientsafetyed.duhs.duke.edu/module_a/methods/pdsa.html

Dornan, T. & David, T. (2000). Adult learning and continuing education. *Diabetic Medicine*, 17, 78-86.

Ebell, M. & Shaughnessy, A. (2003). Information mastery: Integrating continuing medical education with the information needs of clinicians. *The Journal of Continuing Education in the Health Professions*, 23, S53-S62.

Fox, R. (2010). Rebuilding CME. *Medical Meetings*, March/April 2010, p. 5-7.

Gaff, C., Aitken, M., Flouris, A., & Metcalfe, S. (2007). A model for the development of genetics education programs for health professionals. *Genetics IN Medicine* 9(7), 451-457.

Griffin, E., Staebler, S., Muery, K., McCorstin, P. & Harrington, L. (2007). Dashboards: A tool to demonstrate the impact of the advanced practice nurse in the hospital setting. *Oncology Nursing Forum*, 34(2) 572.

Holmboe, E. (2008). Assessment of the practicing physician: Challenges and opportunities. *Journal of Continuing Medical Education in the Health Professions*, 28(S1), S4-S10.

Institute of Medicine of the National Academies (2009). Redesigning continuing education in the health professions. Report Brief, December 2009, 1-4.

Kahn, N., Bagley, B. & Tyler, S. (2007). Performance improvement CME: Core of the new CME. CPPD Report, 22, 1-3. Retrieved Wednesday, June 16, 2010 from <http://www.ama-assn.org/ama1/pub/upload/mm/455/cppd22.pdf>.

- Knowles, M. (1979). Where does training fit into the adult education field? *Training and Development Journal, December*, 40-42.
- Kober, S. (2010). Continuing medical education: Here today, here tomorrow. *American Medical Writers Association Journal, 25(1)*, 20-22.
- Kokemueller, P. & Osguthorpe, D. (2007). Trends and development in continuing medical education. *Otolaryngologic Clinics of North America, 40(6)*, 1331-1345.
- Gilman S., Cullen, R., Leist, J., & Craft, C. (2002). Domains-based outcomes assessment of continuing medical education: The VA's model. *Academic Medicine, 77(8)*, 810-817.
- Mazmanian, P. (2010). Institute of medicine recommends a continuing professional development institute for U.S. health professions. *Journal of Continuing Education in the Health Professions (30)1*, 1-2.
- Mazmanian, P., Davis, D. & Galbraith, R. (2009). Continuing medical education effect on clinical outcomes. *CHEST, 135*, 49S-55S.
- Marinopoulos, S., Dorman, T., Ratanawongsa, N., Wilson, L., Ashar, B., Magaziner, J., Miller, R., Thomas, P., Prokopowicz, G., Qayyum, R., & Bass, E. (2007). Effectiveness of continuing medical education. Evidence Report/Technology Assessment No. 149 (Prepared by the Johns Hopkins Evidence-based Practice Center, under Contract No. 290-02-0018.) AHRQ Publication No. 07-E006. Rockville, MD: Agency for Healthcare Research and Quality January 2007.
- McGovern, G., Court, D., Quelch, J. & Crawford, B. (2004). Bringing custom into the boardroom. *Harvard Business Review, 70-80*.
- Minigh, T., & Gallet, J. (2009). Maintaining quality control using a radiological digital X-ray dashboard. *Journal of Digital Imaging 22(1)*, 84-88.

- Moore, D., Green, J. & Gallis, H. (2009). Achieving desired results and improved outcomes: Integrating planning and assessment throughout learning activities. *Journal of Continuing Education in the Health Professions*, 29(1), 1-15.
- Moran, J., Kirk, P., & Kopelow, M. (1996). Measuring the effectiveness of a pilot continuing medical education program. *Canadian Family Physician*, 42, 272-276.
- National Institute for Health Research (NIHC) Biomedical Research Centre for Mental Health Glossary Retrieved May 23, 2010 from <http://brc.iop.kcl.ac.uk/glossary.aspx>
- Passin, S., & Sweetnam, J. (2008). The critical role of evaluation in the updated ACCME criteria for accreditation. *CE Measure*, 2(2), 29-34.
- Pelletier, S. (2010). If you want to create change, you need to understand the intricacies of the system you and your learners work in. *Medical Meetings* March/April, p. 21-22.
- Price, D. (2005). Continuing medical education, quality improvement, and organizational change: implications of recent theories for twenty-first-century CME. *Medical Teacher* 27(3), 259-268.
- Redding, W. (2010). The right metrics for association boards. *Associations Now/The Volunteer Leadership Issue*, 23-26.
- Riedel, J. (2007). Using a health and productivity dashboard: A case example. *American Journal of Health Promotion* 22(2), 1-10.
- Satava, R., Gallagher, A., and Pellegrini, C. (2003). Surgical competence and surgical proficiency: Definitions, taxonomy, and metrics. *Journal of the American College of Surgeons*, 196(6), 933-937.
- Shannon, S. (2003). Adult learning and CME. *The Lancet*, 361, 266.
- Society of Hospital Medicine (2007). Measuring hospitalist performance: Metrics, reports, and dashboards. Retrieved from <http://www.hospitalmedicine.org/AM> on April 10, 2010.

Tian, J., Atkinson, N., Portnoy, B., & Gold, R. (2007). A systematic review of evaluation in formal continuing medical education. *Journal of Continuing Education in the Health Professions*, 27(1), 16-27.

Vanderpool, R., DuPont, L., Guadagnoli, D., & O'Brien, S. (2010). Leading transformational change in CME: Criterion 20 best practices. *Almanac*, 32(3), 3-4.

Vettore, L. (2004). Professional levels in relation to the needs and to self-education abilities. A pedagogy for continuing medical education. *Rays* 29(1), 37-50.

Wearne, S. (2008). Trapped in the net? What to look for in a web based CPD program. *Australian Family Physician* 37(10), 845-848.

Zimitat, C. (2001). Designing effective on-line continuing medical education. *Medical Teacher* 23(2), 117-122.

Appendix A: ACCME Essential Areas and Their Elements



THE ACCME'S ESSENTIAL AREAS AND THEIR ELEMENTS

ESSENTIAL AREA 1: PURPOSE AND MISSION

The provider must,

- Element 1 Have a written statement of its CME mission, which includes the CME purpose, content areas, target audience, type of activities provided, and expected results of the program.

ESSENTIAL AREA 2: EDUCATIONAL PLANNING

The provider must,

- Element 2.1 Use a planning process(es) that links identified educational needs with a desired result in its provision of all CME activities.
- Element 2.2 Use needs assessment data to plan CME activities.
- Element 2.3 Communicate the purpose or objectives of the activity so the learner is informed before participating in the activity.
- Element 3.3 Present CME activities in compliance with the ACCME's policies for disclosure and commercial support.

[NOTE: The ACCME's policies for disclosure and commercial support are articulated in: (1) *The Standards For Commercial Support: Standards to Ensure Independence in CME Activities*, as adopted by ACCME in September 2004; and (2) ACCME policies applicable to commercial support and disclosure. All materials can be found on www.accme.org.]

Essential Area 3: Evaluation and Improvement

The provider must,

- Element 2.4 Evaluate the effectiveness of its CME activities in meeting identified educational needs.
- Element 2.5 Evaluate the effectiveness of its overall CME program and make improvements to the program.

