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Patterns in Chaplain Documentation of Assessments and Interventions, a Descriptive Study

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Patterns in Chaplain Documentation of Assessments and Interventions, a Descriptive Study

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

by

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PATTERNS IN CHAPLAIN DOCUMENTATION OF ASSESSMENTS AND
INTERVENTIONS, A DESCRIPTIVE STUDY

by Kevin Eugene Adams, MDiv

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of
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Virginia Commonwealth University, 2015

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There is increasing emphasis on the importance of evidence-based care provided by all
disciplines in healthcare. The Electronic Health Record (EHR) is becoming the standard for
communicating assessments, plans of care, interventions, and outcomes of patient care. The
spiritual care literature demonstrates the importance of assessing religious/spiritual needs and
resources and developing plans of care to address the results of such assessment (Anandarajah
& Hight, 2001; Borneman, Ferrell, & Puchalski, 2010; Fitchett, 1999; Fitchett & Risk, 2009; H.
G. Koenig, 2007). This literature also suggests that addressing religious/spiritual needs of
patients and families in the healthcare context can affect healthcare and adherence outcomes.
The purpose of this study was to identify patterns of chaplain assessment and patterns of
chaplain provision of services.

This descriptive study was an exploratory retrospective analysis of categorical data
recorded by clinical staff chaplains in the EHR at a single all pediatric healthcare institution,

using contingency tables and frequency tables. The study examined chaplain use of assessment

and service descriptors and the patterns of these descriptors when documenting chaplain visits.

The results indicate chaplain preference for communicating in the EHR using general

themes and concepts. This reveals an opportunity for chaplains to develop and implement a

model of professional identity and articulation of care that is broad enough to accommodate the

diversity of religion/spirituality chaplains encounter, yet able to articulate the specifics of

patient and family religion/spirituality.

The results found no consistent patterns among assessments or services provided.

Further, the results found no indication of patterns between assessments made and the services

provided. This presents an opportunity for chaplains to develop and implement a theory-

driven, construct-based model of care that will connect the different facets of spiritual care.

The assessments made will lead to plans of care that involve specific interventions resulting in

appropriate outcomes related to overall patient and family care.

Chapter 1: Introduction

Religion/Spirituality can be a very important part of patients' and family systems'
lifestyle and environment. The published literature associated with spirituality and religion that
is catalogued by PubMed is increasing at a higher rate than published medical literature as a
whole (Appendix A). The Joint Commission (JC) identifies spirituality as part of patient
assessment and reassessment. Still, there is a lack of significant evidence demonstrating
effective religious/spiritual assessments and interventions that are patient-centered and reflect
useful information for both healthcare and spiritual care providers.

Evidence-based practice (EBP) should be an integration of best research evidence,
clinical expertise, patient preferences and circumstances, and an awareness of the clinical
setting and resource constraints (Polit & Beck, 2007). While EBP deemphasizes decision-
making based on custom, authority, opinion, or ritual, it does not dismiss these factors but
works to integrate them with other factors to provide patient care. EBP relies on analysis of
accumulated evidence on a particular topic. In nursing, best evidence refers to research
findings that are, "…methodologically appropriate, rigorous, and clinically relevant for
answering pressing questions…Confidence in the evidence is enhanced when the research
methods are compelling, when there have been multiple confirmatory replication studies, and
when the evidence has been systematically evaluated and synthesized" (Polit & Beck, 2007, p.
32). The traditional hierarchical structure for EBP, with the randomized control trial (RCT) the
gold standard for evidence, may not be an appropriate model for all disciplines. Although

research disciplines, such as spirituality, do not currently have the objective measures needed for effective RCTs, there are appropriate and robust research methodologies available. The generalization of EBP by Polit and Beck (2007) can be applied to multiple disciplines developing an evidence base. Utilization of the broad definitions for EBP used in nursing and other disciplines may be instructive as researchers in spirituality continue to develop and test more robust research methodologies.

In a report published by the JC, analysis of recorded chaplain encounters enhances improving services within a healthcare organization and building EBP standards, specifically in relation to addressing cultural and language concerns (Wilson-Stronks, Lee, Cordero, Kopp, & Galvez, 2008). By extension, if chaplain services are expected to contribute to EBP, chaplain practices and the communication of these practices also need to reflect EBP. There is a dearth of evidence in spiritual care, especially research done by spiritual care professionals, those who have received specialized training in religious/spiritual assessment and intervention.

This dissertation research is a descriptive study of patterns of chaplain documentation. The study is a retrospective analysis of categorical data provided by clinical staff chaplains in a single healthcare institution, a large quaternary care pediatric medical center in a medium-sized city in the U.S. Midwest (PMC). These data were documented in the patient electronic health record (EHR) and were part of the standard chaplain charting practice. The intent of the study is to analyze the categorical data to discern patterns of chaplain assessment of patients' and families' pastoral care needs and resources and patterns of service provided. Identifying patterns in chaplain documentation of assessment and care may contribute to building evidence-based spiritual care models by exploring how chaplains utilize chaplain-developed descriptors of assessment and care.

Rationale

There is increasing emphasis on the importance of evidence-based care provided by all disciplines in healthcare. The EHR is becoming the standard for communicating assessments, plans of care, interventions, and outcomes of patient care. The spiritual care literature demonstrates the importance of assessing religious/spiritual needs and resources and developing plans of care to address the results of such assessment (Anandarajah & Hight, 2001; Borneman et al., 2010; Fitchett, 1999; Fitchett & Risk, 2009; Koenig, 2007). This literature also suggests that addressing religious/spiritual needs of patients and families in the healthcare context can affect healthcare and adherence outcomes. Currently no studies explore the relationships of spiritual assessments and care by professional chaplains as documented on specific care provided at the bedside.

The Pastoral Care Staff at PMC began documenting all patient and family care in the EHR in January 2010. The medical center EHR is managed through Epic. The central component to chaplain documentation is the use of a Pastoral Care Record flowsheet designed by the PMC Department of Pastoral Care. This flowsheet contains groups of categorical data chaplains use to document the assessments made and care provided during a specific patient/family visit. The information on the flowsheet can be augmented by narrative notes. The Pastoral Care Record flowsheet serves two purposes. First, it provides a consistent set of descriptors to communicate with the interdisciplinary teams the spiritual care provided. Second, the aggregate categorical data track types and volume of pastoral care provided within the medical center. A descriptive study of the categorical data collected through these flowsheets may identify the specific thematic types of care chaplains provide. Further analysis

of such themes may be used to determine improvements to the model. The aggregate data in the Pastoral Care Record flowsheets have never been analyzed.

Although pastoral care practitioners have developed and published models of assessment and care (Fitchett, 1993; Pruyser, 1976; Vandecreek & Lucas, 2001), there are no studies of their efficacy. A systematic and quantitative analysis of chaplain-determined descriptors of spiritual assessments and pastoral service used in chaplain documentation is an essential step in the formation of evidence-based pastoral care practice.

Previous Research

The Institute of Medicine identified six aims of improvement for healthcare. Healthcare should be safe, effective, patient-centered, timely, efficient, and equitable (Committee on Quality Health Care in America, Institute of Medicine, 2001). Aim three, patient-centered care, most directly addresses religion/spirituality in the healthcare context. Patient-centered care "encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient" (Committee on Quality Health Care in America, Institute of Medicine, 2001, p. 48). There are six identified dimensions of patient-centered care: (1) respect for patients' values, preferences, and expressed needs; (2) coordination and integration of care; (3) information, communication, and education; (4) physical comfort; (5) emotional support – relieving fear and anxiety; and (6) involvement of family and friends. Dimension five specifically identifies spirituality: "suffering is more than just physical pain and other distressing symptoms; it also encompasses significant emotional and spiritual dimensions context" (Committee on Quality Health Care in America, Institute of Medicine, 2001, p. 50).

A search of the JC Comprehensive Accreditation Manual (CAM) (The Joint

Commission, 2012) using the terms religion OR spiritual OR spirituality identified 15 standards

in the Behavioral Health, Home Care, and Hospital program manuals. These standards are in

four groups: screening and assessment, care planning and provision of services, patient rights,

and credentialing of physician staff. The JC expects healthcare organizations to assess patients'

religion/spirituality as part of the on-going assessment of patients specifically patients receiving

treatment in behavioral medicine, in foster care, and in end-of-life care. Religion and

spirituality are elements of performance in the general standard of assessment and

reassessment. There are no studies analyzing religious/spiritual assessment and care based on

actual documentation of care by professional chaplains.

Purpose Statement and Specific Aim

      Purpose statement.

A concern related to generalizability in the EHR is a lack of consistent terminology

across systems (Finkelstein et al., 2012; Jimison et al., 2008; Lobach et al., 2012). Similarly,

while much has been written about chaplaincy, including several spiritual care models, the

profession does not have a consistent, widely-adopted language of assessment, care, and

communication. Further, none of the current models available have been tested for validity and

reliability. A systematic and quantitative analysis of chaplain-determined descriptors of

spiritual assessments and pastoral service used in chaplain documentation, something not

previously attempted, is an essential step in the formation of evidence-based patient centered

pastoral care practice.

This dissertation is a descriptive study that will analyze categorical data of chaplain

assessments and interventions to identify patterns in chaplain documentation. The study is

exploratory and is not theory-driven. As such, this study does not lend itself to hypothesis generation. Because this study is analyzing data to identify patterns, there is an underlying assumption of consistency of practice. A discussion of the categories postulated by Paul Pruyser (1976) in "The Minister as Diagnostician" provides a frame of reference for discussing the results of pastoral practice in Chapter Five. This model was chosen for three reasons. First, Pruyser's work represents one of the earlier models of theological assessment in a clinical context. Originally published in 1976, it remains in print and is used currently as a resource for basic pastoral care education. This longevity contributes to face validity. Second, the methodical approach taken contributes to construct validity. Third, the categories are relatively straightforward and theologically based.

Specific aim.

This study will include all data collected from Pastoral Care flowsheets in the Epic PMC EHR from September 15, 2011 – March 15, 2013, inclusive. Using this data, the study aim is to identify patterns of chaplain assessment and patterns of chaplain provision of services.

Delimitations of the Study

Table 1 identifies the boundaries of the study. The delimitations denote analysis of a charting model as used in a specific medical center setting by its pastoral care department.

Assumption

The study is based on three assumptions. First, all chaplains whose recorded are included for analysis have received similar training as professional chaplains. Unless otherwise noted, this training is at least four units of clinical pastoral education (CPE). This training was received at a training center accredited by the Association of Clinical Pastoral Education (Association for Clinical Pastoral Education, Inc., 2010).

Table 1

Study Parameters

Parameter	Study specific
Time of Study	October 1, 2011 – March 31, 2013, inclusive
Location of Study	A large quaternary care pediatric medical center in a medium-sized city in the U.S. Midwest (PMC)
Population	Patient medical records in the EHR during the time-frame for the study
Study Sample	EHR records with documentation by a clinical staff chaplain. • Excluded from sample: documentation EHR records made by directors of pastoral care, pastoral care residents, pastoral care interns, and chaplain PRN staff
Demographics	Patient medical record number substituted with a random number, patient age at time of chaplain contact, patient zip code, patient country of origin, patient closest relationship, patient religion, patient length of stay, nursing unit of the hospital, patient diagnosis using DRG/ICD major category codes, chaplain screen name substituted with random number
Chaplain Documentation	Categorical data as recorded on the Pastoral Care Record flowsheet in the EHR • Excluded: narrative documentation recorded on the Pastoral Care Record flowsheet in the EHR is beyond the scope of this study

Second, all chaplains whose documentation is included in this analysis are professional chaplains. The professional designation denotes they are board certified through at least one professional chaplain cognate group. Unless otherwise noted, these chaplains are active board certified chaplains in one of the following organizations: Association of Professional Chaplains (APC) (Association of Professional Chaplains, 2013), National Association of Jewish Chaplains (NAJC) (The National Association of Jewish Chaplains, 2011), and National Association of Catholic Chaplains (NACC) (The National Association of Catholic Chaplains, 2013). These cognate groups represent the principle chaplain certifying bodies in the U.S.

Third, these chaplains have received similar training for documentation in the EHR. A final outgrowth based on these assumptions, is that the records included for analysis will provide consistent documentation of assessments and services.

Terminology and Abbreviations used in this Dissertation

Many concepts, terms, and organizations will be referenced throughout this dissertation. In this dissertation the electronic health record (EHR) will be used to refer to the electronic record of patient care. Published literature uses both EHR and electronic medical record (EMR), sometimes separately and sometimes interchangeably. This dissertation will analyze data that are not specifically medical but have been shown to influence health and healthcare. The Office of the National Coordinator for Health Information Technology (ONC) in the U.S. Department of Health and Human Services (HHS) uses EHR exclusively because it focuses on, "The condition of being sound in body, mind, or spirit; especially…freedom from physical disease or pain…the general condition of the body" (Garrett & Seidman, 2011) as opposed to solely diagnosis and treatment.

Religion and spirituality are two other terms that are also used throughout this dissertation. For the purpose of this dissertation, spirituality and religion will be defined as being two expressions on one continuum. Spirituality is defined as the experience of transcendence or of the holy. Religion is defined as the language, belief systems, and institutions developed to codify common expressions of spirituality in the context of community. In the context of this dissertation they will be considered together in all analysis and discussion.

Other terms will be discussed in subsequent chapters. Table 2 includes descriptions of key terms and concepts. Table 3 includes a list of abbreviations used in this study.

Organization of the Study

This study is organized into five chapters, references, and appendixes in the following manner. Chapter Two is a review of related literature dealing with the EHR, chaplain use of

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Table 2

Vocabulary used in this Dissertation

Term	Definition
• Epic	• Company that makes software for mid-size and large medical groups, hospitals and integrated healthcare organizations
• flowsheet	• Component of the Epic EHR. Contains drop-down menus of categorical data personnel use for documenting patient care.
• Pastoral Care Record flowsheet	• The primary source for data analysis in this dissertation. It is the flowsheet used by the PMC Pastoral Care Department in the documentation of patient care.
• Spiritual Screen	• Instrument to identify patients with high spiritual needs and low spiritual resources with which to address those needs.This instrument can be administered by any healthcare professional.
• Spiritual History	• Instrument to assess a patient's spirituality and its impact on health and healthcare decision-making to be administered by a health care professional who provides direct care, typically a physician or nurse.
• Spiritual Assessment	• An in-depth evaluation of a patient's spiritual needs, resources, and their capacity to cope with circumstances using their spirituality and is done by someone with specific training in spiritual distress and coping. In the healthcare setting this person is typically a chaplain.
• PubMed	• A free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine
• Spirituality	• Defined, for the purposes of this study, as the experience of transcendence or of the holy.
• Religion	• Defined, for the purposes of this study, as the language, belief systems, and institutions developed to codify common expressions of spirituality in the context of community.
• Religion/Spirituality	• For the purposes of this study, both concepts will be considered together and not separately.
• Clinical Pastoral Education (CPE)	• Structured action-reflection-action training designed for chaplains and other professional spiritual care practitioners. These practitioners serve primarily in hospitals and other non-traditional ministry settings.
• Board Certified Chaplain (BCC)	• Certification through a chaplain cognate group. A peer-reviewed process through which a chaplain meets appropriate educational, professional and ethical standards as determined by either the Association of Professional Chaplains (APC), the National Association of Catholic Chaplains (NACC), or the national Association of Jewish Chaplains (NAJC)

Table 3

Abbreviations used in this Dissertation

Abbreviation	Term
AHRQ	Agency for Healthcare Quality and Research
ACPE	The Association for Clinical Pastoral Education
APC	The Association of Professional Chaplains
CAM	The Joint Commission's Comprehensive Accreditation Manual
CDSS	Clinical Decision Support Systems
CHI	Consumer Health Informatics
CPE	Clinical Pastoral Education
EDI	Electronic Data Interchange
HHS	U.S. Department of Health and Human Services
HIM	Health Information Management
HIT	Health Information Technology
IOM	Institute of Medicine
IRB	Institutional Review Board
JC	The Joint Commission, formerly known as JCAHO, the Joint Commission for Accreditation of Health care Organizations
KMS	Knowledge Management Systems
MMIT	Medication Management health Information Technology
NACC	The National Association of Jewish Chaplains
NAJC	The National Association of Catholic Chaplains
ONC	Office of the National Coordinator for Health Information Technology
PCC	Patient Centered Care
PMC	Study site. A large quaternary care pediatric medical center in a medium-sized city in the U.S. Midwest
PPOC	interdisciplinary Patient Plan Of Care
PRN	*pro re nata* (as the situation demands)
RCT	Randomized Control Trials
VCU	Virginia Commonwealth University, Richmond, Virginia

the EHR, and religion/spirituality in the context of healthcare. Chapter Three delineates the

research design and methodology of the study which describes the data set, the procedures to be

followed, and determination of the sample selected for study. The data analysis and discussion

of the findings are presented in Chapter Four. Chapter Five contains the summary,

conclusions, and recommendations of the study. The study concludes with references and

appendixes.

Chapter 2: Literature Review

Chapter Two will focus on electronic health records (EHR) charting and review the literature on its use in evidence-based practice. The chapter addresses the use of EHR within the context of hospital chaplaincy, using a specific experience from a pediatric medical center. Although this study is a non-theoretically driven descriptive analysis of chaplains' charting, this chapter presents a review of conceptual frameworks that may contribute to interpretation in the development of evidence-based practice (EBP) recommendations.

The Joint Commission (JC) and Evidence-Based Practice (EBP)

In a report published by the Joint Commission (JC), the authors identified four themes which provide a framework for a systematic method for hospitals to think about how they provide healthcare that is culturally and linguistically appropriate (Wilson-Stronks et al., 2008).

1. Building a foundation of policies and procedures that systematically support cultural competence

2. Collecting and Using Data to Improve Services, which allow the effectiveness and utilization of cultural and language services to be monitored, measured, and evaluated

3. Accommodating the Needs of Specific Populations, such that their development and implementation is a continuous process.

4. Establishing Internal and External Collaborations, that bring together multiple

   departments, organizations, providers, and individuals to achieve objectives related

   to culturally and linguistically appropriate care (Wilson-Stronks et al., 2008).

This method is a means of developing an EBP for addressing cultural and language

disparities in healthcare. The authors developed a self-assessment tool to help healthcare

organizations discuss current practices and identify potential gaps and areas for improvement.

Using the tool and incorporating the themes in this report will help hospitals and other

healthcare organizations build EBP standards for cultural competence (Wilson-Stronks et al.,

2008).

Using multidisciplinary groups in the discussion is a key component in establishing

improved cultural and language policies and practices. Table 4 is a list of potential participants

in this continuous self-assessment process that have been identified by the authors.

Table 4

Culture and Language Self-Assessment Tool: Potential Participants (Wilson-Stronks et al., 2008)

Chaplain	Language services coordinator
Chief executive officer	Medical staff
Chief medical officer	Nursing staff
Chief nursing officer	Patient advocates
Chief operating officer	Patient safety officer
Community members	Patients and families
Dietary services	Quality improvement officer
Diversity officer	Recruiter
Financial assistance/billing staff	Risk management officer
Human resources director	Social services
Information technology staff	Staff/clinical educator
Intake staff	

The authors advocate a multidisciplinary focus for this process. This process leads to

developing EBP standards. This implies an increasing emphasis on EBP across healthcare

disciplines. Therefore, it would seem that EBP is becoming increasingly important in the evaluation of healthcare across and within all participating disciplines.

In the report and the self-assessment tool, the authors identify chaplain documentation as a source of data collection for the improvement of cultural and language services (Wilson-Stronks et al., 2008). Analysis of this record of chaplain encounters adds to improving services within a healthcare organization and to building EBP standards. By extension, if chaplain services are expected to contribute to EBP, chaplain practices and the communication of these practices also need to reflect EBP.

The Electronic Health Record (EHR) and Evidence-Based Practice

Between 2006 and 2012, the Agency for Healthcare Quality and Research (AHRQ) published six extensive reviews evaluating evidence in the published research on the EHR (Finkelstein et al., 2012; Gibbons et al., 2009; Jimison et al., 2008; Lobach et al., 2012; McKibbon et al., 2011; Shekelle, Morton, & Keeler, 2006). This section summarizes these reports in four broad categories: AHRQ considerations in evaluating EHR research, benefits/findings related to use of the EHR, limitations or weaknesses in the EHR research, and implications for future EHR research.

      AHRQ considerations in evaluating EHR research.