COMPLIANCE WITH THE FOLLOWING WILL BE DETERMINED AT PRE APPLICATION AND, AS REQUIRED, DURING THE PROVIDER'S TERM OF ACCREDITATION ADMINISTRATION

The provider must,

- Element 3.1 Have an organizational framework for the CME unit that provides the necessary resources to support its mission including support by the parent organization, if a parent organization exists
- Element 3.2 The provider must operate the business and management policies and procedures of its CME program (as they relate to human resources, financial affairs and legal obligations), so that its obligations and commitments are met.

**2006 UPDATED DECISION-MAKING CRITERIA
RELEVANT TO THE ESSENTIAL AREAS AND ELEMENTS**

Measurement criteria have been established for the Elements of the Essential Areas. If a provider meets the criteria for the Elements within the Essential Area, the provider will be deemed to be 'In Compliance.'

Essential Area and Element(s)	Criteria for Compliance
Essential Area 1: Purpose And Mission	<p>The provider must,</p> <p>E 1 Have a written statement of its CME mission, which includes the CME purpose, content areas, target audience, type of activities provided, and expected results of the program.</p>
Essential Area 2: Educational Planning	<p>The provider must,</p> <p>E 2.1 Use a planning process(es) that links identified educational needs with a desired result in its provision of all CME activities.</p> <p>E 2.2 Use needs assessment data to plan CME activities.</p> <p>E 2.3 Communicate the purpose or objectives of the activity so the learner is informed before participating in the activity.</p> <p>E 3.3 Present CME activities in compliance with the ACCME's policies for disclosure and commercial support.</p>
	<p>C 1 The provider has a CME mission statement that includes all of the basic components (CME purpose, content areas, target audience, type of activities, expected results) with expected results articulated in terms of changes in competence, performance, or patient outcomes that will be the result of the program.</p> <p>C 2 The provider incorporates into CME activities the educational needs (knowledge, competence, or performance) that underlie the professional practice gaps of their own learners.</p> <p>C 3 The provider generates activities/educational interventions that are designed to change competence, performance, or patient outcomes as described in its mission statement.</p> <p>C 4 The provider generates activities/educational interventions around content that matches the learners' current or potential scope of professional activities.</p> <p>C 5 The provider chooses educational formats for activities/interventions that are appropriate for the setting, objectives and desired results of the activity.</p> <p>C 6 The provider develops activities/educational interventions in the context of desirable physician attributes (e.g., JOM competencies, ACCME Competencies).</p> <p>C 7 The provider develops activities/educational interventions independent of commercial interests (SCS 1, 2 and 6).</p> <p>C 8 The provider appropriately manages commercial support (if applicable, SCS 3).</p> <p>C 9 The provider maintains a separation of promotion from education (SCS 4).</p> <p>C 10 The provider actively promotes improvements in health care and NOT proprietary interests of a commercial interest (SCS 5).</p>
<p>[Note: Regarding E 3.3 and C7 to C10 - The ACCME's policies for disclosure and commercial support are articulated in: (1) The Standards For Commercial Support: Standards to Ensure Independence in CME Activities, as adopted by ACCME in September 2004; and (2) ACCME policies applicable to commercial support and disclosure. All these materials can be found on www.accme.org.]</p>	

Essential Area and Element(s)	Criteria for Compliance
<p style="text-align: center;">Essential Area 3: Evaluation and Improvement</p>	<p>The provider must,</p> <p>E 2.4 Evaluate the effectiveness of its CME activities in meeting identified educational needs.</p> <p>E 2.5 Evaluate the effectiveness of its overall CME program and make improvements to the program.</p>
	<p>C 11. The provider analyzes changes in learners (competence, performance, or patient outcomes) achieved as a result of the overall program's activities/educational interventions</p> <p>C 12. The provider gathers data or information and conducts a program-based analysis on the degree to which the CME mission of the provider has been met through the conduct of CME activities/educational interventions.</p> <p>C 13. The provider identifies, plans and implements the needed or desired changes in the overall program (e.g., planners, teachers, infrastructure, methods, resources, facilities, interventions) that are required to improve on the provider's ability to meet the CME mission.</p> <p>C 14. The provider demonstrates that identified program changes or improvements, that are required to improve on the provider's ability to meet the CME mission, are underway or completed.</p> <p>C 15. The provider demonstrates that the impacts of program improvements, that are required to improve on the provider's ability to meet the CME mission, are measured.</p>

<p style="text-align: center;">Accreditation with Commendation</p>	<p>In order for an organization to achieve the status Accreditation with Commendation, the provider must demonstrate that it fulfills the following Criteria 16 - 22, in addition to Criteria 1-15.</p>
	<p>C 16. The provider operates in a manner that integrates CME into the process for improving professional practice.</p> <p>C 17. The provider utilizes non-education strategies to enhance change as an adjunct to its activities/educational interventions (e.g., reminders, patient feedback).</p> <p>C 18. The provider identifies factors outside the provider's control that impact on patient outcomes.</p> <p>C 19. The provider implements educational strategies to remove, overcome or address barriers to physician change.</p> <p>C 20. The provider builds bridges with other stakeholders through collaboration and cooperation.</p> <p>C 21. The provider participates within an institutional or system framework for quality improvement.</p> <p>C 22. The provider is positioned to influence the scope and content of activities/educational interventions.</p>

LEVELS OF ACCREDITATION

PROVISIONAL ACCREDITATION requires compliance with Criteria 1 to 3 and 7 to 12. The criteria required for *Provisional Accreditation* are listed on pages 2-3 in black.

CONTINUED ACCREDITATION requires compliance with Criteria 1 to 3 and 7 to 12 (*Provisional Accreditation*) plus six additional criteria; Criteria 4 to 6 and 13 to 15. The additional criteria for *Accreditation* are listed on pages 2-3 in green.

ACCREDITATION WITH COMMENDATION requires compliance with Criteria 1 to 15 (*Continued Accreditation*) plus seven additional criteria; Criteria 16 to 22. The additional criteria for *Accreditation with Commendation* are listed above in blue.

THE ACCME STANDARDS FOR COMMERCIAL SUPPORTSM
Standards to Ensure Independence in CME Activities

STANDARD 1: INDEPENDENCE

- 1.1 A CME provider must ensure that the following decisions were made free of the control of a commercial interest. (See www.accme.org for a definition of a 'commercial interest' and some exemptions.)
- (a) Identification of CME needs;
 - (b) Determination of educational objectives;
 - (c) Selection and presentation of content;
 - (d) Selection of all persons and organizations that will be in a position to control the content of the CME;
 - (e) Selection of educational methods;
 - (f) Evaluation of the activity.
- 1.2 A commercial interest cannot take the role of non-accredited partner in a joint sponsorship relationship.¶

STANDARD 2: Resolution of Personal Conflicts of Interest

- 2.1 The provider must be able to show that everyone who is in a position to control the content of an education activity has disclosed all relevant financial relationships with any commercial interest to the provider. The ACCME defines "relevant financial relationships" as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.
- 2.2 An individual who refuses to disclose relevant financial relationships will be disqualified from being a planning committee member, a teacher, or an author of CME, and cannot have control of, or responsibility for, the development, management, presentation or evaluation of the CME activity.
- 2.3 The provider must have implemented a mechanism to identify and resolve all conflicts of interest prior to the education activity being delivered to learners.¶

STANDARD 3: Appropriate Use of Commercial Support

- 3.1 The provider must make all decisions regarding the disposition and disbursement of commercial support.
- 3.2 A provider cannot be required by a commercial interest to accept advice or services concerning teachers, authors, or participants or other education matters, including content, from a

commercial interest as conditions of contributing funds or services.

- 3.3 All commercial support associated with a CME activity must be given with the full knowledge and approval of the provider.

Written agreement documenting terms of support

- 3.4 The terms, conditions, and purposes of the commercial support must be documented in a written agreement between the commercial supporter that includes the provider and its educational partner(s). The agreement must include the provider, even if the support is given directly to the provider's educational partner or a joint sponsor.

- 3.5 The written agreement must specify the commercial interest that is the source of commercial support.

- 3.6 Both the commercial supporter and the provider must sign the written agreement between the commercial supporter and the provider.

Expenditures for an individual providing CME

- 3.7 The provider must have written policies and procedures governing honoraria and reimbursement of out-of-pocket expenses for planners, teachers and authors.

- 3.8 The provider, the joint sponsor, or designated educational partner must pay directly any teacher or author honoraria or reimbursement of out-of-pocket expenses in compliance with the provider's written policies and procedures.

- 3.9 No other payment shall be given to the director of the activity, planning committee members, teachers or authors, joint sponsor, or any others involved with the supported activity.

- 3.10 If teachers or authors are listed on the agenda as facilitating or conducting a presentation or session, but participate in the remainder of an educational event as a learner, their expenses can be reimbursed and honoraria can be paid for their teacher or author role only.

Expenditures for learners

- 3.11 Social events or meals at CME activities cannot compete with or take precedence over the educational events.

3.12 The provider may not use commercial support to pay for travel, lodging, honoraria, or personal expenses for non-teacher or non-author participants of a CME activity. The provider may use commercial support to pay for travel, lodging, honoraria, or personal expenses for bona fide employees and volunteers of the provider, joint sponsor or educational partner.

Accountability

3.13 The provider must be able to produce accurate documentation detailing the receipt and expenditure of the commercial support. ¶

STANDARD 4. Appropriate Management of Associated Commercial Promotion

4.1 Arrangements for commercial exhibits or advertisements cannot influence planning or interfere with the presentation, nor can they be a condition of the provision of commercial support for CME activities.

4.2 Product-promotion material or product-specific advertisement of any type is prohibited in or during CME activities. The juxtaposition of editorial and advertising material on the same products or subjects must be avoided. Live (staffed exhibits, presentations) or enduring (printed or electronic advertisements) promotional activities must be kept separate from CME.

- For *print*, advertisements and promotional materials will not be interleaved within the pages of the CME content. Advertisements and promotional materials may face the first or last pages of printed CME content as long as these materials are not related to the CME content they face and are not paid for by the commercial supporters of the CME activity.
- For *computer based*, advertisements and promotional materials will not be visible on the screen at the same time as the CME content and not interleaved between computer 'windows' or screens of the CME content.
- For *audio and video recording*, advertisements and promotional materials will not be included within the CME. There will be no 'commercial breaks.'
- For *live, face-to-face CME*, advertisements and promotional materials cannot be displayed or distributed in the educational space immediately before, during, or after a CME activity. Providers cannot allow representatives of Commercial Interests to engage in sales or promotional activities while in the space or place of the CME activity.

4.3 Educational materials that are part of a CME activity, such as slides, abstracts and handouts, cannot contain any advertising, trade name or a product-group message.

4.4 Print or electronic information distributed about the non-CME elements of a CME activity that are not directly related to the transfer of education to the learner, such as schedules and content descriptions, may include product-promotion material or product-specific advertisement.

4.5 A provider cannot use a commercial interest as the agent providing a CME activity to learners, e.g., distribution of self-study CME activities or arranging for electronic access to CME activities. ¶

STANDARD 5. Content and Format without Commercial Bias

5.1 The content or format of a CME activity or its related materials must promote improvements or quality in healthcare and not a specific proprietary business interest of a commercial interest.

5.2 Presentations must give a balanced view of therapeutic options. Use of generic names will contribute to this impartiality. If the CME educational material or content includes trade names, where available trade names from several companies should be used, not just trade names from a single company. ¶

STANDARD 6. Disclosures Relevant to Potential Commercial Bias

Relevant financial relationships of those with control over CME content

6.1 An individual must disclose to learners any relevant financial relationship(s), to include the following information:

- The name of the individual;
- The name of the commercial interest(s);
- The nature of the relationship the person has with each commercial interest.

6.2 For an individual with no relevant financial relationship(s) the learners must be informed that no relevant financial relationship(s) exist.

Commercial support for the CME activity.

6.3 The source of all support from commercial interests must be disclosed to learners. When commercial support is 'in-kind' the nature of the support must be disclosed to learners.

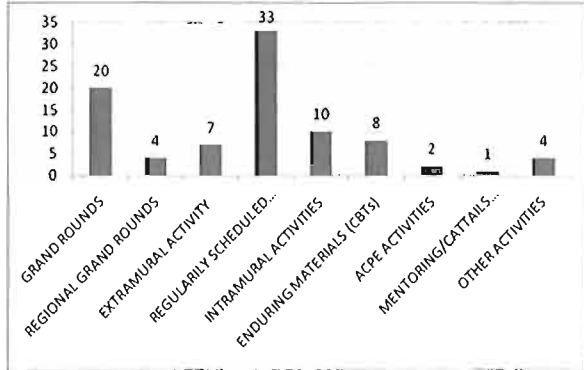
6.4 'Disclosure' must never include the use of a trade name or a product-group message.

Timing of disclosure

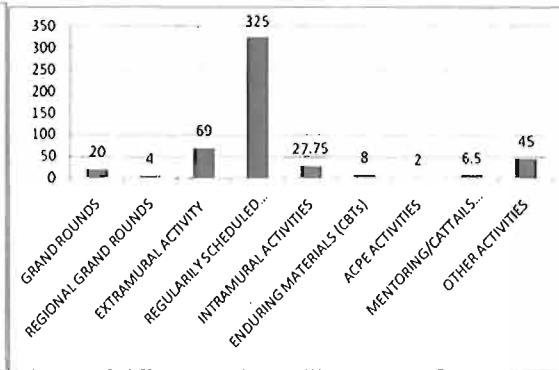
6.5 A provider must disclose the above information to learners prior to the beginning of the educational activity. ¶

Appendix B: Marshfield Clinic CME Mission-based Metrics Dashboard.