Table 5 summarizes the key considerations acknowledged by each of the reviews in evaluating EHR research. There was consensus between the reviews on the importance of specific themes in evaluating the literature on the EHR. These themes included:

- Functionality
- Effectiveness
- Barriers to use and implementation

Table 5

AHRQ Considerations in Evaluating EHR Research

Review	Considerations
Costs and Benefits of health information technology (HIT), especially as related to pediatrics (Shekelle et al., 2006)	Especially as related to pediatrics
	• Identify a framework and analytic methods describing EHR functionality and estimating its costs and benefits.
	• Identify information needed by decision makers to evaluate the value of HIT for their practice and application.
	• Identify available knowledge evaluating HIT costs, benefits, and value, including gaps in this knowledge.
	• Identify barriers in implementing HIT
Barriers and drivers of health information technology use for the elderly, chronically ill, and underserved (Jimison et al., 2008)	Especially as related to the elderly, chronically ill, and underserved
	• Evaluate how interactive HIT was currently being used.
	• Identify the type that was the most useful and easiest to use.
	• Identify barriers to use.
	• Identify factors that enable use.
	• Evaluate the effectiveness of interactive HIT in improving outcomes.
Impact of consumer health informatics (CHI) applications (Gibbons et al., 2009)	Especially as related to four HIT user groups; clinicians, developers, consumers (patients), and families or caregivers
	• Evaluate the impact of CHI on outcomes among users. Five specific outcome areas; ◦ the health care process ◦ intermediate health outcomes ◦ relationship-centered outcomes ◦ clinical outcomes ◦ economic outcomes
	• Identify barriers limiting the implementation and use of CHI among users.
	• Evaluate the cost, benefit, and net value of CHI.
	• Identify critical information needed to educate all users of the value of CHI specific to them.
Enabling medication management through health information technology (health IT) (McKibbon et al., 2011)	Especially as related to the use of two-way prescription electronic data interchange (EDI)
	• Effectiveness
	• Gaps in knowledge or evidence
	• Value for implementers and users
	• System characteristics
	• Sustainability

Table 5 continued

Review	Considerations
Enabling health care decision making through clinical decision support and knowledge management (Lobach et al., 2012)	Especially as related to two HIT types • CDSS, clinical decision support system, "any electronic system designed to aid directly in clinical decision making, in which characteristics of individual patients are used to generate patient-specific assessments or recommendations that are then presented to clinicians for consideration (p. ES-1)." • KMS, knowledge management system, "tool that selectively provides information relevant to the characteristics or circumstances of a clinical situation but which requires human interpretation for direct application to a specific patient (p. ES-1)."
	• Identify study designs used to evaluate effectiveness.
	• Identify factors that predict successful clinical impact.
	• Identify the best evidence of impact on healthcare process, relationship-centered, clinical, and economic outcomes.
	• Identify the types of knowledge that can be integrated into these HITs.
	• Identify gaps in the evidence regarding effectiveness.
Enabling patient-centered care through health information technology (Finkelstein et al., 2012)	Especially as related to the role of HIT in improving shared decision making, patient-clinician communication, and patient access to medical information.
	• Assess the impact and effectiveness of HIT applications developed and implemented to enhance the provision of patient-centered care.
	• Identify barriers and facilitators of these applications.
	• Identify gaps in the knowledge and evidence.

• Facilitators to use and implementation

• Available knowledge and evidence

• Gaps in knowledge and evidence

• Information needed by users in adopting HIT

• Value

Several studies identified particular components of care in the context of health

information technology (HIT).

- Identification of specific HIT user groups

  o Clinicians

  o Developers

  o Consumers (patients)

  o Families or caregivers. (Gibbons et al., 2009; Jimison et al., 2008)

- Special consideration of components of patient centered care in using HIT

  o Shared decision making

  o Patient-clinician communication

  o Patient access to medical information (Finkelstein et al., 2012).

Findings/benefits related to use of the EHR.

The 2006 review (Shekelle et al., 2006) concluded that HIT has the potential to dramatically transform healthcare delivery making it safer, more effective, and more efficient. The 2011 review (McKibbon et al., 2011) supports this conclusion suggesting there is strong evidence that Medication Management health Information Technology (MMIT) can improve healthcare processes. MMIT is a, "vital, vibrant, and a proven component of health and health informatics – at least for improving the processes of care that include patient safety" (McKibbon et al., 2011, p. ES-16).

Patient and family/caregiver interactions in both the HIT and decision making were key components in two reviews published in 2009 and 2012. The 2009 review concluded that select CHI applications may effectively engage patients and family/caregivers, enhance traditional clinical interventions, and improve intermediate and clinical health outcomes (Gibbons et al., 2009). The 2012 review concluded there was substantial evidence that HIT applications with patient centered care-related components have a positive effect on healthcare

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outcomes (Finkelstein et al., 2012). Convenience and ease of use were also identified as important drivers affecting the actual use of these applications (Jimison et al., 2008). Jimison et al., concluded that this convenience and ease of use also involved providing a complete feedback loop of assessment of current patient status, interpretation of this status information in light of established treatment goals or plans, and communication back the patient with tailored recommendations or advice (Jimison et al., 2008).

All the reviews showed a general benefit from the use of HIT in the context of a specific area of interest; pediatrics (Shekelle et al., 2006); medication management (McKibbon et al., 2011); consumer applications (Gibbons et al., 2009); and patient centered care (Finkelstein et al., 2012). Additionally, Lobach et al. (2012) review identified nine specific features associated with successful CDSS/KMS implementation. Three were previously identified features: the automatic provision of decision support as part of clinician workflow; the provision of decision support at time and location of decision making; and the provision of a recommendation, not just an assessment. This review also identified six new features: integration with charting or order entry system to support workflow integration, no need for additional clinician data entry, a promotion of action rather than inaction, a justification of decision support via provision of research evidence, local user involvement in development process, and a provision of decision support results to patients as well as providers (Lobach et al., 2012).

In summary, these reviews offer consensus that HIT is beneficial to healthcare delivery and can improve outcomes. Among the identified benefits are that HIT provides a vehicle that goes beyond assessment. This is especially useful when HIT is easy to use and the medical team provides follow-up to the assessment and treatment plan. HIT provides an opportunity for

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evidence-based recommendations of care, promotes action, supports development that is contextual, and supports shared decision making through disclosure of information to patients and families/caregivers as well as to clinicians.

Limitations and weaknesses of the research.

Generalizability is an underlying concern noted by several reviews (Finkelstein et al., 2012; Jimison et al., 2008; Shekelle et al., 2006). Related to generalizability were two seemingly conflicting concerns. One was that the heterogeneity of studies impeded the ability to compare studies (Finkelstein et al., 2012; Jimison et al., 2008). Associated with this concern was a lack of consistent terminology across systems (Finkelstein et al., 2012; Jimison et al., 2008; Lobach et al., 2012). The second was a lack of studies representing a wider variety of patient populations and conditions (Finkelstein et al., 2012; Gibbons et al., 2009; Jimison et al., 2008; Lobach et al., 2012).

A second underlying concern was the potential impact on CHI user groups. There was a lack of evidence related to non-physician team members and to CHI use outside of prescribing and monitoring (Finkelstein et al., 2012; Lobach et al., 2012). There was also little evidence showing the impact of use on patients, families, and associate caregivers (Gibbons et al., 2009).

A third concern was related to the overall HIT usefulness. This concern was raised in identifying limitations of studies related to outcomes (Finkelstein et al., 2012; Gibbons et al., 2009; Lobach et al., 2012; McKibbon et al., 2011), economics (Finkelstein et al., 2012; Lobach et al., 2012; Shekelle et al., 2006), efficiency (Finkelstein et al., 2012; Lobach et al., 2012), and sustainability (McKibbon et al., 2011).

In summary, there remain significant gaps in the body of HIT literature. These gaps present numerous opportunities for future research into HIT and the EHR.

Implications for future research.

The Finkelstein, et al.(2012) review reiterated the presence of strong evidence of the positive impact of HIT on health outcomes, particularly in patient centered care applications, and noted the evidence pointing to clinical areas where patient centered care HIT applications are clinically beneficial (Finkelstein et al., 2012). Given this evidence, the reviews offered several implications and potential opportunities for future research.

A major theme for future research was consistency and standardization. A clear, consistent, and standardized taxonomy of interventions and outcomes related to use of HIT is needed to provide meaningful comparisons (Jimison et al., 2008) and preferably transdisciplinary (Gibbons et al., 2009). This taxonomy could be used to provide an operational definition of sustainability (McKibbon et al., 2011). It could also provide a platform to develop a CHI registry to facilitate uniform reporting and synthesis of results across CHI applications, interventions, and evaluations(Gibbons et al., 2009) incorporating the principles of HIT in a more systematic and comprehensive way (Finkelstein et al., 2012). In turn, this could help maximize the potential of HIT applications to facilitate patient centered care (Finkelstein et al., 2012).

Another theme indicated a lack of evidence related to HIT and improved outcomes. Evidence may be related to improved patient outcomes through the use of HIT, specifically MMIT (McKibbon et al., 2011). Second, evidence would allow for comparisons of care for directed at g the general population as well as for special populations and underserved populations (Jimison et al., 2008). Finally, evidence would address the need for more study on

a wider variety of clinical diagnoses as well as multiple simultaneous diagnoses (Lobach et al., 2012).

A third theme for future research was the various users of HIT. As healthcare becomes more multidisciplinary and team oriented, greater understanding about how the various team members use HIT and the clinical outcomes associated with its use are recommended (McKibbon et al., 2011). Related to this is increased understanding about which team members should receive clinical documentation support advice to optimize effectiveness (Lobach et al., 2012). Patient perspectives also warrant further investigation. Patients and their families are not only directly affected by the use of HIT, they are becoming more active users of it (McKibbon et al., 2011). Finally, more research is recommended on the usability of HIT by all user groups, including the education and training required to use HIT (McKibbon et al., 2011).

A fourth and final theme was noted in previous sections: cost, benefit, and other economic components. Measuring and comprehending the value of HIT is a major theme in several of these reviews and an underlying theme in all of them (Finkelstein et al., 2012; Gibbons et al., 2009; Jimison et al., 2008; Lobach et al., 2012; McKibbon et al., 2011; Shekelle et al., 2006).

These six reviews from the AHRQ represent analyses of thousands of published articles spanning several decades. A consistent theme is that the EHR is a valuable tool in providing patient care and contributing to positive health outcomes. A second consistent theme is that increased research and understanding about how to use the EHR, as well as the specific implications of its use, are desirable. This presents multiple research opportunities for increasing the knowledge base for the use of HIT. Five specific research opportunities included:

1. Standardization and consistency of HIT across disciplines, applications, clinical diagnoses, and portability between institutions.

2. Cost, benefit, and other economic concerns related to development, implementation, and on-going use of HIT.

3. Discussing the various dynamics of patient centered care.

4. The interactions and implications of use by the multidisciplinary healthcare team.

5. The implications of using HIT as a tool for recommendation of action and not simply for assessment.

The following sections will focus on a specific application of HIT, the EHR used by a specific medical center. More specifically, these sections will focus on a particular application of the EHR through spiritual assessment and intervention.

PMC and the Epic EHR

In March 2007 a large quaternary care pediatric medical center in a medium-sized city in the U.S. Midwest (PMC) began integrating all patient care documentation into a single EHR using the Epic system. Epic makes software a wide variety of healthcare organizations. Their software is integrated spanning clinical applications, access and revenue functions, and extending into the home applications (EPIC Systems Corporation, 2012). PMC began with design sessions, content builds, and validations. The different applications went on-line in phases beginning with Phase One, billing and scheduling functions, which became operational in July 2008. Phase Two was initiated in 2009 and included; EpicCare Inpatient, EpicRx Pharmacy, Health Information Management (HIM) Deficiency Tracking, Hematology/Oncology and Beacon, OpTime Periop Documentation, Psychiatry, and Radiant Radiology. EpicCare Inpatient, became operational January 2010, and included pastoral care.

Virtually all pastoral care documentation is done in inpatient, outpatient, and emergency department sections of the EHR. For the contents of the referenced secure website see Appendix B, PMC About Epic (Cincinnati Children's Hospital Medical Center, 2012a).

PMC Pastoral Care Flowsheet and the Epic EHR

The data for this study were charted by the chaplains at PMC on the Pastoral Care Record flowsheet. The flowsheet is an instrument using pre-determined templates of nominal data and is built on a spreadsheet platform in the EHR currently managed by Epic. The templates were designed to represent a more standardized method of providing documentation. In consultation with the Epic builders, it was determined that this approach could make more efficient use of time by using drop-down menus to document recurring themes in assessment and services and could aggregate data. These data could be used to generate reports for administrative use and for practice improvement. The discussion of the Pastoral Care Record flowsheet includes a brief history of development and implementation of the charting method, its structure, and the personnel involved in pastoral care documentation in the PMC EHR.

The pastoral care record flowsheet.

In May 2007 a workgroup of four clinical staff chaplains in the Pastoral Care Department at PMC began developing the chaplain documentation section of the PMC Epic EHR. This researcher served as chair of the workgroup responsible for the development, training, implementation, and on-going support of this documentation model. The workgroup was tasked with designing the templates that would form the basis of chaplain documentation in the EHR, working with the entire pastoral care department staff to ensure the templates reflected department-wide practice, communicating these practices to the Epic builders, and training the chaplains to use the new system prior to implementation. In additional to regular

meetings the workgroup also attended interdisciplinary design and build meetings May 2007 –

December 2009.

Charting model structure.

There are two priorities for chaplain documentation of care at PMC: clear and

consistent communication in the medical record of spiritual assessments made and of spiritual

care provided; and clear and consistent documentation for tracking the types and the volume of

pastoral care provided within the medical center. The pastoral care charting model is designed

to address these priorities using a combination of categorical and narrative documentation. The

documentation in this model records information on a progression from general to specific

(Figure 1). The categorical information is used in the first three sections of the progression;

documentation groups, categories within groups, and descriptors within categories. The aim is

to maximize the use of categorical data and minimize the need for extensive narrative in the

documentation of care.
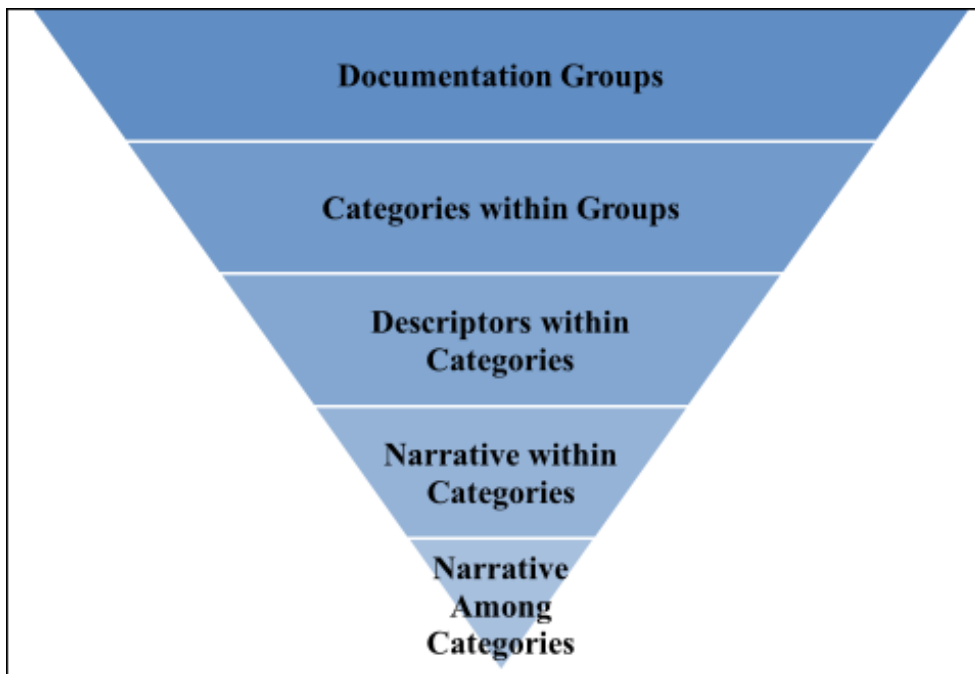
Figure 1 – PMC Pastoral Care Department EHR Charting Flow

The pastoral care workgroup consulted several resources in the development of the structure and content of the model. Records were not kept to identify how these resources were specifically applied. They used one book (Vandecreek & Lucas, 2001) and numerous articles (Anandarajah & Hight, 2001; Blanchard, 2003; Brady, Peterman, Fitchett, Mo, & Cella, 1999; Fitchett, 1998; Fitchett, 2001; Fitchett & Roberts, 2003; Fitchett, 1995; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; G. D. Gibbons, 1998; Kim, Heinemann, Bode, Sliwa, & King, 2000; H. Koenig, 2003; Mytko & Knight, 1999; Nieuwenhuizen, 2007; Post, Puchalski, & Larson, 2000; Puchalski & Romer, 2000; Shook & Fojut, 2004). In addition, the workgroup solicited and received spiritual assessments used by several organizations and institutions (Cleveland Clinic Foundation Health Care Ventures, Inc., 1995; Department of Chaplain Services Mayo Clinic, Rochester, MN, 2005; Lakewood Hospital, ; Metro Health System Cleveland, OH, ; St Anthony Health Carer Center Morrilton, AR, 2001; St Joseph Medical Center Towson, MD, 2002; Vitas, 1996). Finally, they solicited the input of the entire pastoral care department staff at several times across the process.

After using the model for approximately one and one-half years, the workgroup, in consultation with the pastoral care department staff, went through an optimization process. Using the lived experience of documentation in the pastoral care record, some descriptors were consolidated, some were added, and some categories were renamed. The current pastoral care record has been in use since September 2011.

Personnel using the pastoral care record flowsheet and training for use of the pastoral care record flowsheet.

The Pastoral Care Record flowsheet is used by all pastoral care personnel who provide direct care to patients and families. This includes the directors of the pastoral care department,

clinical staff chaplains, chaplain residents, chaplain interns, and *pro re nata* (as the situation demands) or PRN staff chaplains. Charting all patient/family interactions is expected but not mandatory.

A system-wide initial training for Epic use is required of all employees. Pastoral care training in Epic includes two phases. The first is provided by Epic-certified trainers who are medical center employees. This phase covers general access to and functionality of the EHR. The second is specific to the pastoral care applications in the EHR, is provided by a designated Epic content expert within the pastoral care department, and is required of all chaplains. This phase provides discussion of the charting norms set by pastoral care policy as well as discussion of the structure and content of the Pastoral Care Record flowsheet and its use in documenting assessment and care. Follow-up training is provided on an as needed basis, usually in one of two circumstances:

1. Subsequent to any changes in the EHR having a direct effect on chaplain documentation practice.
2. When review of charting practice or of a specific application is warranted.

Religion/Spirituality in the Healthcare Setting

The published literature on the importance and impact of religion/spirituality in the healthcare setting is extensive. In a literature search using the keywords spirituality, religion, religiousness, or religiosity Harold Koenig identified over 5,000 research articles published 2001-2005 (Koenig, 2007). Replicating the previous search a PubMed search using the same parameters of spirituality OR religion OR religiousness OR religiosity yielded 50,239 articles in the years 1881-2012 (Appendix A, Figure A1) (U.S. National Library of Medicine, 2013). This section summarizes relevant literature reviews and offers a brief discussion of the six aims

for the improvement of healthcare as outlined by the Institute of Medicine. Additionally, it provides a summary of standards related to religion/spirituality in the Joint Commission (JC) Comprehensive Accreditation Manual (CAM), an organization responsible for certifying healthcare organizations in the United States.

Summary of literature reviews on importance of religion/spirituality in the healthcare context.

Anandarajah and Hight (2001) summarize several studies that show a significant percentage of patients believe their physicians should consider their spiritual needs, want to share their religious beliefs with their physician, and want their physician to inquire about their religious/spiritual beliefs especially if they are gravely ill. Yet, a small number of patients report that their physician has ever discussed the patient's religion/spirituality with them. Likewise, a significant percentage of physicians believe that patients should share their religious beliefs with their physician and that spiritual well-being is important in health, yet very few physicians report frequently discussing a patient's religion/spirituality with them. Physician-identified barriers to discussing spiritual issues are; lack of time, lack of training, and difficulty in identifying patients who want such a discussion (Anandarajah & Hight, 2001).

Borneman, Ferrell, and Puchalski (2010) reviewed studies that indicate most patients with advanced cancer rely on religion in coping with their illness, a majority of patients and caregivers want their clinicians to address spiritual concerns as part of the healthcare process, and 67% of patients think that physician knowledge of their religious/spiritual beliefs would affect the physician's ability in offering hope, medical advices, and changes in medical treatment. In another study, 88% of patients reported that religion/spirituality was at least somewhat important, 47% reported unmet religious/spiritual needs by the religious community,

and 72% reported unmet religious/spiritual needs by the medical community (Borneman et al., 2010).

Fitchett (1999) cited a study of elderly heart surgery patients that said patients who experienced social isolation and those who reported receiving no strength and comfort from religion were found to be at greater risk of not surviving six months after surgery. Fitchett and Risk (2009) cited several studies showing a correlation of religious/spiritual struggle to health outcomes and, controlling for demographic and for physical and mental health, religious struggle is a significant predictor of increased mortality. Religious struggle among patients with diabetes, congestive heart failure, or cancer is associated with poorer quality of life and greater emotional distress (Fitchett & Risk, 2009).