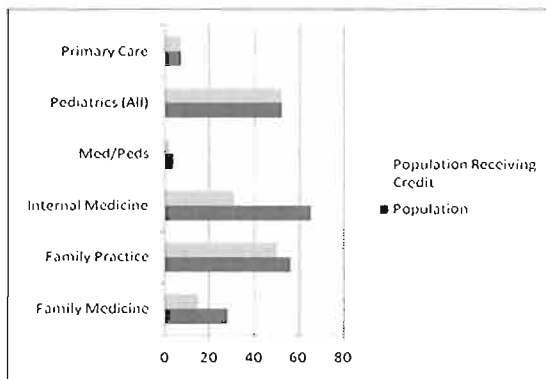
Purpose Metrics



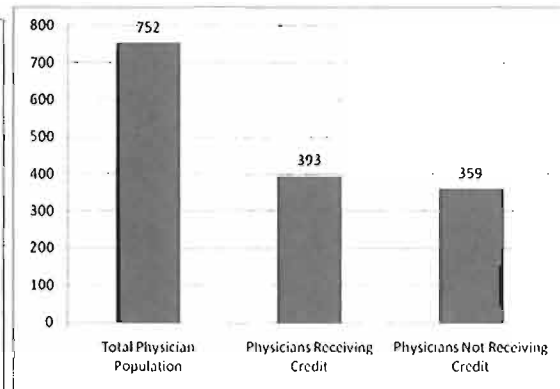
Accredited Activities by Type



Accredited Hours Available by Activity Type

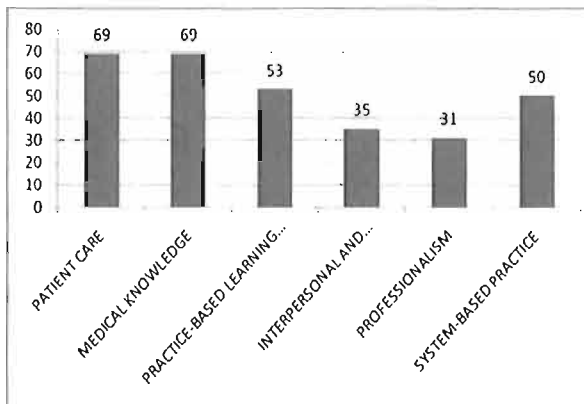


Physicians identified as Generalists

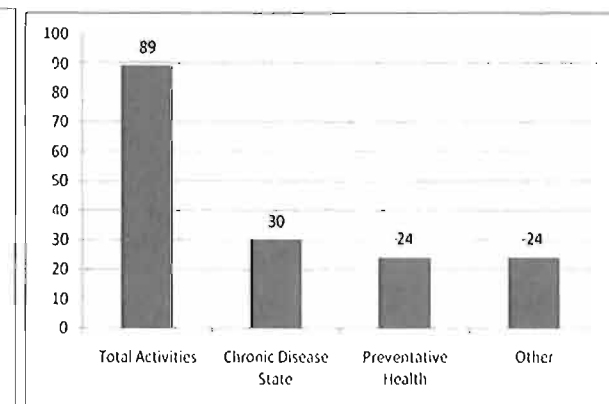


Physician Credit

Content Metrics

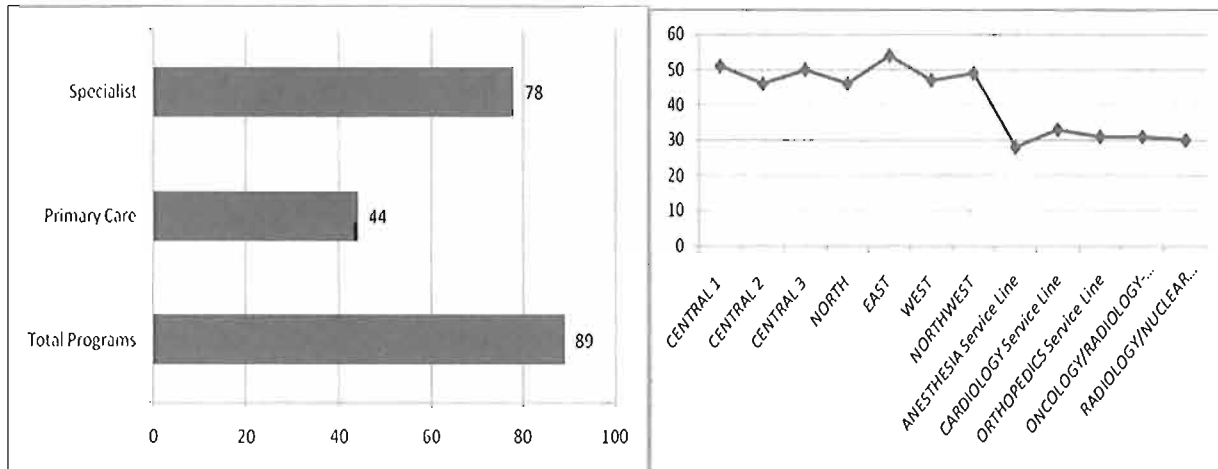


ABMS Core Competencies



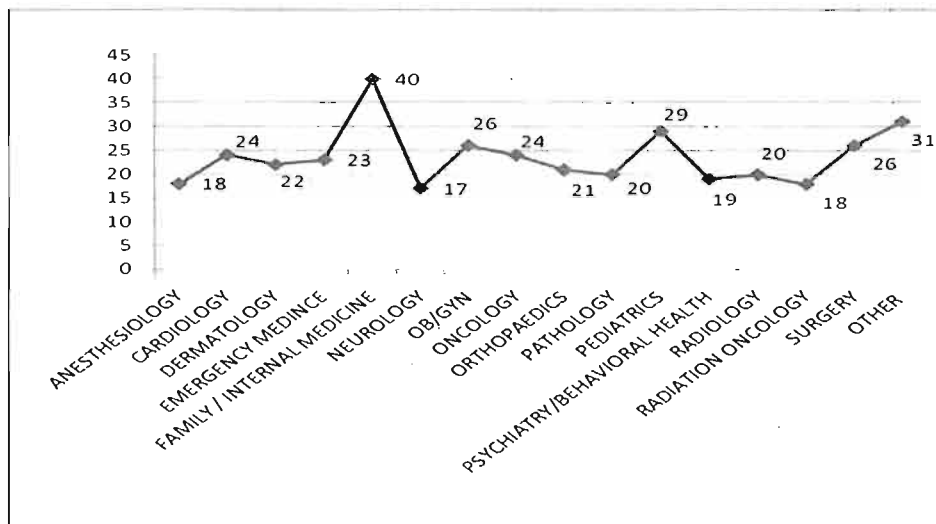
Chronic Disease/Preventative Health Focus

Audience Metrics



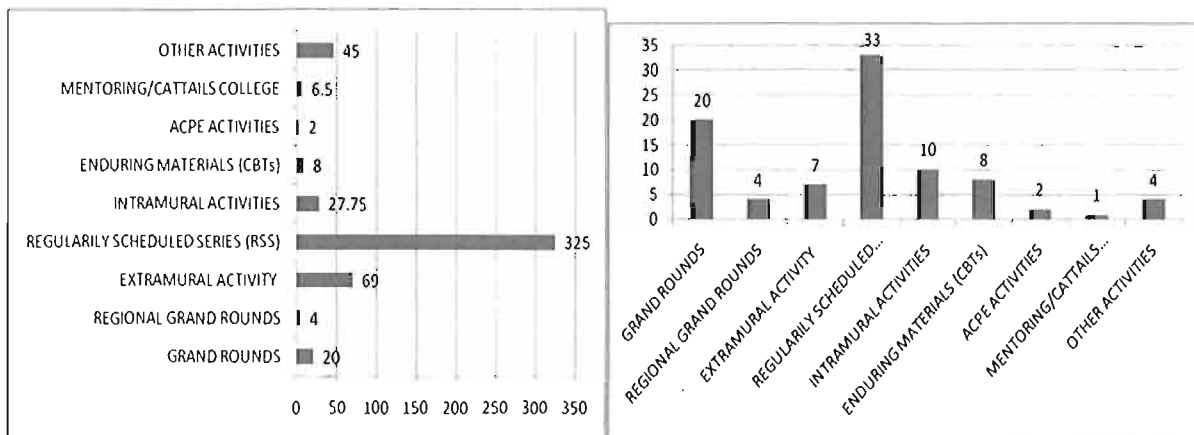
Target Audience

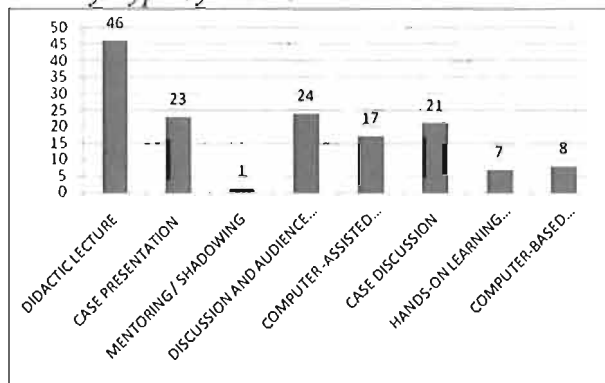
Audience by Division



Target Audience by Specialty

Activities Metrics



Activity Type by Hours Accredited*Activities by Educational Format*

Appendix C: Marshfield Clinic Continuing Medical Education/Continuing Professional Development Mission Statement

PURPOSE

Marshfield Clinic is a proud provider of diverse Continuing Medical Education / Continuing Professional Development (CME / CPD) activities whose purpose is to be a leader in continuing education, and improving quality and patient safety in outpatient and inpatient healthcare for a diverse group of generalists and specialists. This will be accomplished by bringing together key stakeholders to identify gaps in knowledge, competency, performance and/or patient outcomes. Marshfield Clinic intends to be a significant and diverse source of CME for the majority of our clinic physicians.

CONTENT

Marshfield Clinic CME/CPD content will be structured in 6 competency areas including: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-Based Practice. Activities will be based on gaps identified by key stakeholders, including leaders in patient safety and quality improvement. Quality learning objectives will be designed for activities to address these gaps. Content will include all areas of general and specialty medical care, with particular focus on chronic disease management, preventative health and other strategic initiatives based on Marshfield Clinic strategic planning.

AUDIENCE

The audiences will vary by activity, as Marshfield Clinic is a large, multi-specialty organization, with over 750 physicians in over 90 specialties on over 40 campuses. The CME delivery will target the physicians as leaders of their team, with non-CME strategies including reminder systems and reinforcements used to impact the entire healthcare delivery team.

ACTIVITIES

Activities will include clinic-wide, specialty-specific, and targeted interdisciplinary Regularly Scheduled Series, intramural and extramural primary care and specialty conferences, computer-based audiovisual enduring materials. Whenever possible, adult learning principles will be incorporated in the planning and delivery of each activity, but multiple learning styles will be accommodated. Session interactivity through audience response, pre-testing, post-testing, discussions with audience questions and answers, problem-based learning, practice-centered learning, and hands-on learning including simulation will be a growing component of the program's activities.

EXPECTED RESULTS

Through CME, Marshfield Clinic expects to measure improvements in knowledge, competency, performance and/or patient outcomes. In addition, strong effective partnerships with leaders in quality are expected to result from our educational and non-educational efforts to affect change and narrow the gaps in quality patient care.



ACTIVITY PLANNING WORKSHEET (APW)

ACTIVITY INFORMATION		
Title:		
Proposed Speaker(s):		
Marshfield Clinic Center/Department:		
Division of:		Date:
Location:		Time:
Will this activity be recurring: <input type="radio"/> Yes <input type="radio"/> No (if yes, complete next lines)		
Schedule: <input type="checkbox"/> Weekly <input type="checkbox"/> Biweekly <input type="checkbox"/> Monthly <input type="checkbox"/> Other For Biweekly & Monthly, specify the week(s) of the month this activity will be held: <input type="checkbox"/> First Week <input type="checkbox"/> Second Week <input type="checkbox"/> Third Week <input type="checkbox"/> Fourth Week <input type="checkbox"/> Every Other Week		Day of the Week: <input type="checkbox"/> Monday <input type="checkbox"/> Tuesday <input type="checkbox"/> Wednesday <input type="checkbox"/> Thursday <input type="checkbox"/> Friday
		Is this event held all year? <input type="radio"/> Yes <input type="radio"/> No, Specify duration:
ACTIVITY TYPE (select one type)		
<input type="checkbox"/> Grand Rounds		
<input type="checkbox"/> Extramural Activity (conference, meeting that includes external participants) <input type="checkbox"/> Completed agenda with objectives attached		
<input type="checkbox"/> Regularly Scheduled Series (RSS) <input type="checkbox"/> Grand Rounds/Lecture <input type="checkbox"/> Case-based/M&M/Tumor Conference <input type="checkbox"/> Procedure Demonstration <input type="checkbox"/> Journal Club <input type="checkbox"/> Department/Group Discussion <input type="checkbox"/> Other:		
<input type="checkbox"/> Intramural Activities (conference, meeting, workshops that include internal participants only) <input type="checkbox"/> Completed agenda attached		
<input type="checkbox"/> Enduring Materials <input type="checkbox"/> CBTs		
<input type="checkbox"/> ACPE <input type="checkbox"/> Pharmacy CE <input type="checkbox"/> Pharmacy Tech <input type="checkbox"/> Marshfield Student/Resident <input type="checkbox"/> Dermatology OTSee <input type="checkbox"/> Eau Claire Student/Resident <input type="checkbox"/> Other:		
<input type="checkbox"/> Other:		
CREDIT REQUESTED		
<input type="checkbox"/> CME - AMA PRA Category I Credit <input type="checkbox"/> CEU - WISHET (allied health credit) <input type="checkbox"/> AAFP - American Academy of Family Physicians		
Other: <input type="checkbox"/> NSGC (National Society of Genetic Counselors) <input type="checkbox"/> TRAUMA (internal physicians only) <input type="checkbox"/> BOC (Board of Certification) <input type="checkbox"/> WPTA (Wisconsin Physical Therapy Association) <input type="checkbox"/> ASRT (American Society of Radiologic Technologists) <input type="checkbox"/> Other:		
ACPE (Accreditation Council for Pharmacy Education): Topic Designator (please select one): <input type="radio"/> 01-Disease State Management/Drug Therapy <input type="radio"/> 02-AIDS Therapy <input type="radio"/> 03-Law <input type="radio"/> 04-General Pharmacy <input type="radio"/> 05-Patient Safety		
Program Format (please select one): <input type="radio"/> Knowledge: Lecture (minimum 15 minutes, transmit knowledge, questions, recall of facts) <input type="radio"/> Application: Case Presentation (minimum of 60 minutes, apply information, case studies/application) <input type="radio"/> Practice (minimum of 15 hours, instill knowledge, skills, attitudes, formative and summative)		
Credit to be awarded: <input type="checkbox"/> Pharmacist <input type="checkbox"/> Pharmacy Technician <input type="checkbox"/> Live only <input type="checkbox"/> Home study		
<input type="checkbox"/> ACLS/BLS/PALS <input type="checkbox"/> No Credit Requested (e.g. community activity)		
Number of Credits Requested:		

PLANNING COMMITTEE	
Activity Medical Director Information	
Name:	Degree(s):
Title:	Department:
Phone:	Routing Location:
Activity Co-Director or Liaison Information	
Name:	Degree(s):
Title:	Department:
Phone:	Routing Location:
CME Specialist	
Name:	Degree(s):
<input type="checkbox"/> Check here if there are additional Planning Committee Members. (A list of all planning committee members, their title, and department are attached.)	