In summary, the published literature consistently shows a significant percentage of patients and physicians consider religion/spirituality important in the context of healthcare. There is a noticeable disparity between this importance and the frequency with which it is addressed by healthcare professionals. There is also evidence indicating correlations between spiritual struggle and health.

Institute of Medicine.

The Institute of Medicine identified six aims of improvement for healthcare. Healthcare should be safe, effective, patient-centered, timely, efficient, and equitable. Aim three, patient-centered care, most directly addresses religion/spirituality in the healthcare context (Committee on Quality Health Care in America, Institute of Medicine, 2001). Patient-centered care, "encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient" (Committee on Quality Health Care in America, Institute of Medicine, 2001, p. 48). (Gerteis, Edgman-Leviton, Daley, & Delbanco,

2002) identified six dimensions of patient-centered care: (1) respect for patients' values, preferences, and expressed needs; (2) coordination and integration of care; (3) information, communication, and education; (4) physical comfort; (5) emotional support – relieving fear and anxiety; and (6) involvement of family and friends. Discussion of dimension five, emotional support, specifically identifies spirituality. "Suffering is more than just physical pain and other distressing symptoms; it also encompasses significant emotional and spiritual dimensions" (Committee on Quality Health Care in America, Institute of Medicine, 2001, p. 50).

The Joint Commission and spiritual assessment.

The electronic, web-based edition of the JC CAM, effective July 1, 2012, was searched using each of the following parameters; religion, spiritual, and spirituality. The search identified 15 standards within the Behavioral Health, Home Care, and Hospital program manuals containing at least one of the search terms in its Elements of Performance. These standards can be grouped into four broad categories: screening and assessment (six standards); care planning and provision of services (five standards); patient rights (three standards); credentialing of physician staff (one standard). The screening and assessment standards appear in the Behavioral Health and Hospital Manuals. The three standards in the Behavioral Health manual specify that: the organization collects assessment data on each individual served (CTS.02.02.01); organizations providing care, treatment, or services to individuals with addictions assess the individual's history of addictive behaviors (CTS.02.03.07); and foster care agencies screen and assess each individual to determine needed services and placement (CTS.02.04.01). The three standards in the Hospital manual specify that: the hospital assesses and reassesses its patients (PC.01.02.01); the hospital assesses the needs of patients who receive psychosocial services to treat alcoholism or other substance use disorders

(PC.01.02.11); and the hospital assesses the needs of patients who receive treatment for emotional and behavioral disorders (PC.01.02.13). All six standards consider accurate assessment of the patient the basis for the provision of care. All six identify religion and or spirituality to be components of patient assessment (The Joint Commission, 2012). The standards do not identify who is to make these assessments nor do they specify the content of these assessments.

The care planning and provision of services standards are located in each of the three manuals. The two standards in the Behavioral Health manual specify that: foster care agencies develop and periodically review its case plans (CTS.03.02.03); and organizations providing case management/care coordination services provide these based on the individual's needs, preferences, goals, and community resources available to the individual (CTS.06.01.01). The two standards in the Home Health manual specify that: the organization provides services that meet patient needs (LD.04.03.01); and the patient's comfort and dignity receive priority during end-of-life care (PC.02.02.13). The standard in the Hospital manual specifies that the patient's comfort and dignity receive priority during end-of-life care (PC.02.02.13). These standards related to care plans and end of life care include the support of spirituality (The Joint Commission, 2012).

The patient rights standards are in the Behavioral Health and Hospital Manuals. RI.01.01.01 specifies the organization respects the rights of the individual served and addresses access to pastoral and spiritual services. RI.03.01.01 specifies that foster care agencies respect the rights of individuals in foster care, specifically, that their written policies support people in their care in developing and expressing their individual spirituality (The Joint Commission, 2012). RI.01.01.01 specifies that the hospital respects, protects, and promotes patient rights,

specifically prohibiting discrimination based on several factors including religion (The Joint

Commission, 2012).

The credentialing standard is in the Hospital manual and specifies that the hospital

collects information regarding each practitioner's current license status, training, experience,

competence, and ability to perform the requested privilege (MS.06.01.03). This standard states

that a hospital's professional practitioners are expected to demonstrate behaviors that reflect an

understanding and sensitivity to diversity (The Joint Commission, 2012). The standard goes

further to identify components of diversity including religion.

In summary, the JC expects healthcare organizations to assess patients'

religion/spirituality as part of the on-going assessment of patients, but does not specify the

content of this assessment nor who will provide it. This allows for a wide range in practice.

What JC may term 'assessment' could be a basic spiritual screen, a spiritual history or an in-

depth spiritual assessment. It may be inferred that the baseline expectation is that of a basic

spiritual screen. The JC discussion of religion/spirituality relates specifically to patients

receiving treatment in behavioral medicine, who are in foster care, and in end-of-life care. The

general standard of assessment and reassessment includes religion and spirituality as an

element of performance.

Pastoral care practice and evidence-based documentation.

Montonye and Calderone (2009) published a descriptive study exploring the validity of

self-reported data of chaplain assessments, interventions, and patient outcomes (Montonye &

Calderone, 2009). Using predetermined descriptors, chaplains documented patient/family visits

in a database over a period of two years. The study revealed fundamental differences in the

content of the documentation between three sub-groups of chaplains: CPE students, interfaith

chaplains, and Roman Catholic priests. Based on these variances the authors questioned

whether the chaplains were functioning based on the patient/family needs or based on

chaplains' needs. The analysis appeared to utilize basic frequency distributions of the

individual descriptors and the authors indicated they were unable to analyze the relationships

between the descriptors themselves. Their conclusions were also based on conjecture on why

these three groups tended to use specific descriptors. Because the information was collected in

a database separate from the patient health record, it, does not show what the chaplains

recorded in the patient record. Given the study limitations, the authors suggest more consistent,

systematic, and evidence-based methods of making assessments, providing interventions, and

showing outcomes.

Pastoral Care Screens, Histories, and Assessments

This section summarizes published screening, history, and assessment instruments. For

the purposes of this study the author of this study defines spiritual screen, spiritual history, and

spiritual assessment as follows:

- Spiritual Screen: instrument to identify patients with high spiritual needs and low

    spiritual resources with which to address those needs. It is used for referral to the

    chaplain for follow-up yet also identifies ways staff can support patients through

    providing other resources. This instrument can be administered by any healthcare

    professional regardless of whether they provide direct care.

- Spiritual History: instrument to assess patients' spirituality and its impact on health

    and healthcare decision-making. This instrument is designed to be provided by a

    health care professional who provides direct care, typically a physician or nurse.

- Spiritual Assessment: an in-depth evaluation of a patient's spiritual needs, resources, and their capacity to cope with circumstances using their spirituality. The spiritual assessment is done by someone with specific training in spiritual distress and coping. In the healthcare setting this person is typically a chaplain.

Pastoral care theologies and assessments.

Pastoral care professionals, psychologists, psychiatrists, and others have written about what constitutes spiritual assessment and response. Many of these are a combination of pastoral theology and pastoral practice. Some of the authors and publications over the past several decades have been useful in training chaplains who serve in various non-traditional settings of minister such as healthcare. Table 6 offers a list of some of the more recognizable publications and authors from the past several decades. While instructive in training pastoral care providers, no studies report tests of validity and reliability to reflect their effectiveness in a clinical setting.

Table 6

Pastoral Theology and Pastoral Counseling Publications

Author	Publication	Year
Hiltner, Seward	Preface to Pastoral Theology (Hiltner, 1958)	1958
Switzer, David K.	The Minister as Crisis Counselor (Switzer, 1974)	1974
Pruyser, Paul W.	The Minister as Diagnostician (Pruyser, 1976)	1976
Oates, Wayne E.	The Christian Pastor (Oates, 1982)	1982
Clinebell, Howard J.	Basic Types of Pastoral Care and Counseling: Resources for the Ministry of Healing and Growth (Clinebell, 1984)	1984
Fitchett, George	Assessing Spiritual Needs: A Guide for Caregivers (Fitchett, 1993)	
Lester, Andrew J.	Hope in Pastoral Care and Counseling (Lester, 1995)	1995
Denton, Donald D.	Religious Diagnosis in a Secular Society: a Staff for the Journey (Denton, 1998)	1998
Ramsay, Nancy J.	Pastoral Diagnosis: a Resource for Ministries of Care and Counseling (Ramsay, 1998)	1998
Vandecreek, Larry; Lucas, Arthur M.	The Discipline for Pastoral Care Giving: Foundations for Outcome Oriented Chaplaincy (Vandecreek & Lucas, 2001)	2001

Spiritual screens and histories.

The results of a Pub Med search for spiritual screens and spiritual histories appear in Table 7.

The Fitchett and Risk (2009) spiritual struggle screening protocol was used in a pilot study to

evaluate its validity and reliability in evaluating its effectiveness as a screen. The study

focused on identifying true positives and screening out false positives. A number of false

negatives were identified in the discussion but were not part of the study design itself (Fitchett

& Risk, 2009). This seems to question the validity and reliability of the screen.

Table 7

Spiritual Screens and Spiritual Histories

Author(s)	Instrument	Date
Spiritual Screens		
Fitchett, G.; Risk, J. L.	Fitchett/Risk(Fitchett & Risk, 2009)	2009
Hodges, S.	Hodges/Methodist (Hodges, 1999)	1999
Wakefield, J.L.; et al.	High Point Regional (Wakefield, Cox, & Forrest, 1999)	1999
Spiritual Histories		
Anandarajah, G.; Hight, E.	HOPE (Anandarajah & Hight, 2001)	2001
Pulchaski, C.M.	FICA (Puchalski & Romer, 2000)	2000
Maugans, T.A,	SPIRIT (Maugans, 1996)	1996
Larocca-Pitts, M.A.	FACT (Larocca-Pitts, 2008)	2008
Koenig, H.A.	CSI-MEMO (H. G. Koenig, 2002)	2002
Lo, B.; Quill, T	ACP (Lo & Quill, 1999)	1999

A 2010 pilot study examined the feasibility of using the FICA (Faith or belief,

Importance of spirituality, individual's spiritual Community, and interventions to Address

spiritual needs) in clinical settings (Borneman et al., 2010). The authors compared responses to

the I-section (importance or influence) structured to include a Likert-response measure to the

spiritual components of the City of Hope Quality of Life (QOL) instrument. The authors

reported a significant positive correlation between the I-question and five of the spiritual items

on the QOL instrument and were moderately correlated with the whole Spiritual subscale as

well as the subscale total ($r = 0.467$) (Borneman et al., 2010).   One limitation of the study was

the religious preference demographic, which may have contributed to the frequency of positive

responses to the importance of faith/belief (median score of 10 on a 0-10 scale). This study

provides some statistical support to FICA's validity although the authors admit that the

conclusions are preliminary and require more extensive research, not only for validation but

also reliability. No validity and reliability testing studies were found for the other screens and

histories.

As noted above, three AHRQ reviews identified interaction of user groups as an

important component of HIT use (Finkelstein et al., 2012; Gibbons et al., 2009; Jimison et al.,

2008). Assessing the effectiveness of HIT includes evaluating its impact on all user groups;

clinicians, developers, consumers (patients), and families or caregivers (Gibbons et al., 2009;

Jimison et al., 2008). Further, the components of patient centered care in using HIT include

shared decision making, patient-clinician communication, and patient access to medical

information (Finkelstein et al., 2012). By extension it would seem that instruments used to

evaluate patients and their families or caregivers would also need to include all user groups in

their basic design. All the published spiritual screens and spiritual histories included a

literature review. This review focused on attitudes of patients and clinicians toward the

importance of spirituality in the context of healthcare. The content of one of the spiritual

screens was developed by a multidisciplinary team at a regional medical center (Wakefield et

al., 1999). The content of the other eight spiritual screens and spiritual histories appear to be

based on the author(s) experience and expertise. A limitation of all the instruments was the

lack of involvement of all user groups in the content design, especially patients and

families/caregivers. In conclusion, there is a deficit of research into developing and

implementing spiritual screens, spiritual histories, and spiritual assessments that are patient centered and evidence based.

The minister as diagnostician – Paul W. Pruyser.

A discussion of the categories postulated by Paul Pruyser in "The Minister as Diagnostician" (1976) will provide a frame of reference for discussing the results of pastoral practice in Chapter Five. As stated previously, no pastoral care assessment and practice models have been subjected to validity or reliability testing. This model was chosen for three reasons. First, Pruyser's work was one of the earlier models of theological assessment in a clinical context. Originally published over 40 years ago, it is still in print and is still used as a resource for basic pastoral care education. This longevity of use contributes to face validity. Second, the methodical approach taken contributes to construct validity. Third, the categories are relatively straightforward and theologically based. This section will discuss his seven categories of religious diagnosis; awareness of the holy, providence, faith, grace, repentance, communion, and vocation (Pruyser, 1976). Pruyser's description of the seven categories as a series of continuums (Table 8) is discussed in this summary.

Awareness of the holy assesses what, if anything, one considers sacred. Sacredness is anything one may revere or consider inscrutable. This awareness, or lack thereof, is two-fold, recognition and relationship. Recognition is a continuum identifying the basic importance of anything outside the self. One end of the continuum is that one is a dependent creature and the other end is an inflated sense of self. The dependent creature is more likely to experience mystery and transcendence, while the inflated self holds to factualness and shies away from transcendence. Relationship explores the nature of this recognition, specifically the expectations one has of what is revered, whether it be a sacred presence or even some form of

Table 8

Overview of Pruyser Assessment Continuums (Pruyser, 1976)

Category	Assessment Continuum
Awareness of the holy	Recognition dependent creature -------------------------------- inflated sense of self
Providence	Hopes hope -- wish
	Promises solution --- presence
Faith	Stance of Life affirming -- negating
Grace	Forgiveness need for forgiveness ------------------------------------- private judgment
Repentance	Responsibility – clear recognition accept no responsibility -------------- assume too much responsibility
Communion	Relationship to Humanity continuous --- discontinuous
Vocation	Effort humor --- gravity

civil religion. For Pruyser, the awareness of the holy can be summarized in words from the

testament of Christian scripture in the Gospel According to Matthew, Chapter Six, verse

twenty-one, "For where your treasure is, there will your heart be also (Metzger & Murphy,

1994, NT p. 9)."

Providence is summarized in the question, "What is God's (or Sacred Presence or

Divine Purpose) intention for me?" and presupposes an awareness of the holy outside oneself.

Pruyser (1976) identifies three types of experience related to providence. First, a belief in some

type of cosmic benevolence. Second, a desire for guidance from somewhere on high. Third, a

need for nurture and or solace. Further, providence is tied to a sense of trust and to a

recognition of one's own limit. Providence explores the dynamics of hopes and promises.

Hope has two themes, hoping and wishing. Hoping concerns attitudes and global benefits such

as life, freedom, deliverance, and salvation, referring and deferring to transcendent power.

Wishing concerns more specific things like money or the death of an enemy and holds the expectation that transcendent power will bend to conform to the individual's wishes. Promises are a continuum of what one thinks one's god has promised. On one end of the continuum is the expectation of specific benefits including a prompt solution to the problem and the other end believes that their god's promised presence is enough.

"Its (*faith*) relation to any particular faith, *the Faith* as an objective and historical pattern of tenets, is to be investigated rather than taken for granted "(Pruyser, 1976, p. 67). The use of faith helps assess one's stance in life. The continuum of faith has an affirming stance of life on one end and a negating stance on the other end. Hence, the diagnostic value of faith is determining if faith opens up the world or constricts it.

Grace or gratefulness is related to kindness, generousness, gifts, and the beauty of giving and receiving with no expectation of reciprocation. Grace is also related to forgiveness and is of particular diagnostic value when guilt is also identified. In the presence of guilt there may be tension between one's need for forgiveness and their private judgment regarding their own forgiveableness.

Repentance is a, "process of change, most often self-initiated, from a condition of felt displeasure or anguish, aimed at a state of greater well-being" (Pruyser, 1976, p. 71). There are two therapeutic steps in repentance. First, is the level of awareness of one's contribution to the problem(s). In the Christian context this may be expressed through confession. Second, is one's level of acceptance of responsibility for their contribution to the problem(s). In the Christian context this may be expressed through contrition or repentance and a willingness to do penance or to make amends. There are three types of awareness and acceptance of

responsibility; clear recognition of their responsibility, accepting no responsibility, and assumption of too much responsibility.

Communion is how one sees oneself in relationship to the rest of humanity and of nature. If one sees oneself as a continuous part of humanity and nature then one is likely to be embracing in their perceptions of communion. If, on the other hand, one is discontinuous, one will more likely ward off communion in humanity and nature.

Vocation is, "a person's willingness to be a cheerful participant in the scheme of creation and providence, so that a sense of purpose is attached to his (*sic*) doings which validates his (*sic*) doings under his (*sic*) Creator" (Pruyser, 1976, p. 76). Someone with a sense of vocation believes that the world can be made a better place through human effort, their effort making life a pilgrimage. One end of the continuum of vocation is humor and is described by spirit and spontaneity. The other end is gravity and is described by stuffiness and heaviness.

Chapter Summary

HIT and the EHR are important components of patient assessment and intervention. Developing patient centered applications involving all user groups including patients and their families or caregivers positively impact the EHR. Interaction by the multidisciplinary team affects health and healthcare. Religion/Spirituality in the context of health and healthcare is important to a significant number of patients. The JC identifies religion/spirituality as a component of professional competency and of patient assessment. There is much published literature showing the importance of religion/spirituality in health and healthcare. In contrast, little has been published identifying evidence-based patient-centered content for spiritual assessment and intervention.

There is an ever-increasing emphasis on evidence-based, patient-centered practice in the healthcare setting. Most published work in spiritual care heretofore has focused on the importance of religion/spirituality in healthcare. A current challenge is to build valid and reliable practice models of assessment and intervention. These kinds of spiritual care models would effectively identify patient and family systems who would benefit from follow-up by a spiritual care professional. These models would also provide consistent and effective assessments of spiritual needs, spiritual resources, and their impact on patient and family system coping, health care attitudes and healthcare decision making. Finally, analysis of the aggregate data generated by these models could be used to further evaluate and develop more effective evidence-based and patient-centered models of spiritual assessment and care.

One of the user groups in building this model is the professional spiritual care provider. A systematic and quantitative analysis of chaplain-determined descriptors of spiritual assessments and pastoral service used in chaplain documentation, something not previously attempted, is an essential step in the formation of evidence-based patient-centered pastoral care practice. This descriptive study will analyze categorical data of chaplain assessments and interventions to identify patterns in chaplain documentation. These patterns can be used to identify categories of assessment and intervention based on documentation of actual practice. A more detailed description of the data elements and their analysis is in the methods section.

Chapter 3: Methodology

This chapter describes the research design and procedures used in this study. Included are the study objectives and research questions, research design, population and proposed sample description, sampling size and strategy, data collection, instrumentation, data analysis, and study limitations. The purpose of this study is to identify what meaningful data can be culled from the EHR documentation by chaplains at a specific medical center. This exploratory analysis may serve as a basis for identifying implications for the future development and usage of charting by chaplains.

The specific aim is addressed through the following research questions:

1. How do chaplains at PMC use Assessment of Pastoral Needs and Resources variables and Pastoral Services Provided variables in the Electronic Health Record (EHR)?

    a. With what frequency are individual variables used within Assessment of Pastoral Needs and Resources?

    b. With what frequency are individual variables used within Pastoral Services Provided?

    c. With what frequency are variables within Assessment of Pastoral Needs and Resources used in combination with each other?

    d. With what frequency are variables within Pastoral Services Provided used in combination with each other?

e. With what frequency do chaplains use combinations of Assessment of Pastoral

Needs and Resources variables with Pastoral Services Provided variables?

2. How often did chaplains make use of the flowsheets?

3. When chaplains recorded visits what were the demographic characteristics of

patients and families seen?

Research Design

This dissertation is a descriptive research study analyzing patterns in chaplain charting

practices in the EHR. The analysis was based on retrospective categorical data in patients'

EHRs as recorded by chaplains in the Pastoral Care Department at a large quaternary care

pediatric medical center in a medium-sized city in the U.S. Midwest (PMC).

There is increased emphasis on the importance of evidence-based care provided by all

disciplines in healthcare. The EHR is becoming the standard for communicating assessments,

plans of care, interventions, and outcomes of patient care. The chaplaincy literature

demonstrates the importance of assessing religious/spiritual needs and resources and

developing plans of care to address the results of such assessment (Anandarajah & Hight, 2001;

Borneman, Ferrell, & Puchalski, 2010; Fitchett, 1999; Fitchett & Risk, 2009; Koenig, 2007).