STAKEHOLDER COLLABORATION [In the planning of this activity, please identify if this topic met any needs identified by any of the following stakeholders (check all that apply)]:		
<input type="checkbox"/> Patient Safety	<input type="checkbox"/> Accreditation Bodies	<input type="checkbox"/> Quality Improvement/Care Management
<input type="checkbox"/> Public or Patient Coalitions	<input type="checkbox"/> Clinic Department Need/System Need	<input type="checkbox"/> Drug Evaluation Committee
<input type="checkbox"/> SJH/Ministry or other Hospital Systems	<input type="checkbox"/> Specialty Society	<input type="checkbox"/> Other:

EDUCATIONAL FORMAT: (How will the knowledge, skills, or attitudes described in the objectives be shared with the participant?) Check all that apply:	
<input type="checkbox"/> Didactic Lectures	<input type="checkbox"/> Using the Audience Response System (ARS) or Pre and Post Testing
<input type="checkbox"/> Case Presentations (specific cases presented)	<input type="checkbox"/> Case Discussion
<input type="checkbox"/> Mentoring/Shadowing	<input type="checkbox"/> Hands-on Learning including Simulation Activities
<input type="checkbox"/> Discussion and Audience Question and Answer	<input type="checkbox"/> Computer-based learning (CBT), Online education

EDUCATIONAL OBJECTIVES: Upon completion of the activity, what knowledge, skills, and/or attitudes should the participants have acquired? Provide a minimum of 1-2 objectives pertinent to the key points only. Please use the following descriptors to begin each objective: list, compare and contrast, describe, explain, define or discuss. Upon completion of this activity, participants should be able to:	<input type="checkbox"/> Check here if objectives are included on a separate document.
1.	
2.	
3.	
4.	

EVALUATION METHOD: (CME activities must include evaluation and improvement strategies. How will this series be evaluated to identify commitment to change?)	
<input type="checkbox"/> Individual activity or session evaluation for participants (completed evaluations are required to receive CME or ACPE credit)	<input type="checkbox"/> Review of departmental quality improvement data (RSS only)
<input type="checkbox"/> Meeting of planning committee	<input type="checkbox"/> Audience Response System (ARS)
<input type="checkbox"/> Quarterly evaluation for participants (RSS only)	<input type="checkbox"/> Test for participant
<input type="checkbox"/> Series overall summary (RSS only)	<input type="checkbox"/> Focus Groups (RSS only)
Other:	

ACTIVITY PLANNING WORKSHEET (APW)

MANAGEMENT OF COMMERCIAL SUPPORT: All activities eligible for CME credit must comply with the ACCME policies for Disclosure and Standards of Commercial Support.

Is there any possibility that this activity will receive support from any commercial interest?

No Yes Please explain the extent of commercial support:

If yes, this activity is required to acknowledge commercial support to the CME audience prior to the activity using one or more of the following method (check all that apply):

Printed Materials:

Handout

Printed on PowerPoint presentation

Verbal Disclosure

Brochure

Other:

DISCLOSURE OF FINANCIAL RELATIONSHIPS: The ACCME requires that ANYONE who has the opportunity to influence the content of the CME activity disclose ANY and ALL financial relationships they or their significant other has with a commercial interest and that ANY potential conflicts of interest be resolved before the activity occurs. Individuals identified to complete disclosures for this activity include:

Planners (activity directors, liaisons, planning committee members)

Speakers

Case Moderator (for RSSs only)

Each participant (for RSSs only)

DISCLOSURE VERIFICATION: The ACCME requires the disclosure of all relevant commercial relationships (or lack thereof) for anyone who has control over CME content to be communicated to the learners prior to the activity. How will this disclosure information be conveyed to the audience during this activity?

Handouts

Printed on PowerPoint presentation

Speaker verbal disclosure

Other:

RESOLUTION OF CONFLICT OF INTEREST What mechanism(s) do you plan to implement to resolve conflict of interest in accordance with Standard 2.3 of the ACCME Standards of Commercial Support? (check all that apply)

Review of speaker's presentation for bias

Participants with COI will abstain from conversation related to COI

Case moderator will moderate for bias (for RSS only)

Other (please specify):

PLANNING PROCESS

Who identified the speakers and topics: Activity Director Activity Co-Director CME Specialist

Other:

Have you had contact with an industry representative in preparation for this program (speaker, dates, etc.)?

No

Yes, please explain:

ADVERTISING AND PROMOTIONAL MATERIALS: The ACCME requires that objectives, activity sponsors, specified accreditation statement, AMA PRA Category I Credit(s)TM designation statement, faculty disclosure, and notification of any commercial support be included in all advertising and promotional materials. How will the target audience be notified of this activity? (check all that apply)

E-mail Announcements Brochure Mailing

Pulse or Specialty Society Publication or Website

Interdepartmental Mail (Internal Only)

Monthly Calendar (Internal Only)

Brochure Mailing

Postcard Mailing

Website, URL:

Other (please describe):

TARGET AUDIENCE (If this activity is not intended for all providers, please select all that apply):

Provider Type: All providers

Primary Care Physicians

Specialty Physicians

Pharmacists

Pharm Tech

Physician Assistants

Nurses

Nurse Practitioners

Managers

Fellows/Residents

Medical Assistants

Other (specify):

Specialty:

All specialties

Anesthesiology

Cardiology

Dermatology

Emergency Medicine

Family/Internal Medicine

Neurology

OB/GYN

Oncology

Orthopaedics

Pediatrics

Radiology

Psychiatry/Behavioral Health

Radiation Oncology

Surgery

Other:

PRACTICE GAPS & NEEDS ASSESSMENTS:

Needs assessment determined by:

- Local Expert Needs** (Needs identified by local experts or specialty providers to improve patient care outcomes, including, but not limited to identifying needs of primary care providers based on referrals)
- Participant Needs** (Needs assessment of target audience, physician requests, focus groups, suggested topics from previous participants, library searches)
- Institutional Needs** (Quality Improvement initiatives, Care Management initiatives, Patient Safety initiatives, Drug Evaluation Committee or other data-driven gaps identified by Marshfield Clinic stakeholders)
- Community and Other External Stakeholder Needs** (Stakeholders for quality of care such as: national specialty societies standards of care, government agencies, joint commission standards, advocacy groups, public media, etc.)

Practice Gaps & Needs Statement: Please summarize in a statement below any national, state, or local data that justifies this topic as appropriate for a CME venue. (Are there national statistics or published information about a medical issue or problem that your topic will address or improve? Please summarize the issue or problem below.)

Example: 15 percent of diabetics develop foot ulcers which can lead to amputation if not treated properly. Most amputations are preventable if detected and given proper care. Random chart pulls have indicated that providers are not regularly documenting foot exams for diabetic patients.