This literature suggests that addressing the religious/spiritual needs of patients and families in

the healthcare context can affect healthcare and adherence outcomes. Currently no studies

explore the relationships of spiritual assessments and care by professional chaplains as

documented on specific care provided. Many pastoral care practitioners, as well as

practitioners in other disciplines, have developed and published models of assessment and care

(Fitchett, 1993; Pruyser, 1976; Vandecreek & Lucas, 2001). There have been no studies of the

efficacy of any of these models.

Although historically chaplains have been providing spiritual care in multiple settings, there is no evidence to confirm consistency in what chaplains do between different institutions. Their actual tasks vary significantly according to institutional contexts and are influenced by personal background and training, and perhaps more by how individual departments and hospitals shape their daily work (Cadge, 2012). According to the current trends and emphases in healthcare, the vocation is not evidence-based and no pastoral care theory has been sufficiently tested for validity and reliability.

Chaplain documentation is a record of chaplain visits with patient/family systems and of the care provided. The data contained in the chaplain charting model being studied represent chaplain-determined descriptors of assessment and care. A systematic and quantitative analysis of chaplain-determined descriptors of spiritual assessments and pastoral service used in chaplain documentation is an essential step in the formation of evidence-based pastoral care practice. Analysis of charting that examines. The patterns among the descriptors can lead to theory development and hypothesis generation for subsequent study.

Population.

The population for this study was all patient/family visits recorded by staff in the EHR at PMC since the first system-wide dissemination of the EHR Selection bias is particularly problematic in non-experimental designs (Polit & Beck, 2007). This study is a non-random convenience sample comprised of all charting recorded by clinical staff chaplains within the prescribed time-frame. To minimize variances in training and expertise and to address concerns of temporal ambiguity, management, students, and *pro re nata* (as the situation demands) or PRN staff were excluded. This intentionally limits the scope of analysis and also limits the sample to two groups of patient/family systems; those the chaplain was called to visit

and those the chaplain chose to visit. There is no spirituality assessment other than those

offered by chaplains.

Data were obtained from the EMR managed by Epic, January 10, 2010 – March 31,

2013, inclusive. The chaplains in the Pastoral Care Department at PMC have been

documenting pastoral care visits with patients and families in the EHR in that timeframe. The

population included inpatient admissions and Emergency Department patients at the PMC main

campus, inpatient admissions and Emergency Department patients at a PMC satellite campus,

and clients at the inpatient and residential psychiatry campus. Table 9 is a population estimate

based on data from fiscal year 2009-2012 (Cincinnati Children's Hospital Medical Center,

2012).

Table 9

PMC Estimated Population for Study (Cincinnati Children's Hospital Medical Center, 2012)

	FY 2009	FY 2010	FY 2011	FY 2012	Total
Inpatient	31,217	32,981	30,951	30,579	125,728
Emergency Department	114,985	125,130	121,875	124,274	486,264
Total	146,202	158,111	152,826	154,853	611,992

Sampling, inclusion criteria, sampling procedure, and sample size.

The sample for this study was all patient/family visits recorded by clinical staff

chaplains in the EHR October 1, 2011 – March 31, 2013, inclusive. In the transition from

paper charting to the EHR, variations in reporting content and frequency of documentation

were expected.   After approximately eighteen months of use, the model was evaluated by the

workgroup responsible for the original design. In consultation with the pastoral care

department staff and based on the experience of using the model, some data options were

deleted, some were consolidated, and some were added. The changes to the categorical data

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went into effect September 2011. Since April 2013, there have been no further changes to the categorical data used in documenting pastoral care contacts with patients and families. The data capture for this study was October 1, 2011 – March 31, 2013, inclusive. A conservative estimate of the anticipated sample size based on an average of 10 pastoral care records per day for eighteen months (550 days) was 5,500 individual records.

The criteria for inclusion were based on the generation of representative documentation. To increase the reliability of the data collected, only documentation provided by clinical staff chaplains was considered for this study. Restated, the inclusion criteria included documentation in the EHR Pastoral Care Record flowsheet entered by a provider of pastoral care on behalf of the pastoral care department at PMC. These pastoral care providers included pastoral care department directors, clinical staff chaplains, pastoral care residents, pastoral care interns, and pastoral care contract staff.

Those who provide and document pastoral care at PMC have varying degrees of expertise in both the provision of care and how care is documented. The directors have a high degree of expertise in the provision of care but, because of other responsibilities, do not provide direct care on a consistent basis, thereby affecting their expertise in documentation. Residents and interns are students who are learning to provide care through clinical pastoral education (CPE) an action-reflection-action method of learning. They provide care in the medical center for between ten weeks and one year in duration. As students, their level of expertise in both the provision of care and their ability to communicate this care in the EHR is developing and would lack consistency. The contract staff provides care in the medical center on an as needed (PRN) basis. There is a wide variance in their education and experience as care providers. The sporadic nature of their scheduled time in the medical center also contributes to varying levels

of expertise in the documentation of care in the EHR. The clinical staff chaplains have all

received a theological education in accordance with their specific faith tradition. They have

completed extensive CPE training and are regular practitioners of care, documenting this care

in the EHR in the current model. To increase the reliability of the data collected, only

documentation provided by clinical staff chaplains was considered for this study.

Sampling procedure.

Data were taken from a convenience sample of the patient EHR currently managed by

Epic at PMC. Following Institutional Review Board (IRB) approval at PMC and Virginia

Commonwealth University (VCU) (HM #20001321) data were collected from all patient

records containing documentation recorded on a Pastoral Care Record flowsheet within the

prescribed time-frame. Data were provided in a single report in a spreadsheet format. This

report was generated by Epic Clarity, the personnel at PMC responsible for generating reports

of EHR data. Procedure for data extraction followed PMC policies for extraction of secondary

data from the patient EHR.

Instrumentation and Measurement

This descriptive study used secondary data obtained through a retrospective chart

review. There were two basic types of data obtained: data charted by a chaplain documenting

specific patient/family visits and demographic data in the EHR recorded by other members of

the multidisciplinary team.

The pastoral care record flowsheet.

The data for this study were recorded by clinical staff chaplains at PMC and is in the

Pastoral Care Record flowheet, a documentation instrument built on a spreadsheet platform in

the EHR. Appendix C provides screen shots of the flowsheet. The discussion of the Pastoral

Care Record flowsheet includes a brief history of development and implementation of the charting method as well as its structure and contents. The background is based on recollection of the pastoral care workgroup responsible for this development and implementation.

Validity and reliability.

As noted in Chapter Two, several resources were consulted in developing this charting model. Structural components were based on assessments of needs and resources (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Content components were developed in consultation with several published assessment models noted previously. These provide a limited measure of construct validity. The remaining structure and content components were based on unpublished assessment tools and input from PMC Pastoral Care Department chaplains, who are all trained, board certified, and practicing professional chaplains. Their input would constitute expert opinion and offer face validity to the model.

The model has not been subject to reliability testing. One way of strengthening reliability in charting is the selection of the date parameters. The date parameters for data collection began over twenty months after the charting model was first used. In the transition from paper charting to the EHR, variations in reporting content and frequency of documentation are expected. After approximately eighteen months of use the model was evaluated by the workgroup responsible for the original design. In consultation with the pastoral care department staff and based on the experience of using the model, some categorical data options were deleted, some were consolidated, and some were added. The changes to the Pastoral Care Record flowsheet took effect in mid-September 2011. By April 1, 2013, there had been no further changes to the categorical data used in documenting pastoral care contacts with patients and families. Another way of strengthening the reliability in charting is noted in

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the criteria for inclusion. Only data recorded by clinical staff chaplains were considered in this study. However, although charting was encouraged there was no mandatory requirement that all chaplain contacts be charted in the EHR.

Content.

The Pastoral Care Record flowsheet is built on a spreadsheet platform and contains categorical data that are revealed to the user in a series of dropdown menus. In the PMC Pastoral Care Record flowsheet chaplain documentation begins with four broad documentation groups: the type of visit, the source of referral for the visit, an assessment of pastoral care needs and resources, and types of pastoral services provided in the visit. Categories and descriptors cascade and are made available to the user based on the choices made by the chaplain during documentation. A fifth group, a plan for follow-up care, was developed separately and is integrated into an interdisciplinary patient plan of care (PPOC), in a different location in the EHR. This element is beyond the scope of this study.

The Visit Type documentation group contains five categories (Table 10) which are mutually exclusive and limit each visit to a single type of encounter. One category, group, contains five mutually exclusive descriptors that further refine this particular visit type. One descriptor, other, is to capture any type of group not identified by the other choices. The categories and descriptors in the pastoral care record are thorough but not exhaustive. As such, one group and many of the categories contain the option other. The Referral Source documentation group contains ten categories (Table 11) which are mutually exclusive and limit each visit to a single referral source.

The Assessment of Pastoral Care Needs and Resources documentation group begins with a query regarding whether concerns were communicated in the context of the visit. The

Table 10

Documentation Group – Visit Type

Group – Visit Type	
Category	**Descriptor**
Initial	
Follow-up	
Group	General patient or family support group
	Spirituality
	Grief/loss
	Expressive Writing
	Other (comments)
Care Conference	
Home Visit	
Hospice Home Care	
Spiritual Assessment	
Pre-Surgical	
Contact Attempted. Pt/fam unavailable	

Table 11

Documentation Group – Referral Source

Group – Referral Source
Category
Patient/Client
Family
Staff
Self-Initiate
Institutional
Scheduled Activity
Congregational Clergy
Chaplain - PMC
Chaplain - Other Facility
Other (comments)

response is binary (yes or no). If no, the chaplain records nothing further. If yes, the chaplain

will choose assessments from six categories (Table 12) which are not mutually exclusive: the

chaplain may select any combination of these six categories. Along with each category chosen,

the chaplain selects from descriptors that further refine the assessment category. These

Table 12

Documentation Group – Assessment of Pastoral Care Needs and Resources

Concerns Communicated – Yes/No. If Yes:			
Category	**Descriptor**	**Category**	**Descriptor**
Spiritual Needs/ Issues	Abandonment	Interpersonal /Family Stressors	Broken relationships in family system
	Adjustment to New Diagnosis		Death/Loss
	Anger		Distance from home
	Betrayal		Divorce/Separation
	Blamed by Faith Group for Illness		Financial
	Fear		Other children at home
	Forgiveness		Sickness of other family members
	Grief (comments)		Other (comments)
	Guilt	Ethical Issues	Autonomy
	Hopelessness		Benefit versus burden of plan of care
	Isolated		Informed consent
	Loneliness		Integrity
	Negative or Punishing God Image		Request for bioethics consult
	Notify Congregation (comments)		Transparency
	Prayer		Other (comments)
	Ritual or Sacrament	Beliefs that may Affect Treatment	Use of blood products
	Shame		Use of certain procedures or equipment
	Uncertainty		Same gender staff only
	Weariness		Religion or spiritual beliefs affecting plan of care
Spiritual Resources	Acceptance of Limits	End-of-Life Issues	Anticipated death
	Acceptance of Self/Self-Worth		Immediate death
	Beliefs Helpful in Coping		Issues related to loss of life
	Believes in God/Sacred		Other (comments)
	Comfortable with Unknown		
	Connected to Faith Group		
	Hopeful		
	Loved by God/Sacred		
	Loved/Supported by Family		
	Positive God/Sacred image		
	Prayer/Devotional life		
	Sense of Community		
	Sense of Purpose/Meaning		
	Other (comments)		

descriptors are not mutually exclusive and the chaplain may select any combination of the descriptors. In addition, if the chaplain chooses to record more specific detail, each category has the option for providing a brief narrative to further refine the assessment offered within each category.

The Pastoral Services Provided documentation group begins with a query regarding whether this was a general or extended visit, using mutually exclusive choices. If general, the chaplain provides no specific services in the context of the visit and records nothing further in this category. If extended, the chaplain will choose services provided from ten categories (Table 13) and these categories are not mutually exclusive. The chaplain chooses any combination of these ten categories according to the services s/he provided in the context of the visit with the patient/family. With each category chosen, the chaplain chooses from descriptors that further refine the category of services provided. These descriptors are not mutually exclusive. The chaplain may select any combination of the descriptors within the chosen categories according to the services provided in the context of the visit with the patient/family. If the chaplain chooses to record more specific detail, each category has the option for providing a brief narrative to further refine the service(s) offered within each category.

Demographic and other data.

Other information included in the study is identified in Table 14 and was used for descriptive purposes. While chaplain visits with patients and their family systems at PMC are documented in the EHR, the flowsheet does not distinguish between patients and individual members of their family system in these visits. That information may be in the narrative section of the chaplain documentation but is outside the scope of this study. Patient race and gender were not included in the demographic information. The pastoral care department at PMC intentionally

Table 13

Documentation Group – Pastoral Services Provided

Pastoral Services Provided – General/Extended. If Extended:			
Category	**Descriptor**	**Category**	**Descriptor**
General Coping	Relationship Building	Education	Pastoral care scope of service
	Story-telling		End of life next steps
	Emotional processing		Cultural concept & practices
	Family systems Issues		Religious & spiritual concepts & practices
	Interpersonal issues		Other: (comments)
	Meaning-making	Information Provided	Sacred scripture
	Other (comments)		Devotional literature
Theological reflection	Role of the sacred		Devotional objects
	Theological Perspective/God Image		Local faith group information
	• with Patient		Contact information for support groups etc.
	• with Family		Other (comments)
	• with Other (comments)	Termination of Pastoral Relationship	Signed Discharge Book
	Discuss Meaning of Ritual or Sacrament		Attend Discharge Party
Ritual/ Sacrament	Prayer		Say 'Goodbye'
	Baptism		Other (comments)
	Dedication	Post-Mortem Administrative tasks	Yes/No
	Communion	Advance Directive	Educate
	Anointing		Complete document
	Reconciliation/Confession	Referrals to	Interdisciplinary Team – PMC
	Worship		• Social Work
	Created Ritual (See Comment)		• Child Life
	Other: (comments)		• Holistic Health
Supportive Care	Hospitality		• Medical Team
	Anxiety management		• Other (comments)
	Non-anxious presence		Pastoral Care – PMC
	Orientation to hospital		Bereavement Care – PMC
	Waiting management		Chaplain – Other facility
	Other (comments)		

Table 14

Patient Demographic and other Data

Patient medical record number substituted with a random number
Patient age at time of chaplain contact
Patient zip code (distance from medical center)
Patient country of origin (consideration of international patients)
Patient closest relationship
Patient Religion
Patient Length of Stay
Nursing unit of the hospital
Patient diagnosis using Diagnosis Related Group (DRG)/International Classification of Diseases (ICD) major category codes
Chaplain screen name substituted with random number

omits all reference to race and ethnicity in its communications for two reasons. First, many patients are multi-racial and the choice of identifier is largely a judgment call on the part of the chaplain. Second, the only pastoral reason to identify race is if this information is relevant in communicating the needs of the patient/family or signaled a specific race-related dynamic that would affect care.

Data Collection and Analysis

Data collection procedure.

Secondary/archival patient data located in the EHR were used in this study. Following IRB approval, data were provided in a single report requested through Epic Clarity, the system personnel responsible for EMR data extraction. The procedure complied with PMC policies for extraction of secondary data from the patient EHR. Of the data points requested, the majority are not HIPAA protected. Data points which are HIPAA protected were de-identified by PMC Epic Clarity through random number substitution.

Data cleaning and preparation.

Missing data are a pervasive problems in data analysis. More important than the amount of missing data is the pattern of the missing data (Tabachnick & Fidell, 2007). The Pastoral Care Record flowsheet was the primary source of analysis in this study. The data on this flowsheet were entered by the clinical staff chaplain subsequent to a visit with a patient/family system. Potential reasons for missing and/or incorrect data are forgetting to populate specific require fields and misinterpretation of the meaning of specific fields. Data cleaning in the flowsheet was a consistency check addressing potential issues of internal data consistency (Polit & Beck, 2007). Internal consistency of information on the Pastoral Care Record flowsheet is most visible in two ways: the primary questions in the documentation groups; the patterns between the answers to the primary questions for assessment and services provided, the choice of categories within these groups, and the descriptors within these categories (Tables 10, 11, 12, 13).

In accordance with pastoral care charting practices, the primary question from each of the four documentation groups must be addressed when charting each visit: visit type, referral source, concerns communicated – yes/no (assessment of pastoral care needs and resources), and pastoral services provided – general/extended. There is one exception. When the chaplain chooses the visit type, Contact Attempted Patient/Family Unavailable, the chaplain is acknowledging an attempted visit. When this visit type is selected the chaplain answers the referral source. Questions related to assessments and services are not addressed.

Two options for addressing missing or incorrect data are deleting cases and estimating values (Tabachnick & Fidell, 2007). The principle analysis of the Pastoral Care Record flowsheet was in the documentation groups, Assessment of Pastoral Care Needs and Resources

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and Pastoral Services Provided. Visit Type and Referral Source were considered primarily for

descriptive statistics. Records without Visit Type or Referral Source were excluded from the

descriptive statistics of these documentation groups (Table 15).

Table 15

Data Cleaning Pastoral Care Record Flowsheet

Visit Type – Required • Action if Visit Type not listed – Exclude record from Visit Type descriptive statistics
Referral Source – Required • Action if Referral Source not listed – Exclude record from Referral Source descriptive statistics

Assessment of Pastoral Care Needs and Resources (Except Visit Type – Contact Attempted. Patient/Family unavailable)
Concerns Communicated – Yes/No
• If Yes, documentation must include categories and descriptors
    o Action if documentation does not include categories and descriptors – Delete record
• If No, documentation must not include categories and descriptors
    o Action if documentation includes categories and descriptors – Change No to Yes and include record in analysis

Pastoral Services Provided – General/Extended (Except Visit Type – Contact Attempted. Patient/Family unavailable)
• If Extended, documentation must include categories and descriptors
    o Action if documentation does not include categories and descriptors – Delete record
• If General, documentation must not include categories and descriptors
    o Action if documentation includes categories and descriptors – Change General to Extended and include record in analysis

Note: Categories carry forward to subsequent visits on the same admission even if subsequent chaplain documentation does include use of the category. Categories within each record must have accompanying descriptors
  • Action if no descriptors accompany a category in a record – Delete category from record but maintain remainder of the record

The choice of data cleaning option for missing or incorrect data in the documentation

groups Assessment of Pastoral Care Needs and Resources and Pastoral Services Provided

varied in accordance to the presence or absence of categories and descriptors (Tables 12, 13).

If the chaplain documented concerns communicated, yes (assessment), or pastoral services

provided, extended, and categories and descriptors were not present, then the record was

deleted based on the rubric in Table 15. If the chaplain documented concerns communicated, no (assessment), or pastoral services provided, general, and categories and descriptors were present, missing and incorrect values were estimated based on the rubric in Table 15.

In Assessment of Pastoral Care Needs and Resources and in Pastoral Services Provided, categories carry forward to subsequent visits on the same admission even if subsequent chaplain documentation does include use of the category. Categories within each record must have accompanying descriptors to be used in analysis. In this event, the category was deleted from within the record but the record itself was still used in analysis (Table 15).

Research questions 1.c., and 1.d. examine how variables are patterned in combinations among the Assessment of Pastoral Care Needs and Resources and in Pastoral Services Provided documentation groups. Research question 1.e examine how these combinations of variables are patterned among the groups between the two documentation groups. In order to address these questions each documentation group was recoded into a single variable. These variables reflected either the specific assessment(s) made or the specific service(s) provided in an individual visit. Each descriptor which occurs in an individual record in the Assessment of Pastoral Care Needs and Resources group was inserted into the recoded variable, left to right, according to its relative position on the original report. This convention allowed for a frequency table of the specific combinations of variables across all records. The same process was used when recoding the Pastoral Services Provided group.

Data analysis.

Analysis produced aggregate data with no patient-specific data points. A conservative estimate of the total number of expected records is based on an average of 10 pastoral care

records per day for 550 days or 5,500 records. Based on this estimate, the expectation was that there were sufficient data to conduct the proposed descriptive analysis.

Frequency tables and contingency tables will explore the patterns of charting combinations between the two major categories of descriptors in the PMC pastoral care flowsheet, Assessment of Pastoral Care Needs and Resources and Pastoral Services Provided. This charting model was not designed to provide an overarching framework for documentation. It was designed to provide basic descriptors of assessment and service, which suggests that individual chaplains are guided by their pastoral care framework when documenting a visit. The use of descriptors allowed for a common set of words to be used in documentation and was also intended to minimize the use of narrative. The flowsheet has no required fields and few mutually exclusive choices. Patterns between descriptors are, therefore, not by design but reflect the individual choices made by the documenting chaplains. Frequency tables and contingency tables will provide an overview of the patients seen by chaplains at PMC, how clinical staff chaplains were referred, and where chaplains encountered these patients.

Study Limitations

Threats to internal validity.

Internal validity is the extent to which it is possible to infer that the predictor variable is causing or influencing the outcome variable (Polit & Beck, 2007) and suggests the operational appropriateness of the research design. Descriptive studies do not involve tests of statistical significance and but depend on confidence intervals for descriptive statistics to determine significance (Hulley, Cummings, Browner, Grady, & Newman, 2007). The study analysis was of categorical data developed by a group of chaplains in a single medical center and used by the

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same group; it does not reflect a standard form of communicating chaplain assessments and services outside of this context. As such, there are several potential threats to internal validity.

Selection bias is particularly problematic in non-experimental designs (Polit & Beck, 2007). This study is a non-random convenience sample comprised of all charting recorded by clinical staff chaplains within the prescribed time-frame. However, it is important to acknowledge that charting by chaplains of all visits was not mandatory during this study period and chaplains could self-select to chart or not chart. No information is available to determine whether there were differences between those chaplains who chose to chart and those who did not, or whether there were any differences in patient/family visits between those visits which were charted and those which were not. This reflects a potential threat to internal validity as well as impacts the generalizability of findings, an external validity concern.

Temporal ambiguity, which reflects difficulties in interpreting the order of events (Polit & Beck, 2007), may be an issue in this study because of the potential influences on assessment and charting, even though this is a descriptive study. In this context it is unclear if chaplain training and assessment skills are the principle guide for the actual assessment and charting, or if the principle guide is the actual conversation with the patient/family system. Although assessment is taught in CPE, there is no specifically identified assessment model in the CPE curriculum (Association for Clinical Pastoral Education, Inc., 2013). A major component of direct chaplain contacts with patients/families is presence, broadly interpreted and associated with chaplains' use of interactive listening and minimization of personal and professional agendas during the visit. While this may contribute positively to specific patient/family visits, it may also contribute negatively to providing clear and consistent communication of chaplain assessments.

Threats to external validity.

External validity is the extent to which the inferences in a study are generalizable across variations in people, conditions, and settings as well as across treatments and outcomes (Polit & Beck, 2007). One threat to external validity in this study is difficulty in replication. This study is a retrospective chart review in a single medical center and the specific charting model is only used in the medical center under consideration. This study could be replicated in another medical center only if Epic was used and the pastoral care department adopted this flowsheet as its chaplain charting model.

Another external validity threat relates to how both assessments of needs and selection of pastoral care services provided may be interpreted and influenced by the composition of chaplains who are providing care in this hospital, relative to issues of representativeness and generalizability. The 13 clinical staff chaplains who provided patient charting in this time frame represent three different faith traditions and all received chaplain training using the Clinical Pastoral Education (CPE) method. Almost 85% of the chaplains in this study are Christian, which could result in similar or different charting patterns within this group, as a function their interpretation of their faith traditions. In contrast, the results gleaned from this sample reflect charting patterns reflective of this sample only, with limited generalizability to settings with a larger number of non-Christian chaplains providing pastoral care, a potential external validity threat.

Also related to representativeness and generalizability of results is the specific institutional setting of this study. Although some patients seen in this setting are adults, this study is by definition in a pediatrics setting. Additionally, the organizational and departmental

organizational cultures are specific to this setting. This raises the question of whether the results would reflect chaplain charting patterns in an adult setting or other institutional setting.

Threats to construct and statistical conclusion validity.

Construct validity is the degree to which explanatory concepts account for performance (Isaac & Michael, 1995) and evaluates the validity of the theory used in the development of the research question. This is a descriptive study and is not driven by theoretical constructs. There have been no empirical studies of chaplain charting practices or studies to evaluate pastoral care theoretical models of practice. This study may contribute to development of testable theoretical constructs for chaplain assessments and services.

This descriptive study is a first step in addressing on-going threats to construct validity present in the available chaplain assessment models. This particular charting model is a compilation of resources and does not have a single theoretical base. The assessment categories are a combination of Folkman and Lazarus' work on needs and resources (Folkman et al., 1986) along with chaplain-identified categories of spiritual and other psychosocial needs. The services provided categories are chaplain-identified categories of spiritual and other psychosocial needs. All descriptors within the categories are chaplain-identified descriptors of spiritual and other psychosocial needs.

Another threat to construct validity is the use of secondary data. This charting model was not developed for research purposes or for addressing the research questions posed by this study. The research design was developed to accommodate the existing structure and the limitations of available data serve to restrict analysis.

Finally, the descriptors used in the charting model do not have concrete definitions to insure consistent application in documentation. Some descriptors may be considered synonyms

and, therefore, interchangeable. There may be variance in interpretation of the meanings of specific descriptors. This final threat to construct validity may affect measurement quality and, therefore, further impact internal validity too.

Chapter Summary

Secondary data in the form of electronic documentation by PMC chaplains were used to identify thematic charting patterns. The sample included an estimated 5,500 records charted by clinical staff chaplains during October 1, 2011 to March 31, 2013, inclusive. After the data were received, descriptive statistical tools were used to explore charting patterns. Results of this study will be presented in Chapter 4. A discussion of the results relative to chaplain literature and training, as well as recommendations for practical application to the development and use of future electronic charting by hospital chaplains will be presented in Chapter 5.

Chapter 4: Results

As stated in Chapter One, a descriptive study of the categorical data documented by chaplains in the electronic health record (EHR) may identify the specific types of care they provide. The specific aim of this study is to identify patterns of combinations of chaplain assessment and patterns of combinations of chaplain provision of services. This analysis of data in this chapter addresses the research questions identified in Chapter Three. It is organized to provide general information about the data sample, descriptive information of the sample demographics, descriptive information of the flowsheets, and analysis of the Assessment of Pastoral Care Needs and Resources and the Pastoral Services Provided sections of the flowsheets.

Submission for exempt review was made to the Institutional Review Boards (IRB) at Virginia Commonwealth University (VCU) and at Pediatric Medical Center (PMC). The IRB at VCU determined that the project, IRB HM20001321, was exempt from written consent. Approval of data by VCU IRB subject governed by appropriate data use and security. The IRB at PMC determined the proposal did not meet regulatory criteria for research involving human subjects. Approval was granted and ongoing IRB oversight was not required, with data use and security conducted as appropriate to research. Following data analysis and publication/dissemination of aggregate results from this dissertation research, collected data will be destroyed.

Data Cleaning and Preparation

The initial sample before data cleaning had an n = 5231 (Table 16). Sixty-one records answered "yes" to the question Concerns Communicated – Yes/No but had no accompanying assessment descriptors. These records were deleted from the sample. Of the remaining records, 17 answered "extended" to the question Pastoral Contact – General/Extended but had no accompanying service descriptors. These records were deleted from the sample. A total of 78 were deleted from the sample leaving an n = 5153 (Table 16).

Table 16

Data Cleaning

Step 1: Concerns Communicated - Yes/No						
	n	"No" with assessment Descriptors	"Yes" without assessment descriptors	No value and no assessment descriptors	No value with assessment descriptors	sub-total A
No	1598	-79		337		1856
Yes	2621	79	-61		181	2820
Blank	1012			-337	-181	494
Total #	5231					5170
Step 2: Pastoral Contact - General/Extended						
	sub-total A	"General" with service descriptors	"Extended" without service descriptors	No value and no service descriptors	No value with service descriptors	sub-total B
General	964	-56		92		1000
Extended	3259	56	-17		361	3659
Blank	947			-92	-361	494
Total #	5170					5153

Seventy-nine records answered "no" to the question Concerns Communicated – Yes/No, yet provided assessment descriptors. These records were changed to "yes" in the sample. Fifty-six records answered "general" to the question Pastoral Contact – General/Extended yet provided service descriptors. These records were changed to "extended" in the sample (Table 16). Concerns Communicated – Yes/No and Pastoral Contact –

General/Extended had no value provided for 1012 and 947 records, respectively. The Visit

Type, Contact Attempted Patient/Family Unavailable, does not require these fields be

answered, and had an n = 494. The remaining records were changed according to presence or

absence of assessment or service descriptors (Table 16).

The final results of data cleaning are in Table 17. In 45.4% (2340) of the records no

pastoral assessment concerns were provided as part of the assessment. In these records, the

chaplain was either unable to make contact with the patient/family or the chaplain assessed no

pastoral concerns during the visit. In 54.6% (2813) of the records the chaplain identified and

documented pastoral concerns.

Table 17

Post-Data Cleaning Values

Concerns Communicated	n	Percent	Pastoral Contact	n	Percent
No	1846	35.8	General	1000	19.4
Yes	2813	54.6	Extended	3659	71
Blank	494	9.6	Blank	494	9.6
Total #	5153	100	Total #	5153	100

In 29% (1494) of the records the chaplain had either a general contact in which no

specific services were provided or provided no services because the patient/family were

unavailable (Table 17). In 71% (3659) of the records the chaplain had an extended contact in

which chaplain provided and documented specific pastoral services. Although pastoral

concerns were identified in 54.6% of the cases, specific identified services were provided in

71% of the cases. Table 18 identifies the four combinations of choices in concerns

communicated versus pastoral contact and identifies the frequency with which these patterns of

combinations occurred. Of note is the frequency of concerns being communicated with no

specific services being provided (233, 4.5%) and also the frequency in which no concerns were

Table 18

2x2 Contingency Table – Concerns Communicated versus Pastoral Contact

	Pastoral Contact, General – G, n = 1000	Pastoral Contact, Extended – E, n = 3659
Concerns Communicated, yes – Y, n = 2813	YG, n = 233	YE, n = 2580
Concerns Communicated, no – N, n = 1846	NG, n = 767	NE, n = 1078

communicated and specific services were provided (1078, 20.9%). Combined, these two

categories represented over 25% of all entries.

Demographic Data

A subset of the sample was created of unique patient data. The sample was arranged by

patient number. Multiple records with the same patient number were deleted except for the

first record. The subset contained 2106 unique patients. The results in this section will include

information from both the whole sample and the subset of unique patients.

The chaplains recorded a mean of 2.44 visits per patient/family (S.D. ± 4.75) with both

a median and mode of one visit per patient/family. The range of number of visits per

patient/family was 1-107. Two-thirds (66.5 %) of patients/families were visited only once.

Ninety-eight percent of patients/families were visited ≤ 13 times and 99% were visited ≤ 21

times. Figure 2 is a frequency distribution of 98th percentile of visits made.

PMC is a pediatric institution that also treats adult patients. The age range of patients

seen by chaplains was 0-64. Table 19 is arranged according to the age group categories used

by the National Cancer Institute (National Cancer Institute, 2012) and shows the age of the

patients at the time of the chaplain visit. Of 5153 visits made the largest single age group was

to patients less than one year old (1400, 27.2%). A total of 4798 (93.1%) of all visits by

chaplains were made to patients ≤19 years old.
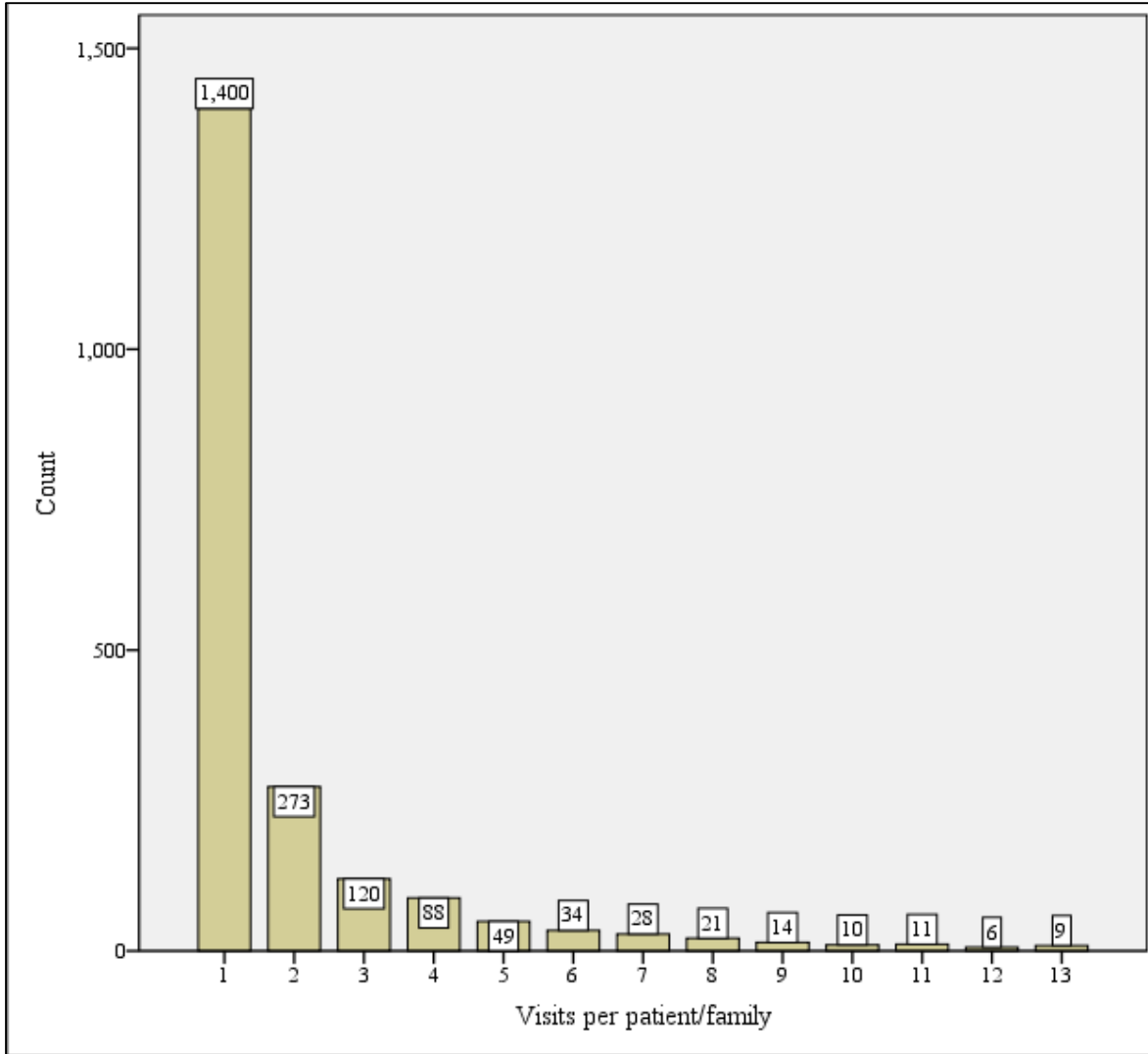
Figure 2 – Number of Chaplain Visits per Patient/Family

Table 19

Patient Age at Time of Chaplain Contact

Age	Frequency	Percent	Cumulative Percent
0	1400	27.2	27.2
1-4	868	16.8	44
5-9	739	14.4	58.4
10-14	848	16.5	64.4
15-19	943	18.3	93.1
20-24	223	4.3	97.4
25-29	74	1.4	98.9
30-64	58	1.1	100

In 1980, the average length of a hospital stay was 7.5 days. In 2005, the average was

4.8 days (Collins, 2013). A total of 2401 (46.6%) of chaplain visits were made to

patients/families in 0-5 days after admission (Table 20). Many patients/families were visited in

the emergency department and in outpatient clinics at PMC. The data do not differentiate

between admitted and not admitted patients especially at zero days. Patients/families visited by

chaplains had been in the hospital a range of $0 - 410$ days. The average length of stay at time

of chaplain visits was 26.86 days (S.D. $\pm$ 47.65) and the median length of stay was seven days.

Chaplains most frequently visited patients at zero days (1081, 21%). Three negative values

were recorded. According to the report developer, these were records that were documented

either before the patient was admitted or post-discharge. These three records were excluded

from this part of the analysis. It is noted that 113 chaplain visits (2.2%) were to patients whose

length of stay was in excess of the third standard deviation of 170 days (26.86 + 3[47.653] =

169.819).

Table 20

Patient Length of Stay – days

Days	Frequency	Percent	Cumulative Percent
0	1081	21	21.1
1-5	1320	25.6	46.7
6-10	588	11.3	58.2
11-15	379	7.3	65.5
16-20	197	3.8	69.3
21-25	157	3	72.4
26-30	140	2.6	75.1
31+	1280	24.9	100

The vast majority of the patients/families visited by a chaplain, 2088 (99.1%), were

from the United States of America (U.S.) (Table 21). Chaplains visited 17 patients/families

Table 21

Patient Country of Origin

	Frequency	Percent	Cumulative Percent
United States of America	2088	99.15	99.15
Other Countries	17	0.8	99.95
Unspecified	1	0.05	100
Total	2106	100	

Note: Because the small N of patients seen per country of origin raises a concerns of patient identity, all patients outside the United States of America (USA) are reported together. Chaplains visited patients/families from the following non-USA countries; China, Israel, Jamaica, Kenya, Kuwait, Peru, Qatar, Saudi Arabia, and the United Arab Emirates

from nine countries outside the U.S. (0.9%). A total of 21 visits (0.4%) of chaplain visits were made to international patients.

There were 2093 unique patient records which listed a U.S. zip code or country of origin. The direct line distance from the patient's home zip code to PMC was calculated using an on-line zip code calculator (Datasheer,). For international patients the direct line distance from the country's capital to PMC using an on-line distance calculator (Daft Logic, 2014). One thousand six hundred six (1606, 76.7%) of patients/families visited by a chaplain lived ≤ 50 miles of PMC (Table 22). 325 (15.6%) lived 51-200 miles from PMC. The remaining 162 (7.7%) patients/families lived more than 200 miles from PMC. Patients who lived further than 50 miles from PMC tended to receive more repeat visits from a chaplain than patients who lived ≤ 50 miles from PMC (Table 22).

Table 23 identifies the first relationships recorded in the EHR during the admission process. The mother is identified most often (78.9%). Along with the father (11%), parents are identified as the most significant relationships, almost 90% of the time, in the admission process. These data may be indicative of the primary contacts with the family system.

Table 22

Direct Line Distance from Patient/Family Home to PMC

Distance - miles	Unique patients			All visits			
	Number Patients	Percent	Cumulative percent	Number Visits	Percent	Cumulative percent	Visits per patient
0-50	1606	76.7	76.7	3537	69	69	2.2
51-100	166	8	84.7	452	8.8	77.8	2.7
101-150	103	4.9	89.6	328	6.4	84.2	3.2
151-200	56	2.7	92.3	222	4.3	88.5	4
201-250	19	.9	93.2	71	1.4	89.9	3.7
251-300	17	.8	94	150	3	92.9	8.8
301+	126	6	100	366	7.1	100	2.9
Total	2093			5126			

Table 23

Patient Closest Relationship

Relationship	Frequency	Percent
Mother	1661	78.9
Father	232	11
Other	54	2.6
Grandparent	53	2.5
Case Worker	33	1.6
Spouse	22	1
Relative	17	0.8
No Value Assigned	13	0.6
Foster Parent	6	0.3
Step parent	6	0.3
Sister	3	0.1
Brother	2	0.1
Friend	2	0.1
Daughter	1	0
Significant Other	1	0

The EHR at PMC provides 30 choices for religion self-identification. Table 24 displays the number of patients seen and visits made by chaplains arranged by the patient's self-identified religion. Less than five patients of a specific religion visited are reported in

Table 24

Patient Religion

Religion	Number Patients	Percent Patients	Number Visits	Percent Visits
None	745	35.4	1472	28.6
Christian	413	19.6	1185	23
Roman Catholic	248	11.8	628	12.2
Unknown	194	9.2	521	10.1
Baptist	150	7.1	407	7.9
Do Not Disclose Religion	100	4.7	188	3.6
Other	48	2.3	94	1.8
Protestant	37	1.8	56	1.1
Non-Denominational	29	1.4	80	1.6
Jewish	25	1.2	38	0.7
Muslim	19	0.9	42	0.8
United Methodist	17	0.8	80	1.6
Pentecostal	15	0.7	35	0.7
Episcopal	11	0.5	58	1.1
Lutheran	11	0.5	55	1.1
Mormon-Latter Day Saints	8	0.4	9	0.2
Presbyterian	8	0.4	135	2.6
Church of Christ	5	0.2	8	0.2
Hindu	5	0.2	6	0.1
N < 5 patients; Jehovah's Witness, Church of God, Orthodox - Greek, Russian, Ukrainian, Seventh Day Adventist, Assembly of God, Buddhist, Disciples of Christ, Mennonite, Quaker, Unitarian, United Church of Christ	18	8.5	66	1.3

Note: Because the small N of patients seen per religion raises concerns of patient identity, all religions of <5 patients are reported together. These patients represent 8.5% of patients visited by a chaplain in the study period.

aggregate and are excluded from the following discussion to assure confidentiality. In Table 24

the most common single identifier for a patient/family visited by at chaplain at PMC was

"None" (745, 35.7%). In 1087 (52.1%) of patients/families visited by a chaplain a specific

religion/spirituality is not identified in the EHR. This group received 2275 (44.6%) visits by a

chaplain. A total of 952 (45.6%) of patient/families self-identified as belonging to some sect of

Christianity. Christians were visited most often by chaplains (2736, 53.7%). Forty-nine (2.3%)

patients/families self-identified as belonging to a non-Christian religion. This group received

86 chaplain visits (1.7%).