Does this activity address (check all that apply from each column):

- Chronic Disease State Preventative Health Services Other:
- Inpatient Care Outpatient Care

ABMS CORE COMPETENCIES: All CME activities will address subjects in one or more of 6 qualifying competency areas to be considered for CME approval. Please check the line next to any competency listed below which you expect your CME activity to address.

- Patient Care:** Discussing evaluation or management of patients, this includes advice on history gathering, exam, selection of diagnostics, differential diagnosis consideration, procedural care or other therapeutic management.
- Medical Knowledge:** Discussing scientific or basic clinical information that will serve as a foundation for providing patient care.
- Practice-based Learning and Improvement (PBLI):** Resourceful information gathering, maximizing use of information technology, discussion of practice assessment, quality improvement, discussing evidence-based medicine related to a topic, morbidity or mortality reviews, identifying a learning point that changed your practice or outcomes, instructions to improve methods for identifying practice gaps, use of evidence-based practice guidelines, identifying goals or benchmark performance, and/or facilitate the learning of others.
- Interpersonal and Communication Skills:** Creation of therapeutic relationships with patients, effective information exchange with patients, colleagues, or staff (verbally or non-verbally), including written communication.
- Professionalism:** Respectful, altruistic, ethically sound practice including, but not limited to, sensitivity to culture, age, gender disability or other diversity issues, leadership or teamwork in a professional setting.
- Systems-based Practice:** Business and practice management aspects of medicine (i.e. coding, budget management, other practice management concepts), awareness of health care costs in current or future scopes of practice, health care interface awareness (i.e. patient advocacy, practical systems knowledge), understanding interaction of individual practice within the Marshfield Clinic system, navigating health care systems within or beyond Marshfield Clinic (i.e. insurance companies, referrals)

COMPETENCE, PERFORMANCE, OR PATIENT OUTCOMES: (Please check all that apply regarding your session) By participating in my session, attendees will show changes in:

- Competence** (Change in knowledge. Learners walk away able to better answer questions related to medical facts or what should be done.)
- Performance** (Commitment to change something in their practice. Learners will walk away with a plan to change.)
- Patient Outcomes** (There will be a measurable impact in an area in need of improvement in the patients cared for by the learner. Learners will walk away with interventions that can be tied to and lead to measurable patient outcomes.)

Appendix E: Marshfield Clinic Continuing Medical Education Committee Policy

CONTINUING MEDICAL EDUCATION COMMITTEE POLICY

Purpose:

As an accredited provider of CME, Marshfield Clinic is committed to providing the necessary oversight of its educational activities to meet the accreditation criteria and the CME mission. (ACCME Criteria 20, 21 & 22)

Policy:

Marshfield Clinic CME Committee provides oversight and approval for all CME programs provided by Marshfield Clinic. The committee consists of appointed members with interest in and understanding of Marshfield Clinic CME activities. Members of the committee consist of various stakeholders within the Marshfield Clinic system and affiliated institutions that are committed to a system framework for quality improvement.

Procedures:

The CME Committee Membership consists of representation from the following areas:

- A. Division of Education
 - 1. Director, Division of Education (Chair)
 - 2. Administrator, Division of Education
 - 3. Administrative Manager, Division of Education
 - 4. Manager, Continuing Medical Education

- B. Members of the Committee include:
 - 1. Assistant Medical Director (Ex-officio, voting)
 - 2. Quality Improvement Director (Ex-officio, voting)
 - 3. Accreditation and Standards Director (Ex-officio, voting)
 - 4. Systems Operations Representative (Ex-officio, voting)
 - 5. Regional Center Representative(s) (Ex-officio, voting)
 - 6. Continuing Pharmacy Education Committee Representative (Ex-officio, voting)
 - 7. Regularly Scheduled Series Representative (Voting)
 - 8. At Large Physician Representative (Voting)
 - 9. Medical Library Representative (Ex-officio, voting)
 - 10. Affiliated Hospital or System Representative (Ex-officio, voting)
 - 11. Ex-officio membership will include the Chief of the Medical Officer of Marshfield Clinic (Ex-officio, non-voting, serves as final officer of CME Committee decision appeal)
 - 12. Ad hoc members, as appointed by the committee chair, based on CME Mission-based need (Voting)

- C. One member of the committee will be selected to serve as Vice Chair.

The Committee Vice-Chair and non ex-officio are appointed for two-year terms, renewable to a maximum of three (3) terms.

In the event that timing of CME activity approval or intervention requires action before the entire CME Committee can convene, the CME chairman or his/her designee will act in the best interest of the CME Committee, guided by the CME Mission. Any approval or action made by the CME Committee chairman or his/her designee on behalf of the CME Committee shall be reviewed and documented at subsequent CME Committee meetings.

Non-ex-officio members who are employed by Marshfield Clinic are eligible for education committee financial recognition consistent with Marshfield Clinic committee recognition procedures.

Quorum is defined as 50% plus 1 voting member. Once quorum is established, quorum is maintained throughout the remainder of the meeting until adjournment, regardless of committee member departure or scheduling conflicts.

Committee agendas can be altered to accommodate committee members' schedules.

Forms:

Marshfield Clinic organizational chart; DOE chart, and CME committee and staff chart.

Roles and Responsibilities of Committee Member

Roles of CME Committee

- A. To advise the Medical Education Committee Chairman
- B. To oversee and approve programming and policies related to Marshfield Clinic CME
- C. To annually evaluate the overall effectiveness of Clinic CME Program relative to the CME mission statement
- D. To annually review the CME mission statement of the Marshfield Clinic
- E. To review each CME activity budget with regard to organizational resource commitment relative to need, as well as past and future programming efforts. This committee will ensure that the ACCME Standards for Commercial Support are met
- F. To continuously and proactively guide and review institutional needs assessments and professional gaps using, among others, the following resources:
 - 1. Post-activity evaluation feedback
 - 2. Direct input from the provider staff, solicited and unsolicited
 - 3. Input from experts and key stakeholders
 - 4. Peer-reviewed literature
 - 5. Learner self-assessments
 - 6. Internal and external benchmarks
- G. To apply the information from the needs assessment activities toward the development and structure of future programming efforts
- H. To specifically consider and prioritize topics for future programming relative to identified professional practice gaps, need and content

- I. To ensure that objectives are written in compliance with the objectives policy
- J. To participate in the selection of competent speakers who can identify professional practice gaps and meet the specified objectives
- K. To review and oversee the institution's relationship with industry (pharmaceutical, device manufacturers, etc.) relative to CME programming ensure ACCME Standards of Commercial Support are met
- L. To address all grievances that cannot be resolved through standard procedures
- M. To oversee the Educational Sabbatical Program with regard to the application, approval, and reporting in accordance with the Sabbatical policy
- N. To ensure resolution of conflicts of interest when a relevant conflict is identified
- O. To ensure that Marshfield Clinic CME Committee influences the scope and content of activities and educational interventions
- P. To comply with all ACCME, Wisconsin Medical Society, AMA and Marshfield Clinic CME policies
- Q. To advocate for necessary resources and staffing to uphold the CME mission

Committee Membership Responsibilities

- A. To disclose all relationships with industry in writing. At each CME Committee meeting, an opportunity to update disclosure information will be given to all committee members
- B. To attend CME Committee meetings, including retreats
- C. To review speaker presentations for evidence of bias when assigned to do so by CME staff
- D. To provide a report to the CME Committee annually regarding identified needs and professional practice gaps (ex-officio voting member only)
- E. To review agendas, minutes, applications, and other CME Committee meeting materials in advance of the scheduled meetings
- F. To notify CME committee administrative assistant when unable to attend the scheduled CME Committee meeting
- G. To notify the chairman of the CME Committee if planning to depart prior to the scheduled adjournment of the meeting

Adopted-Medical Education Continuing Medical Education Administration and Organization 2.99

Draft: 02.29.00

CME Committee Approved 02.29.00

Revised and Approved 03.25.03

Revised 05.26.09

CME Committee Approved 06.23.09

Appendix F: Marshfield Clinic CME Staff, Facilities and Resources Policy

CME STAFF, FACILITIES AND RESOURCES COMMITMENT POLICY

Purpose:

As an accredited provider of CME, Marshfield Clinic is committed to providing human resources and material resources necessary to meet the CME Mission.