The billing diagnoses (Table 25) are presented as a potential indicator of the complexity

of the patient diagnosis. The more billing diagnosis codes per case may indicate a higher

degree of the complexity of patient care. Results found that 2106 patients had a mean of 11.55

diagnosis codes (S.D. ±10.76) each with a median of five diagnosis codes. The number of

codes ranged 0-82 with 75% of the patients having ≤15. While comparison of the mean and

median of unique patients and total visits shows chaplains were more likely to make more visits

to patients with a higher number of diagnosis codes, the standard deviation indicates the means

are comparable.

Table 25

Billing Diagnosis Count

	Unique Patients	Total Visits
N	2106	5153
Mean	11.55	17.07
Median	8	13
Mode	5	5
Std. Deviation	10.755	14.693
Minimum	0	0
Maximum	82	82
Percentiles - 25	4	7
- 50	8	13
- 75	15	23

Chaplains visited patients/families in 35 identified nursing units, inpatient and

outpatient. Two other areas, unspecified unit and post-discharge documentation, represent only

88 visits or 1.7% of the total visits made. The nursing units were divided into five groups

(Table 26). The inpatient care at PMC has two major divisions of acuity, critical care and

inpatient. A third group, psychiatry, focuses on mental health. The fourth group, outpatient,

Table 26

Chaplain Visit by Nursing Unit Group

Group	# Visits	Percent
Critical care	2087	40.5
Inpatient	2006	38.9
Psychiatry	764	14.8
Outpatient	208	4
Other	88	1.7

contained chaplain activity but not high levels of activity. The fifth group, other, were areas

that did not have sufficient activity to warrant distinguishing as separate groups. Chaplains

made comparable numbers of visits to critical care and inpatient areas of the medical center.

Almost 15% of visits were made in one of the psychiatric units of the medical center including

psychiatric day hospital. Chaplains made visits to eight outpatient areas of the medical center

or 4% of the total visits made.

Flowsheet – Overview

The flowsheet is divided into four principal groups: visit type, referral source,

assessment of pastoral care needs and resources, and pastoral services provided. This section

provides the descriptive characteristics of these groups.

Visit type.

There are nine mutually exclusive categories in the visit type group of the flowsheet.

One category, "Group," contains five mutually exclusive descriptors. They were inconsistently

recorded and are excluded from analysis. Looking at the visit activity in descending order in

Figure 3, there were four sub-groups. Sub-group one, follow-up and initial visits, comprises

76.24% of the total visits made to patients/families. Within this subgroup, follow-up visits

outnumber initial visits by a ratio of approximately 5:4. Sub-group two, group and contact
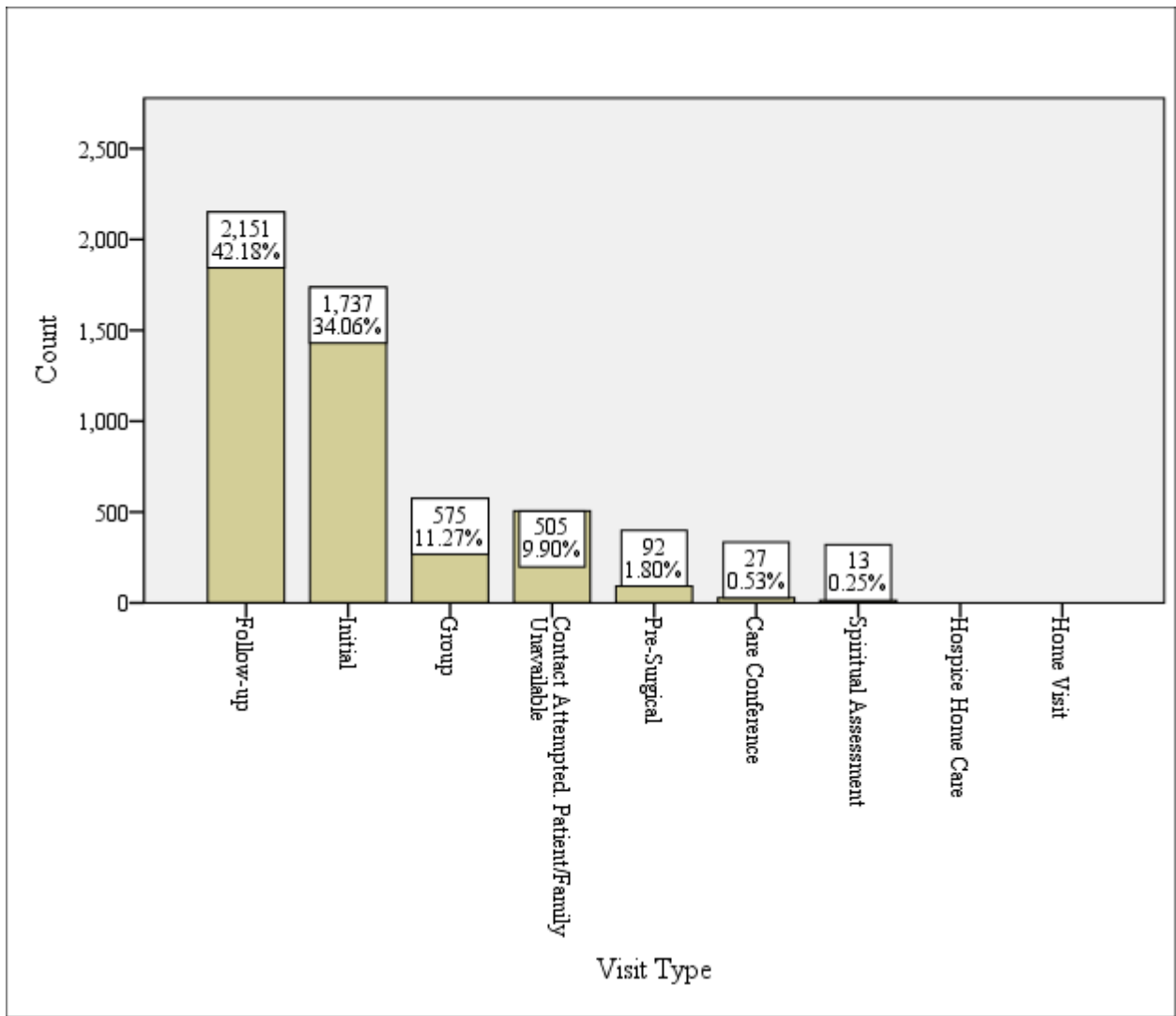
Figure 3 – Chaplain Visits by Visit Type

attempted, comprises 21.17% of visits made. Contact attempted represents 505 or 9.9% of

visits recorded. Choosing this option meant a contact was attempted but not made because the

patient or family was unavailable. Sub-group three, pre-surgical, care conference, and spiritual

assessment, comprises 2.58% of visits. The final sub-group, hospice home care and home visit,

had no recorded values. During this study, relative to this final sub-group, hospice

documentation was not part of PMC's Epic platform and home visits are not a regular part of

chaplain activity at PMC.

Referral source.

There are 10 mutually exclusive categories in the referral source group of the flowsheet (Figure 4). Looking at the referral source activity in descending order, there were four sub-groups. Sub-group one is the chaplain self-initiated visit. This sub-group or category accounts for 48.42% or almost half of all visits to patients/families. Sub-group two, institutional, staff, and scheduled activity, accounts for 38.47% of chaplain visits. An institutional referral is one in which the chaplain is referred per policy at PMC, such as chaplain response to trauma codes in the Emergency Department. Staff referral indicates a non-chaplain PMC employee. Most scheduled activities are in psychiatry. Sub-groups one and two collectively represent 86.89% of all chaplain referrals. Sub-group three, family, patient/client, and chaplain PMC, accounts for 12.08% of chaplain visits. Sub-group four, other referral, congregational clergy, and chaplain other facility, accounts for the remaining 1.04% of chaplain visits.
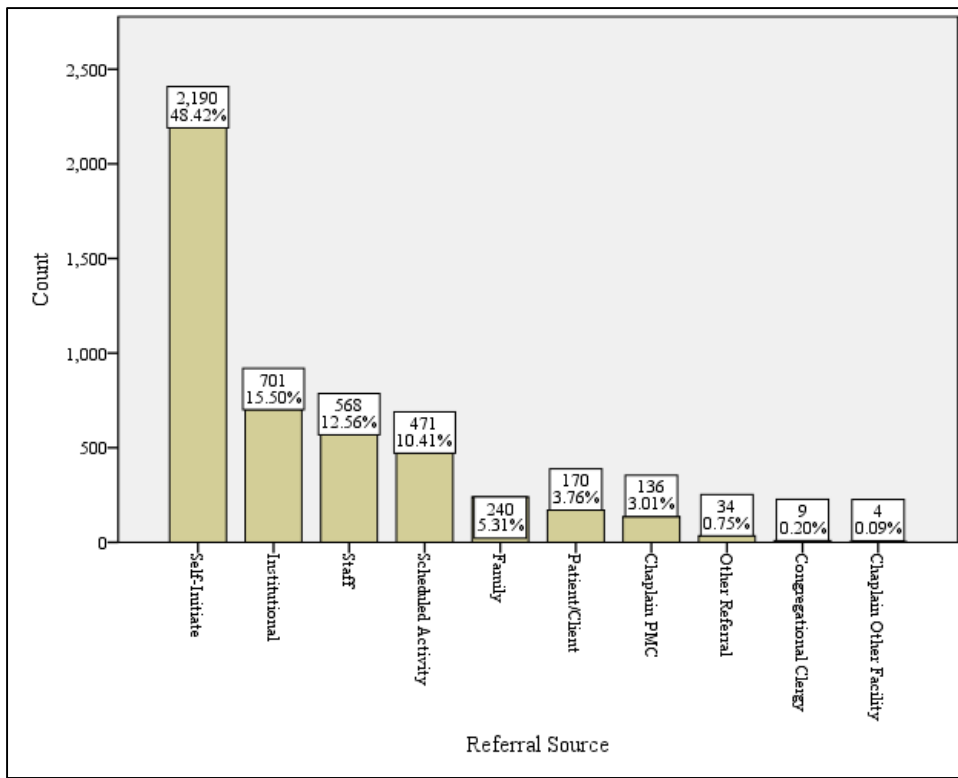

Figure 4 – Chaplain Visits by Referral Source

Table 27 examines chaplain assessment by referral source and service by referral source. The table is organized by the frequency of referral source. In 630 records (12.23%) there was no documented referral source. Across most referral sources the chaplain was more likely to provide specific services than to identify concerns. By percentage of specific referral sources, the chaplain seemed to identify concerns most often when a referral was made by staff, family, or patient. Similarly they provided services most often in a patient, family, or scheduled activity referral. In the most frequently identified referral source, self-initiated, the chaplain documented concerns in 60.3% of the records and provided specific pastoral services in 73.6% of the records. In institutional referrals the chaplains documented concerns in 33.5% yet provided specific services in 81.3% of the records.

Assessment of pastoral care needs and resources.

The assessment of pastoral care needs and resources group of the flowsheet contains 58 individual assessment descriptors, or variables, divided among six categories. In 2813 records the chaplain making a visit chose at least one assessment descriptor in flowsheet (Table 17). A total of 10,635 descriptors were chosen across the 2813 records (mean = 3.78 descriptors per record). In almost one-quarter of these records (673, 23.92%) the chaplain chose only one assessment descriptor (Table 28). The choice of 1-3 assessment descriptors per patient/family visit accounts for over half of these records (1569, 55.7%) and the choice of 1-5 assessment descriptors per patient/family visit accounts for over three-quarters of these records (2190, 77.85%). In almost 90% of cases the chaplain used seven or fewer of the 58 available flowsheet descriptors in making a pastoral care assessment (2512, 89.3%).

Fifteen of the 58 assessment descriptors (25.86%) were selected in at least 10% of the patient records (Table 29). Of these 15 descriptors, seven came from the spiritual resources

Table 27

Contingency Table. Assessment of Pastoral Needs and Resources by Referral Source and Pastoral Services Provided by Referral Source

Referral Source	Concerns Communicated				Pastoral Contact			
	No	Yes	Contact Attempted	Total	General	Extended	Contact Attempted	Total
Self-Initiated	786	1321	83	2190	496	1612	82	2190
	35.90%	60.30%	3.80%	100.00%	22.60%	73.60%	3.70%	100.00%
Institutional	465	235	1	701	130	570	1	701
	66.30%	33.50%	0.10%	100.00%	18.50%	81.30%	0.10%	100.00%
Staff	91	464	13	568	144	411	13	568
	16.00%	81.70%	2.30%	100.00%	25.40%	72.40%	2.30%	100.00%
Scheduled Activity	280	191	0	471	57	414	0	471
	59.40%	40.60%	0.00%	100.00%	12.10%	87.90%	0.00%	100.00%
Family	33	203	4	240	16	220	4	240
	13.80%	84.60%	1.70%	100.00%	6.70%	91.70%	1.70%	100.00%
Patient	39	130	1	170	7	162	1	170
	22.90%	76.50%	0.60%	100.00%	4.10%	95.30%	0.60%	100.00%
Chaplain PMC	27	96	13	136	16	107	13	136
	19.90%	70.60%	9.60%	100.00%	11.80%	78.70%	9.60%	100.00%
Other Referral	10	20	4	34	10	20	4	34
	29.40%	58.80%	11.80%	100.00%	29.40%	58.80%	11.80%	100.00%
Congregational Clergy	0	9	0	9	4	5	0	9
	0.00%	100.00%	0.00%	100.00%	44.40%	55.60%	0.00%	100.00%
Chaplain Other Facility	0	3	1	4	0	3	1	4
	0.00%	75.00%	25.00%	100.00%	0.00%	75.00%	25.00%	100.00%
No Referral Source	115	141	374	630	120	135	375	630
	18.30%	22.40%	59.40%	100.00%	19.00%	21.40%	59.50%	100.00%
Total	1846	2813	494	5153	1000	3659	494	5153
	35.80%	54.60%	9.60%	100.00%	19.40%	71.00%	9.60%	100.00%

Table 28

Sum of Assessment Descriptors per Patient/Family Visit

#	Frequency	Percent	Cumulative Percent
1	673	23.92	23.92
2	495	17.60	41.52
3	401	14.26	55.77
4	336	11.94	67.72
5	285	10.13	77.85
6	207	7.36	85.21
7	115	4.09	89.30
8	106	3.77	93.06
9	62	2.20	95.27
10	52	1.85	97.12
11	35	1.24	98.36
12	13	0.46	98.82
13	10	0.36	99.18
14	8	0.28	99.46
15	7	0.25	99.71
16	3	0.11	99.82
17	3	0.11	99.92
20	2	0.07	100.00
Total	2813	100.00	

Table 29

Assessment of Pastoral Needs and Resources in ≥10% of Patient Records

Assessment Descriptor	Assessment category	Frequency	Percent of total descriptors used (n = 10,635)	Percent of Patient Records (n = 2813)
Loved/Supported by Family	Spiritual Resources	951	8.9	33.81
Uncertainty	Spiritual Needs/Issues	902	8.5	32.07
Weariness	Spiritual Needs/Issues	755	7.1	26.84
Hopeful	Spiritual Resources	572	5.4	20.33
Prayer	Spiritual Needs/Issues	515	4.8	18.31
Beliefs Helpful in Coping	Spiritual Resources	504	4.7	17.92
Fear	Spiritual Needs/Issues	501	4.7	17.81
Believes in God/Sacred	Spiritual Resources	475	4.5	16.89
Prayer/Devotional Life	Spiritual Resources	418	3.9	14.86
Connected to Faith Group	Spiritual Resources	415	3.9	14.75
Distance from home	Interpers/Fam Stress	412	3.9	14.65
Grief	Spiritual Needs/Issues	407	3.8	14.47
Adjustment to New Diagnosis	Spiritual Needs/Issues	375	3.5	13.33
Other children at home	Interpers/Fam Stress	357	3.4	12.69
Sense of Community	Spiritual Resources	353	3.3	12.55

category, six from the spiritual needs category and two from the interpersonal stressors

category. Thirty-six descriptors (62%) are used in less than 5% of the patient records. Two

categories, ethical issues and beliefs that may affect treatment, together were selected only 17

(0.6%) times. The 12 descriptors in these two categories are 12 of the 13 least utilized

assessment descriptors, each appearing in 0-6 patient records. Five assessment descriptors

were never selected as part of the chaplain assessment:

- Autonomy (Ethical Issues)

- Informed Consent (Ethical Issues)

- Transparency (Ethical Issues)

- Use of blood products (Beliefs that may Affect Treatment)

- Use of certain procedures or equipment (Beliefs that may Affect Treatment)

Pastoral services provided.

The pastoral services provided group of the flowsheet contains 47 individual assessment

descriptors, or variables, divided among 10 categories. In 3659 records the chaplain making a

visit chose at least one service descriptor in the flowsheet (Table 17). A total of 12,790

descriptors were chosen across the 3659 records (mean = 3.5 descriptors per record). Looking

at the numbers of services provided in descending order, there were four sub-groups of activity

(Table 30). Sub-group one has two, three, and one services respectively and cumulatively

represents over half of the 3659 records (2017, 55.12%). Sub-group two has four, six, and five

services respectively and represents over one-third of the records (1256, 34.33%). Sub-groups

one and two collectively account for almost 90% of the chaplain visits to patients/families

(3273, 89.45%). Sub-group three has seven, eight and nine services respectively and comprises

most of the remaining 10% of the visits (346, 9.46%). Sub-group four has 10, 11, 12, and 13

services respectively and represents only about 1% of the total visits (40, 1.09%).

Ten of the 47 pastoral services descriptors were selected in at least 10% of the patient

records (Table 31). Looking in descending order at the overall frequency of the type of

pastoral services provided in these 3659 records there were five sub-groups, the first three

shown in Table 31. Sub-group one, relationship building, was the most common service

provided and was selected in two-thirds of the records (2423, 66.22%). Sub-group two

included emotional processing (45.7%), storytelling (41.4%), and non-anxious presence

(34.38%). Sub-group three included the remaining six descriptors in Table 31. Sub-group

Table 30

Sum of Pastoral Services Descriptors per Patient/Family Visit

# Services per visit	Frequency	Percent	Cumulative Percent
2	778	21.26	21.26
3	659	18.01	39.27
1	580	15.85	55.12
4	459	12.54	67.67
6	432	11.81	79.47
5	365	9.98	89.45
7	170	4.65	94.09
8	100	2.73	96.83
9	76	2.08	98.90
10	32	0.87	99.78
11	4	0.11	99.89
12	3	0.08	99.97
13	1	0.03	100.00

Table 31

Pastoral Services Provided in ≥10% of Patient Records

Pastoral Service	Service Category	Frequency	Percent of total descriptors used (n = 12,790)	Percent of records (n = 3659)
Relationship building	General Coping	2423	18.9	66.22
Emotional processing	General Coping	1672	13.1	45.70
Storytelling	General Coping	1515	11.8	41.40
Non-anxious presence	Supportive Care	1258	9.8	34.38
Prayer	Ritual/ Sacrament	784	6.1	21.43
Meaning-making	General Coping	696	5.4	19.02
Hospitality	Supportive Care	627	4.9	17.14
Anxiety management	Supportive Care	619	4.8	16.92
Pastoral care scope of service	Education	565	4.4	15.44
Theological perspective/God image	Theological reflection	494	3.9	13.50

four, comprised of 16 pastoral service descriptors, were selected in less than 10% of the records

and in more than 1% of the records. Sub-group five, consisting of the remaining 21 descriptors

were selected in less than 1% of the records. One descriptor, referral to bereavement care – PMC, was never selected. The frequency of usage was concentrated in the top ten pastoral service descriptors (cumulative 10,653 of 12,790, 83.1%). Seven of the 10 descriptors were from more general categories; general coping and supportive care. One was from the education category, one from ritual/sacrament and one from theological reflection.

Assessment of Pastoral Care Needs and Resources and Pastoral Services Provided – Patterns of Descriptors

This section identifies the ways chaplains combined descriptors in the assessment of pastoral needs and resources and pastoral services provided groups. The results here demonstrate overall department activity in the sample.

The pastoral needs and assessment (assessment) group of descriptors and the pastoral services provided (services) group of descriptors were recoded into a single variable for each group. The new variables were arranged in frequency tables. There were 1690 unique assessments across 2813 records or one assessment for every 1.66 records (Table 32). There were 996 unique combinations of services across 3659 records or one set of services for every 3.67 records.

In Table 32 each quartile represents 25% or 703.25 of the total number of records. The numbers in the frequency of combinations cells are the number of variable combinations constituting each quartile. The 19 most frequently occurring combinations of assessment variables constitute the first quartile while the next 265 most frequently occurring variable combinations constitute the second quartile. Similarly, the seven most frequently occurring combinations of service variables constitute the first quartile, while the next 35 most frequently

Table 32

Combinations of Descriptors within each Group

	Assessment of Pastoral Needs and Resources	Pastoral Services Provided
Total records	2813	3659
Frequency of Descriptor Combinations		
1st Quartile	19	7
2nd Quartile	265	35
3rd Quartile	703	169
4th Quartile	703	785
Total combinations	1690	996

occurring variable combinations constitute the second quartile.

Table 33 shows the patterns of each of the 19 unique assessments of pastoral needs and resources in the first quartile. There were 58 descriptors available to the chaplain for documenting an assessment. In the first quartile, assessments were made using either one (n = 14) or two (n = 5) descriptors. The most frequently used assessment, the single descriptor hopeful, was made 88 times or 3.13% of the total number of assessments. The least frequently used assessment in the first quartile, the two descriptors weariness and loved/ supported by family was made 17 times or 0.6% of the total number of unique assessments.

Table 34 shows the frequency of occurrence of each of the seven unique pastoral services provided in the first quartile. There were 47 descriptors available to the chaplain for documenting services. In the first quartile, services were provided using one (n = 2), two (n = 3), three (n = 1) or six (n = 1) descriptors. The most frequently used service, the single descriptor relationship building, was made 281 times or 7.68% of the total number of assessments. The least frequently used service in the first quartile, the single descriptor prayer, was made 61 times or 1.67% of the total number of unique services.

Table 33

Combinations of Descriptors - Assessment of Pastoral Needs and Resources, 1st Quartile

Assessment	Frequency	Percent of records
Hopeful	88	3.13
Prayer	72	2.56
Issues related to loss of life	60	2.13
Other need	55	1.96
Adjustment to new diagnosis	49	1.74
Weariness	42	1.49
Uncertainty	39	1.39
Weariness, Hopeful	37	1.32
Fear	33	1.17
Immediate death	31	1.10
Uncertainty, Loved/Supported by family	30	1.07
Uncertainty, Weariness	29	1.03
Ritual or sacrament	28	1.00
Grief	27	0.96
Other resource	23	0.82
Uncertainty, Hopeful	19	0.68
Anticipated death	18	0.64
Loved/Supported by family	17	0.60
Weariness, Loved/Supported by family	17	0.60

Table 34

Combinations of Descriptors - Pastoral Services Provided, 1st Quartile

Pastoral Services Provided	Frequency	Percent of records
Relationship building	281	7.68
Relationship building, Story-telling, Emotional processing, Hospitality, Anxiety management, Non-anxious presence	205	5.60
Relationship building, Pastoral care scope of service	150	4.10
Relationship building, Story-telling	119	3.25
Relationship building, Emotional processing	69	1.89
Relationship building, Story-telling, Emotional processing	68	1.86
Prayer	61	1.67

Chapter Summary

This chapter presented an overview of the patient demographic of chaplain visits in the sample. It also presented indications of chaplain usage of the EHR. Finally, it summarized chaplain usage of specific assessment variables and service variables separately and in combination within each group to identify patterns of usage. The chaplains recorded a total of 5153 visits across 2106 individual patients. In 58.6% of the visits the chaplain recorded at least one specific assessment descriptor. In 71% of the visits the chaplain recorded provision of at least one pastoral service. In 25% of the records a chaplain either recorded an assessment and provided no pastoral service or provided pastoral services in the absence of a specific assessment.

When choosing assessment descriptors, 26% of the available descriptors were used in at least 10 % of the records, 62% were used in less than 5% of the records, and five descriptors were never chosen. When used in combination chaplains created 1690 unique assessments. The 19 most frequently used assessment combinations used either one or two descriptors.

When choosing service descriptors 21% of the available descriptors were used in at least 10% of the records, 45% were used in less than 1% of the records, and one descriptor was never chosen. Relationship building was used in 66% of the records. When used in combination chaplains created 996 unique services. The seven most frequently used services combinations had a range of 1-6 descriptors. Relationship building was a descriptor in six of the seven combinations.

Chapter Five will discuss the results in the context of the three research questions identified in Chapter Three. The chapter will conclude by discussing the implications of this study along with its limitations and recommendations for future research.

CHAPTER 5: Summary, Discussion, and Conclusion

This study offered insights regarding how chaplains at PMC use their charting model, the assessments they communicated, and the services they documented. The analysis of this usage has provided information about how the chaplains at PMC self-identify professionally and what they choose to communicate with the interdisciplinary team. This chapter summarizes the study results presented in Chapter 4, and evaluates the study's strengths and limitations. It also discusses the implications and recommendations for further research based on the analysis of the charting practices at PMC.

Summary of the Study

This overview is divided into three sections: the problem, purpose statement and research questions; methodology; and findings. The overview of the findings is organized by research question and includes discussion of appropriate literature and conclusions.

Problem, purpose statement, and research questions.

The electronic health record (EHR) is increasingly emphasized as the standard for communicating interdisciplinary evidence-based care. The spiritual care literature demonstrates the importance of assessing and addressing religious/spiritual needs and resources. Currently no studies explore the relationships of spiritual assessments and care as documented by professional chaplains.

This dissertation is a descriptive study that analyzed categorical data of chaplain assessments and interventions to identify patterns in chaplain documentation. The specific aim

was to identify patterns of chaplain assessment and chaplain provision of services using data collected from the EHR.

Three research questions, the first having five parts, guided the study:

1. How do chaplains at PMC use Assessment of Pastoral Needs and Resources variables and Pastoral Services Provided variables in the Electronic Health Record (EHR)?

   a. With what frequency are individual variables used within Assessment of Pastoral Needs and Resources?

   b. With what frequency are individual variables used within Pastoral Services Provided?

   c. With what frequency are variables within Assessment of Pastoral Needs and Resources used in combination with each other?

   d. With what frequency are variables within Pastoral Services Provided used in combination with each other?

   e. With what frequency do chaplains use combinations of Assessment of Pastoral Needs and Resources variables with Pastoral Services Provided variables?

2. How often did chaplains make use of the flowsheets?

3. When chaplains recorded visits what were the demographic characteristics of patients and families seen?

Methodology.

This descriptive study used retrospective categorical data from the documentation by clinical staff chaplains at a large quaternary care pediatric medical center. The sample included all patient/family visits recorded by clinical staff chaplains on their Epic Pastoral Care

flowsheets from October 1, 2011 – March 31, 2013, inclusive. Following IRB approval, data

was collected from the EHR. After data cleaning the data collected from this timeframe

represented 5153 patient records documented by 13 clinical staff chaplains at PMC. The

structure of EHR choices in the charting model limited the analysis to frequency tables and

contingency tables. The lack of formal structure, the absence of required fields for

documentation, and the absence of limitations of how the variables could be combined made

any analysis other than frequency tables and contingency tables inappropriate. Frequency

tables profiled basic demographics for patients and chaplains. A contingency table, Table 27,

explored chaplain assessment and service by referral source. Frequency tables explored the

frequencies and patterns of combination within the two major categories of descriptors of

pastoral care, Assessment of Pastoral Care Needs and Resources and Pastoral Services

Provided. Data entries in these two major categories were consolidated into single variables

reflecting either the specific assessment(s) made or the specific service(s) provided in an

individual visit.

Findings.

The research questions and study findings focus on three major areas: Question 1,

assessments and services provided; Question 2, chaplains' use of the EHR; and Question 3, a

profile of the patients served. To minimize variation based on training, experience, and day-to-

day EHR usage, only clinical staff chaplains were included in this study. PMC pastoral care

department directors, pastoral care residents, pastoral care interns, and pastoral care contract

staff were excluded. The data represent charting by 13 chaplains meeting the inclusion criteria.

Question 1 - assessments and services provided.

The individual assessment descriptors or variables that were used in at least 10% of the patient records (Table 29) reflected general themes of emotion and spirituality, although it may be argued that all the variables may be interpreted as having spiritual components to them. Cadge and Sigalow (2013) noted that chaplains have to negotiate offering their services in the culturally and religiously diverse settings. They identified two strategies chaplains use in relating to and providing care for patients and families, especially when those patients and families come from a religious/spiritual background different from the chaplain: neutralizing and code-switching. "Chaplains who neutralize differences use a language of spirituality and seek commonalities in their interactions with patients and families. Those who code-switch move to the religious language, rituals, or practices of the individual with whom they are working" (Cadge & Sigalow, 2013, p. 148). This observation provides insight into chaplain preferences for variables reflecting general themes. It also provides insight into the failure to use the more specific variables in the sub-groups addressing ethical issues and beliefs that may affect treatment.

"The Minister as Diagnostician" (Pruyser, 1976) was chosen as a framework for discussing pastoral assessment in the data. Of the 15 most frequently occurring individual assessment descriptors (Table 29), eight bear some similarity to four of Pruyser's categories (Table 35). Specifically religious spiritual variables were usually reflective of patient/family resources. It is important to acknowledge that the variables themselves were not defined for use in this charting model, leaving the meaning of the individual variables to the interpretation of the individual chaplain choosing them. Using the identified chaplain strategies noted by Cadge and Sigalow (2013), spiritual needs may not be commonly assessed because the chaplain

Table 35

Comparison of Higher Frequency Assessment Descriptors to Pruyser Categories

Individual Assessment Descriptor	Pruyser Category	Assessment Descriptor Combinations
Believes in God/Sacred (resource)	Awareness of the holy	███████████
Hopeful (resource)	Providence	Hopeful
██████████		Uncertainty, Hopeful
Prayer (need)	Faith	Prayer
Beliefs Helpful in Coping (resource)		Ritual or sacrament
Prayer/Devotional Life (resource)		██████████
██████████	Grace	██████████
	Repentance	
Loved/Supported by Family (resource)	Communion	Uncertainty, Loved/Supported by family
Connected to Faith Group (resource)		Loved/Supported by family
Sense of Community (resource)		Weariness, Loved/Supported by family
██████████	Vocation	██████████

would be neutralizing and identifying commonalities in the patient/family expression. The variables in the sub-groups addressing ethical issues and beliefs that may affect treatment are very specific and point to differences instead of commonalities in religious/spiritual expression. The resources, on the other hand, may lend themselves more to chaplain assessment because the patient/family is providing the codes from their own religious/spiritual context.

It is unknown if the chaplains intentionally focused on the more general-themed variables and just as intentionally avoided specific-themed variables It is possible that they were never, or rarely, presented with situations in which these categories were present or identifiable. It is also possible that chaplain training, which emphasizes neutralizing differences by seeking commonalities in spirituality (Cadge & Sigalow, 2013), may result in avoiding more specifics descriptors as part of their usual approach to assessment. This emphasis on neutralizing may then result in chaplains only reporting specific issues when they were initiated directly by the patient/family. Neutralizing may be even more evident in how

combinations of the assessment variables are used (Table 33). The patterns of assessment combinations lend themselves to fewer Pruyser categories than do the individual variables (Table 35). Other than those identified in Table 35, the only assessment patterns that are specific are three very concrete codes, all directly related to death.

Neutralizing and code-switching may be effective approaches for chaplains to negotiate assignment to patient populations with diverse religious/spiritual perspectives often different from their own. Broadening their understanding of spiritual experience and expression may provide them the ability to look beyond their own context and provide care to patients and families representing a wide range of religious/spiritual contexts. Like the chaplain, patients and families also come from a specific context. In order for this context to be adequately assessed and specific needs, resources, beliefs, and practices within this context to be appropriately communicated documentation of assessment, provision of care, and developing plans of care needs specificity

Communication in the EHR has the capacity to make healthcare delivery more effective and efficient (Shekelle, Morton, & Keeler, 2006). One of the features associated with successful implementation of the EHR is the provision of a recommendation, not just an assessment. Regardless of how chaplains manage their approaches to individual care, more specific communication of that care is warranted if chaplain documentation is to be effective in demonstrating a positive impact on patient care.

While chaplains documented provision of services more often than assessments of needs and resources, like the assessments, documentation of chaplain services reflects a strong preference for general emotional and supportive care descriptors in contrast with descriptors specifically related to religious/spiritual care. Among the individual service variables chosen,

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only two, prayer and theological perspective/God image, reflect specifically spiritual themes (Table 31).

The most frequently chosen individual pastoral service variable was relationship building, occurring in two-thirds of the records containing a specified pastoral service. Like the assessment variables, the services variables were not defined for use in the charting model, making it impossible to specify exactly what chaplains intended when they chose this option. One interpretation is rapport building, something expected of all members of the interdisciplinary team. Another interpretation is that the chaplain is identifying presence, a pastoral service chaplains speak of as one of their unique services (Cadge, 2012; Cadge & Sigalow, 2013). In "Paging God, Religion in the Halls of Medicine," Cadge (2012) observed that chaplain relationships are less about religion and more about building a supportive relationship with someone, whoever they are, as they are. This presence makes pastoral care about "being in solidarity with someone" (Cadge, 2012, p. 93). If presence with patients and families is what chaplains are trying to communicate when documenting services provided as relationship building, then this is even more evident in how the chaplains at PMC documented patterns of combinations of services. In the first quartile (Table 34), six of the seven most frequently used combinations of services include relationship building, which may not be synonymous with presence. One concern is the potential imprecise use of terms: it is labeled as relationship building, not presence. Second, another frequently used service variable is non-anxious presence and may, by itself, be implying this pastoral presence. Finally, this sense of presence is not clearly defined. Cadge observes that the "emphasis on presence is much more general and much less concerned with any effort to validate that is has an effect" (Cadge, 2012,

p. 94). This makes it difficult to distinguish chaplain presence from that provided by nurses, doctors, social workers, and other members if the interdisciplinary team.

The structure of the charting model allowed chaplains to freely choose from all available options. There were no mutually exclusive categories and there were no mutually exclusive descriptor variables within categories. As a result, analysis was restricted to frequency tables and contingency tables. Contingency tables were the only method available to compare patterns of assessment descriptor variables to patterns of service descriptor variables. The large number of different combinations of assessments (Table 32, n= 1690) exceeded the SPSS capacity of ≤ 1000 values for each group for generating contingency tables preventing PMC pastoral care department-wide incidences of combination.

Given these constraints, one way to address the comparison of assessment to service is by examining how chaplains responded to the prompts, "Concerns communicated, yes/no" and "Pastoral services provided, general/extended." If the chaplain chose "yes", at least one assessment variable was chosen and if s/he chose "extended" at least one service variable was chosen.

It was anticipated that identifying specific descriptors in an assessment would result in an action or provision of service. Conversely, if an action had been taken or service provided, it was anticipated that this entry would be associated with set of specific assessment descriptors. Yet, in the 2x2 Contingency Table – Concerns Communicated versus Pastoral Contact (Table 18) this expectation was not met in 25.4% of the records. In 4.5% of the records, the concerns documented resulted in no specific services being provided and in 20.9% of the records services were provided in the absence of concerns being communicated. It would appear that the presence of specific identifiers in an assessment does not necessarily

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imply action. Conversely, the chaplain does not necessarily identify a concern during a

pastoral visit in order to act or provide some service. The plethora of options available to the

chaplain in documenting assessments and services supports this. For example, the most

commonly used assessment descriptor, Loved/Supported by Family, is a spiritual resource and

does not imply a need for any kind of action. Also, the most commonly used service

descriptor, Relationship Building, under the category called General Coping, does not imply

that the chaplain assessed acting in response to a specific need. In 75% of the records this

expectation of documentation of an assessment with an action, or of an action with an

assessment was observed. While a connection between assessment and service does seem to be

present, this connection cannot be assumed to be automatically present or consistent.

Question 2 – frequency.

The overall frequency of use was difficult to address. A basic average of 5153 records

filed in a 550 day study time-frame among 13 chaplains would reflect a very low and

misleading number of visits per day per chaplain. Analyzing the data by chaplain, although

beyond the scope of this study, may also have been misleading. The overall variance of usage

of all descriptor variables, the preference for more general descriptors over specific variables,

and what appears to be a low chaplain usage of charting over the study period, suggest wide

variance in overall flowsheet use. It is important to note, however, that these observations

focus only on chaplain documentation and what chaplain activities were recorded. In contrast,

overall chaplain activity may not be reflected in the available charting and may not have been

recorded.

Question 3 – demographics of patients seen by chaplains.

The chaplains in this study were more likely to make a self-initiated visit to a patient/family system than through any other referral source. This suggests that most chaplain visits would be related to a specific clinical assignment in which the chaplain is expected to make regular rounds of patients in this clinical area. Charting shows that chaplains were as likely to visit patients in the inpatient/acute care areas of the medical center as they were to visit patients in the critical care areas. This, along with a consistent presence in psychiatry, furthers the argument that a strong indicator of chaplain activity is related to the chaplains' clinical assignments.

Chaplains were more likely to make a single visit to a patient/family system. At the same time, comparison of the median diagnosis billing counts of unique patients versus total visits suggests that chaplains were more likely to make repeated visits to more medically complex patients. The referral source and locations of visits are an indicator of overall activity along with the medical complexity as an indicator of the specific activity of repeated visits suggest where the chaplains concentrated their clinical resources.

The chaplains were most likely to make contact on day zero of admission. These numbers also include emergency department (ED) activity, where there is a consistent presence and twenty-four hour availability to the ED, especially through institutional referrals such as trauma. Many of these day zero contacts may have been through the ED and may not resulted in an inpatient admission, affecting the opportunities and feasibility of a follow-up visit. Also, since much of the chaplain activity was shown to be related to clinical assignments, chaplains would have made unsolicited visits in which they determined there was no need for follow up.

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Still, a patient is most likely to be contacted by a chaplain in the first five days of admission, which is in keeping with current inpatient hospital stay averages.

The information related to the religious/spiritual preferences of the patients visited was mixed. The demographic results reflect a culturally homogeneous group of patients and families visited by chaplains. Chaplains were just as likely to visit a patient who was Christian as a patient with no self-identified religious/spiritual preference, but were very unlikely to visit a patient with a specific non-Christian religious/spiritual preference. Relative to patient residency, chaplains were most likely to visit those who lived locally, within 50 miles of PMC. The findings note that less than 1% of the patients visited by chaplains were from outside the United States.

These patterns may be problematic because PMC is a quaternary care center that treats patients from all over the United States and many foreign countries. Chaplains are increasingly being clinically assigned by area not by patient religion (Cadge & Sigalow, 2013), and PMC is becoming an increasingly inter-cultural as well as an international care setting. Although the percentage of local, long-distance, and international patients coming to PMC was not in the parameters of the study, the results suggest that chaplains at PMC appear to be focusing their resources on patient demographics which may be similar to the geographic area surrounding the medical center.

In summary, the general characteristics of a chaplain visit included:

- Chaplain self-initiated

- Single contact

- Made within the first five days of admission

- To a patient/family living within 50 miles of the medical center.

- The patient/family being visited self-identified as either some sect of Christianity or self-identified with no religious group.

- The chaplain assessed at least one pastoral need or resource,

- Provided at least one service usually relationship building,

- And was more likely to make subsequent visits to more medically complex patients

Practice implications.

There were no consistent patterns of combinations of descriptors in either assessments or services documented. While the lack of consistency may accurately reflect patient-specific assessments and services, specific definitions for the descriptor variables would be needed to substantiate this. There is also evidence that there is no connection between specific assessments and specific services.

The Association for Clinical Pastoral Education (ACPE) Level One and Two objectives and outcomes present a mixture of religious/spiritual and psycho-social training focusing primarily on the experience of the student in the clinical setting. One objective and one outcome specifically address religion as a component of CPE education. The others address pastoral formation, pastoral competence, and pastoral reflection using very broad and general themes focusing more on interpersonal and psychosocial dynamics than religion (Association for Clinical Pastoral Education, Inc., 2010).

The Association of Professional Chaplains (APC) board certification criteria present an even mixture of religious/spiritual and psycho-social competencies (Board of Chaplaincy Certification Inc, 2013) which includes competencies related to the use of spiritual assessment and documentation. This, along with the ACPE objectives and outcomes, presents a model of

care that focuses on mixing religious/spiritual competency with basic psychosocial/behavioral health competency. This is, most likely, in response to the challenges of providing religious/spiritual care in culturally, spiritually/religiously diverse settings. It follows, then, that this broad and general approach to education and practice of ministry in a clinical setting would also migrate into the manner in which chaplains communicate their care.