Policy:

Marshfield Clinic provides the necessary personnel, facilities, and resources to facilitate administrative, accreditation, technical and logistical matters related to the Marshfield Clinic CME program. The Division of Education will employ dedicated CME Staff with specific job descriptions. Marshfield Clinic will provide to the Division of Education dedicated office, work and storage space within their buildings. The CME Staff directly report to and are evaluated by the Division of Education as outlined in the job description. The CME Committee will serve as an institutional advocate for appropriate CME staffing, facilities, and resources.

Procedures:

The CME staff prepares and presents relevant information to the CME Committee. CME staff directly report to and are evaluated by the Division of Education.

The CME staff utilizes appropriate internal and external technical support necessary to implement the CME activity. Internal sources include, but are not limited to, Marshfield Clinic's Medical Library, Media Services, Photography, Printing and Graphic Arts Departments.

Additional personnel for emergency circumstances are made available through the Division of Education.

Forms:

Job Descriptions for CME Manager, CME Specialist, Conference Assistant

Adopted: Medical Education Adequate Staff and Other Resources 2.99
Revised and Approved 02.25.03
Revised 05.26.09
CME Committee Approved 06.23.09

Appendix G: Mission-Based Metrics Excel Database

LOGISTICS			ACTIVITY TYPE													COMPETENCIES, PRACTICE GAPS, NEEDS, ORIGINS ETC.											
DATE	ACTIVITY	SPEAKER	GRAND ROUNDS	MERRILL GRAND ROUNDS	MINOQUA GRAND ROUNDS	EXTRAMURAL ACTIVITY (Conferences)	REGULARLY SCHEDULED SERIES (RSS) - consider at the end of the year, changing the number to reflect the actual number of hours held. - Would give a more accurate pic	INTRAMURAL (One-time only internal activities)	ENDURING MATERIALS (CBTs)	ACPE ACTIVITIES	MENTORING/CATALYS COLLEGE	OTHER (St. Thomas, Science Teachers etc)	PATIENT CARE	MEDICAL KNOWLEDGE	PRACTICE-BASED LEARNING & IMPROVEMENT	INTERPERSONAL AND COMMUNICATION SKILLS	PROFESSIONALISM	SYSTEM-BASED PRACTICE	LOCAL EXPERT NEEDS	PARTICIPANT NEEDS	INSTITUTIONAL NEEDS	COMMUNITY & OTHER EXTERNAL STAKEHOLDER	CHRONIC DISEASE STATE	PREVENTATIVE HEALTH	OTHER	INPATIENT CARE	
1/8/2010	Inherited Cancer Syndromes	Christina Zaleski, CGC & Panhaji Singani, MD	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	1	1	0	0
1/15/2010	Influenza Virus, and Your Heart: The Epidemio of H1N1	Sherrell Rezakha, MD, FACP, FACC	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	0
1/22/2010	Colorectal Cancer: Updates & Recent Advances	M. Qaseem Khan, MD	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	0	1	1	0	1
2/12/2010	Drug Interaction Conquest: Identification, Analysis, and Problem Solving	Mary Ellen Valter, PharmD	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	0	0	1	0	1
2/26/2010	Hot Drug Topics of 2009	Sara Giesbach, PharmD, BCPS, & Tonja Larson, PharmD, BCPS, CGP, AE-C	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	1	1
3/12/2010	Patient Web Portals	Jim N. Jaja, MD, MBE, Chief Medical Information Officer (CMIO), Vanderbilt Medical Center	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	0	0	1	1
3/18/2010	Perinatal Depression - Addressing the Challenges for Primary Care	Katherine L. Vinton, MD, MS UPMC/HS - Western Psychiatric Institute and Clinic	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	0	1	0	0	1	0
	The Patient Centered	Andres Gaitan, MD Anova																									

This screen shot only depicts a segment of the database. In its entirety, the database would encompass an excess of 100 pages.

Appendix H: Stakeholder Reporting Form

CME Needs Assessment, Practice Gaps, & Barrier Report

Key Stakeholder Group:

[List which group you represent as member or ex officio on the CME committee]

Date:

Presented By:

Sources of Data for Report:

[List resources used to develop your findings. Sources might include published literature, government reports, membership surveys, Clinic-specific performance data, other needs assessment data]

Summary of Findings:

- **Practice Gaps**

Are there published data on care gaps for the group or section you represent?

Is there local, regional, or national outcomes data that a gap in ideal care occurs?

(Ideal Outcome vs. Actual Outcomes related to your key stakeholder group)

[Summarize Practice Gaps findings here. A practice gap is often a published gap between ideal outcome and actual outcome of care. Examples include healthcare outcomes discrepancies based on sex or race or economic status; Medication error rates; Patient safety-related system problems; etc. For more information on defining Practice Gaps, please see accompanying editorial]

- **Needs Assessment**

Is there any data arising from any group involved with your area of assessment that reports an area needing addressed to improve care or outcomes? (What is needed to decrease the gap between Ideal Outcome & Actual Outcome)

Look all around the issues, when pertinent (doctors, patients, health systems, government, patient advocacy groups, institutional administration)

[Summarize Needs Assessment findings here. A needs assessment is typically a local (for most of our purposes), state, regional, or national group identifying what they see as their individual educational needs on a topic. Examples include provider needs from zoomerange surveys pertinent to the section you represent, and key stakeholder needs of the providers.]

- **Barriers**

What limits or stands in the way of reaching ideal outcomes? (Ideal model vs Real-life model)

[Summarize any identified barriers here. A barrier is an impediment to your ability to close the practice gaps or meet the needs identified through CME education. Some barriers will be insurmountable, while others may be able to be addressed and overcome. Identifying any type of barrier is acceptable; we are not just looking for barriers that can easily be overcome. Examples include costs for high fidelity simulation equipment, difficulties with executing the CME process impedes desire of physicians to participate, lack of support from the institution that education is on the topic is important, or lack of interest or participation from the audiences most in need of improvement.]

Recommendations to Marshfield Clinic CME Committee:

[List your specific recommendations based on the summary of your findings above. These recommendations should be 'actionable' by the CME committee, including new educational activities, modifications of activity support, contraction of activities, expansion of activities, or altered strategies of delivering the education. Examples include: "The CME committee should develop a grand rounds to discuss the recent AAAHC citations and subsequent policies under consideration for eliminating wrong-site surgery in the ambulatory setting."]