The AHRQ reviews offer consensus that health information technology (HIT) is beneficial to healthcare delivery, can improve outcomes, and can go beyond assessment into recommendations for care (Finkelstein et al., 2012; Gibbons et al., 2009; Jimison et al., 2008; Lobach et al., 2012; McKibbon et al., 2011; Shekelle, Morton, & Keeler, 2006). The content of the communication provided in the EHR needs to be clear and consistent. A standardized taxonomy could help maximize the potential of HIT applications to facilitate patient centered care (Finkelstein et al., 2012). Effective EHR content is convenient and easy to use (Jimison et al., 2008). It also uses patient-centered themes and has utilized all the user groups in development (Lobach et al., 2012). The large number of undefined descriptor variables in this chaplain charting model and the wide variance of chaplain use question its ease of use. In conclusion, depending on pastoral care charting policy at PMC, the data suggest chaplains at PMC underuse the EHR in communicating patient/family assessment and care.

Cadge (2012) considers chaplaincy a profession that is still developing a clear and consistent sense of identity. The looseness and variation in the roles and functions of chaplains across medical centers suggest that hospitals see attentiveness to patient and family religion/spirituality as an extra, and not a necessity. This is particularly evident when religion/spirituality comes into conflict with medicine (Cadge, 2012). Her observations support the findings at PMC that chaplains communicate in general themes. As noted above, the

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presence provided by the chaplain is difficult to distinguish from the presence provided by other members of the healthcare delivery team. This concept of presence is not clearly defined and it seems intentionally so. Also noted above, Cadge's´ "presence" may be similar to the PMC pastoral service relationship building, a term also not clearly defined. This service is the most frequently charted chaplain service provided at PMC, whether as a separate variable or in combination with other service variables. If this service is general and difficult to distinguish from a similar service provided by other members of the healthcare delivery team, it raises the possibility that other members of the care team can and do offer the same services as chaplains to patients and families. Broadening this to include the general nature of the assessments, it challenges the need for chaplain services if their assessments and services are not unique and can be provided by other healthcare delivery team members. If relationship building is a unique chaplain service provided to patients and families, then it needs to be clearly defined in relationship to chaplain' roles and functions.

Chaplains are increasingly required to provide care to patients, families, and staff in increasingly religiously/spiritually diverse settings and populations (Cadge & Sigalow, 2013). As a result, chaplain perspective must be broad enough to be able to appropriately respond to this diversity. Unfortunately, this has carried over into the manner in which chaplains self-describe (Cadge. 2012) and, in this study, the manner in which they communicate their care. The documentation is a reflection of chaplains' approach to care, which is not necessarily reflective of the patient/family system need and perspective. While chaplains' perspectives look beyond their personal context to respond to diverse settings, the patient/family perspective is grounded in a more specific context which includes specific ways of understanding this context as well as their spirituality. Effective chaplain documentation ideally reflects the

specifics of the patient/family context and perspectives in order to identify and address the impact these perspectives have on the specific situation the patients/families are facing.

Effective documentation is similar to an effective research design. It must be unbiased, precise, and powerful (Polit & Beck, 2007). This charting model was designed to minimize the amount of narrative documentation required to complete a chaplain note. This, combined with the absence of a taxonomy of terminology, suggests its dependence on narrative if it is to serve as an effective means of communication to other chaplains and members of the care team. The level of bias potentially introduced into this charting model is brought into question when chaplain documentation in general, and the EHR flowsheets in particular, are highly dependent on the skill and diligence of the individual chaplain, Additionally, this dependence on narrative, along with the lack of common definitions, adds to its lack of precision.

To address this concern and create a powerful documentation model, documentation requires assessment terms that are, by design, related to each other. This means that more variables would need to be mutually exclusive and that certain assessments would, by design, result in specific services and even plans of care. The structure and content of the model would be based on input from all relevant stakeholders, including chaplains, the healthcare delivery teams, administration, patients, and families. The content would communicate specific spiritual needs and resources and their impact on care and decision-making. The content would also communicate specific chaplain responses to specific assessments. The terminology used in this communication would have specific and agreed upon definitions. The model would be used by all chaplains and would be a required component of all chaplain interactions with patients/families. Finally, the chaplain staff would need to use the model accurately and consistently. This would involve extensive training and regular retraining to increase inter-

rater reliability in its use as well as mandatory use by all chaplains, regardless of employee status within the department, and for all patient contacts.

Limitations

This study has several limitations. The limitations are related to the charting model, to the research methodology, and to the charting data.

The charting model was not theoretically based and was characterized by minimal structure. Patterns of combination between descriptors of assessments and needs were driven by the choices of individual chaplains rather than by a conceptual framework. The lack of common definitions for the descriptor variables contributed to a lack of clarity in documenting chaplain assessments and services. The number of available descriptor variables created an excessive number of combinations describing assessment and services, making the charting model cumbersome and difficult to use. The structure of the charting model, along with the large number of descriptor variables, was intended to minimize narrative by providing terms that reflect chaplain scope of service. However, this lead to a charting environment that is still largely dependent on the use of narrative to refine, connect, and interpret the variables for effective communication of chaplain interactions with patients and families. Finally, it is not clear that the charting model reflects day-to-day issues chaplains regularly encounter. Categories, such as beliefs that may affect treatment, may be in the general purview of nursing, are documented in nursing flowsheets, and would, therefore, not be reported as typical chaplain assessments. The same may be true of ethical concerns which may be in the general purview of the ethics committee.

The research methodology was limited by the reliance on only one source of data, the EHR flowsheets. Given the dependence on narrative in the charting model to elaborate and

enhance understanding, the absence of analysis of chaplain narrative in the EHR was a limitation of the research methodology. More specific assessment and service information may have been available in narrative accompanying the flowsheets and might have clarified the meaning of the charted entries. The research methodology was also limited by the analysis parameters. The analysis identified the frequency of common identical assessments and services. More commonalities may have been identified if the analysis had included non-identical similarities among assessments and among services. Anecdotally, some of these similarities were identified during the recoding process. A third research methodology limitation was the questionable inter-rater reliability. Because there was not a common taxonomy it is not clear that all chaplains interpreted the terminology in the same manner when charting. A clearer understanding of institutional/departmental expectations of charting and the attitudes of chaplains toward the change to this EMR charting model would have provided a context for improved interpretation of the results. In addition, the research methodology was limited by the quality of measurement reflected in the documentation model. The lack of common definitions threatens the validity of the model because there is no surety the items measure or report what they claim to report. Similarly, because there is a lack of understanding of charting expectations, there may be inconsistent documentation, resulting in low measurement reliability

The charting data points reflected no clear patterns. The chaplain was free to choose any combination of descriptors variables with no limitation. This absence of constructed patterns or linkages between variables limited the study analysis to frequency and contingency tables. More in-depth analysis of chaplain charting practices would require a charting model with specific constructs that would identify the patterns and linkages in advance by limiting and

focusing options available for assessment and service. Another data limitation was the quantity

of data: the large number of records with both assessment and services descriptors (Table 32,

1690) prevented PMC pastoral care department-wide analysis of patterns of combinations.

This exceeded SPSS capacity of ≤ 1000 values for each group for generating contingency

tables. Using this model for more specific analysis of these patterns would require a method of

dividing the records into lots of ≤ 1000 values. One approach would be analyzing individual

chaplain data and comparing the results. Another would be to randomly divide the dataset into

equal lots of ≤ 1000 each, analyze each subset, and compare the results. The first approach

would address inter-rater reliability and individual use of the flowsheet. The second approach

could provide limited understanding of department-wide use of the flowsheets. A third data

limitation was the lack of chaplain-specific data available for analysis, which constrained

examination of the frequency of use of the EHR. This also limited discussion of chaplain

attitudes toward charting and chaplain perceptions of the usability of the charting model. A

fourth data limitation was the inability of the analysis to provide any in-depth discussion of the

specific aim. The comparison of frequency of concerns communicated (yes/no) and service

provided (general/specific) and frequency tables of the descriptor variables implied the absence

of any patterns between assessment and services provided. On the other hand, more specific

analysis was unavailable because of data constraints and the structure of the model itself.

Implications for Future Research

Patients, families, chaplains and other members of the healthcare delivery team relate

accounts of the importance of chaplain presence and activity and of the contributions chaplains

have made in specific situations. In contrast, the manner in which chaplains self-describe in

practice, as well as training, is very vague and general. Specific patients, families, and staff

may describe the impact of chaplain practice in specific situations, but in this study the communication of that impact is not conveyed in what is increasingly recognized as the central documentation source of patient care, the electronic health record (EHR). There is ample evidence supporting the importance of religion/spirituality in the context of healthcare, yet the communication of religion/spirituality and its impact on care is consistently vague, described in only the most general terms. If religion/spirituality is, indeed, an important aspect of care, and if chaplains are considered the principle providers and communicators of that care, this is not being adequately conveyed in the communication of that care.

The previously mentioned AHRQ reviews offer strong advocacy of health information technology as positively contributing to healthcare delivery and improved patient outcomes. In light of this context, chaplains need to develop and implement a more effective charting model of professional identity and articulation of care. A desirable charting model would be broad enough in scope to accommodate the diversity of religion/spirituality chaplains encounter in the healthcare setting. It would also articulate specifically and precisely patient and family religion/spirituality, their beliefs and practices, and how these specifics interact with and impact health, healthcare decision-making, and health outcomes.

The development of this model would benefit from the contributions of relevant stakeholders in its design and implementation. These stakeholders include, but are not limited to chaplains, physicians, nurses, and social workers, other members of the healthcare delivery team, administrators, patients, and families. Utilizing the input from relevant stakeholders will contribute to developing a model of care that is interrelated: screens; histories; assessments; plans of care; services and other interventions; and outcomes.

Chaplain assessments, plans of care, and interventions in a desirable charting model will be based on specific constructs. These constructs would create interrelated and mutually exclusive categories and descriptors. When used appropriately, these constructs would provide clear, specific, and consistent assessments leading to equally clear, specific, and consistent course of actions. In the documentation in this model of care, the constructs would be measureable. This measurability would articulate the overall care chaplains provide as well as evaluate the effectiveness of the model itself.

The use of this model of care and its documentation needs to be monitored through on-going training, evaluation, and research. This would involve analysis and evaluation not only of what is being communicated but how and how often it is used. Regular training would support consistent and regular use of the components of the care model and the documentation of the different components of that care. Evaluating its use and effectiveness would require the analysis of multiple layers of documentation. This would include the use of chaplain department and inter-institutional data.

One implication for future research is an intentional exploration and investigation of chaplain presence. Presence is a quality ascribed to chaplains by chaplains themselves as well as by patients, families, and other members of the interdisciplinary care team. While it appears to be an important quality of chaplains, its definition by chaplains is so vague it cannot be readily distinguished from presence, as defined by others members of the interdisciplinary care team.

In "Thomas Jefferson: the Art of Power," Jon Meacham(2012) reports a first meeting between Thomas Jefferson and Mrs. Margaret Smith in the parlor of her and her husband's home while awaiting her husband's arrival.

Such was his charm that though she did not know quite why, here she was, saying things she had not meant to say. "There was something in his manner, his countenance and voice that at once unlocked my heart." The caller was in a kind of control, reversing the usual order of things in which the host, not the hosted, set the terms and conditions of the conversation. "I found myself frankly telling him what I liked or disliked in our present circumstances and abode," Mrs. Smith said. "I knew not who he was, but the interest with which he listened to my artless details…put me perfectly at my ease; in truth, so kind and conciliating were his looks and manners that I forgot he was not a friend of my own (Meacham, 2012, p. xxv).

Mrs. Smith's description of her conversation with Jefferson used specific descriptors such as his ability to make her feel safe through his manner, countenance, and voice. She also spoke of his interest evidenced by his listening as putting her at ease. Her descriptions may identify some special qualities of presence. While, of themselves, these qualities may not be unique to chaplains, an intentional focus on these and other similar qualities may be unique in healthcare delivery. Intentional and focused study into these qualities and how chaplains may exhibit them in the delivery of care may provide insight into chaplain presence.

Religion/Spirituality is an important component of healthcare and chaplains have traditionally been an integral part of its assessment and delivery. To continue to develop and emerge as a profession, chaplains need powerful models of charting their care that will adequately assess and respond to these needs as well as to specifically articulate this care and its impact.

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Appendix A

Religion/Spirituality in Published Literature

Appendix A: Religion/Spirituality in Published Literature

In a literature search using the terms spirituality, religion, religiousness, or religiosity, Harold Koenig identified over 5,000 articles in the years 2001-2005 (Koenig, 2007). This search was replicated in PubMed using the same parameters of spirituality OR religion OR religiousness OR religiosity. The search identified 50,239 articles in the years 1881-2012 (Figure 5) (U.S. National Library of Medicine,). Overall, PubMed listed a total of 18,835,630 in the same timeframe (Figure 6)(U.S. National Library of Medicine, 2013). Articles in the religion/spirituality search represented 0.27% of the total articles published yet the exponential trendlines in Figures 5 and 6 show that articles in the religion/spirituality search accelerated more quickly. In a forty-one year period, 1971-2011, inclusive, the total number of articles per year increased 400% (218,051 – 872,766). In the same timeframe, the total number of articles per year in the religion/spirituality search parameters increased 500% (415 – 2,106). The data search for the overall trends was done February 19, 2013. Given the trend, the 2012 value did not seem representative and was not used in this analysis (U.S. National Library of Medicine, 2013).

Many of these studies emphasize the importance of religion/spirituality to significant numbers of patients in the context of their health and healthcare as well as their desire to discuss religion/spirituality with their physician as part of their healthcare. Others demonstrate that significant numbers of physicians consider religion/spirituality an important aspect of the care of patients and their caregivers and identifiable barriers to having these conversations.
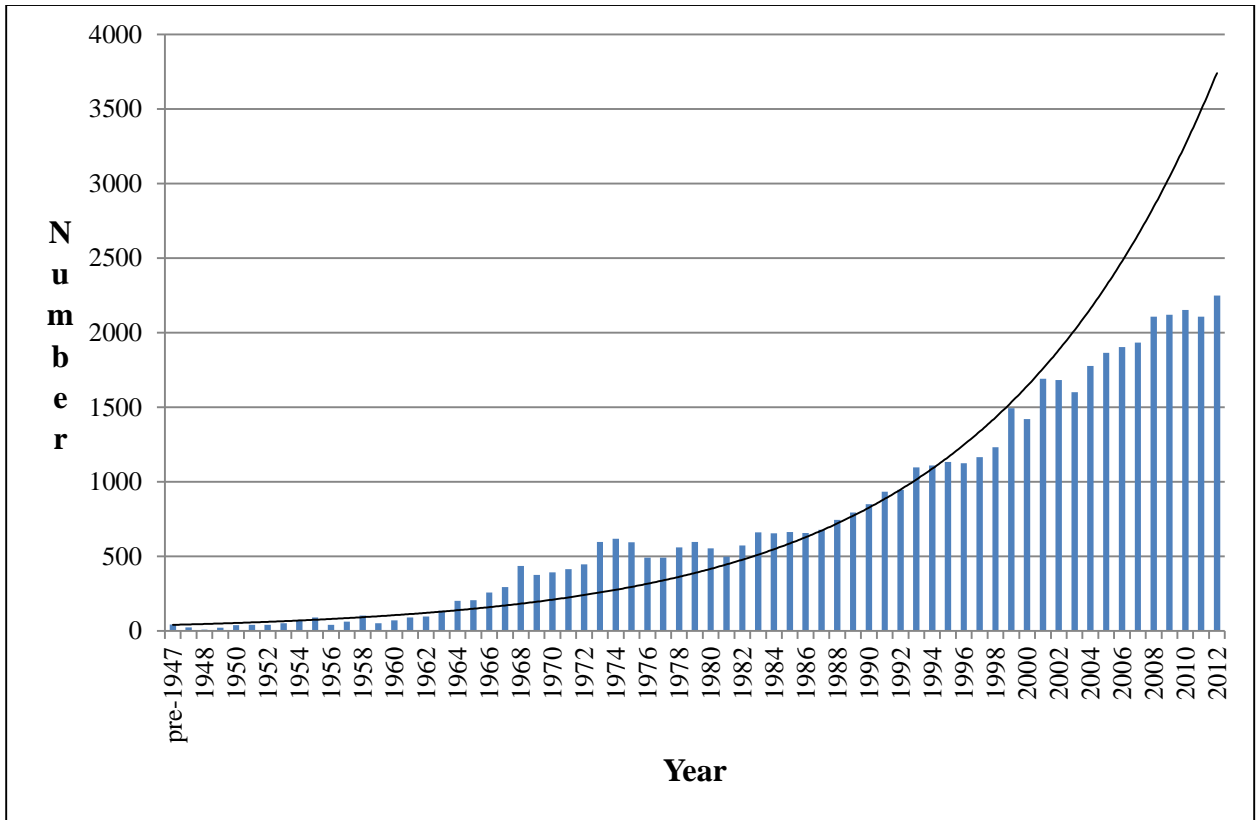
Figure 5 – PubMed Search Timeline. Articles with Search Parameters Spirituality OR Religion OR Religiousness OR Religiosity with Exponential Trendline (U.S. National Library of Medicine,)
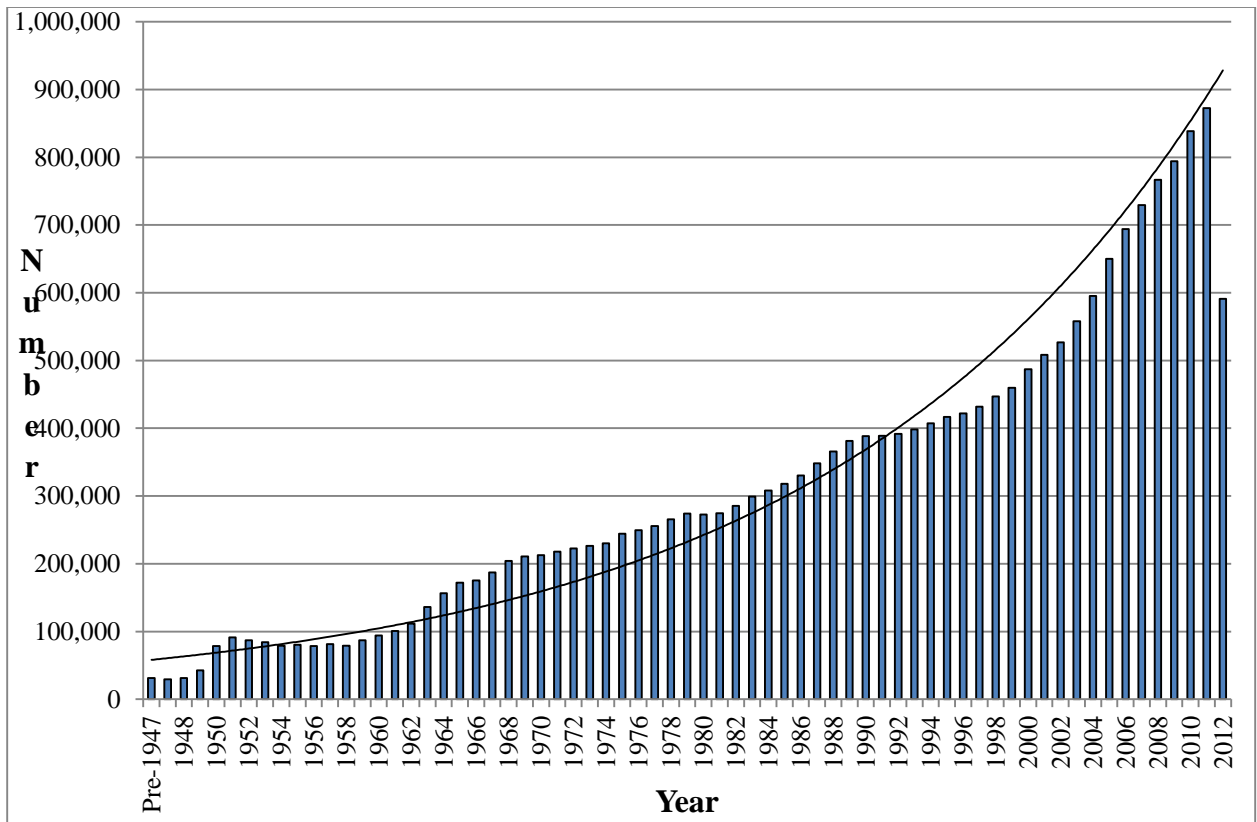
Figure 6 – PubMed Search Timeline of Published Articles with Exponential Trendline (U.S. National Library of Medicine, 2013)

Appendix B

About Epic

Appendix B: About Epic

https://extranet.cchmc.org/+CSCO+0h756767633A2F2F707261677265797661782E7070757A 702E626574++/content1/72905/ or http://centerlink.cchmc.org/content1/72905/

Our Epic Adventure started in March 2007 with design sessions, builds and validations. The first areas to go-live were Ophthalmology and Rheumatology with EpicCare Ambulatory; HIM Release of Information; and Ophthalmology, Rheumatology and Pulmonary with Cadence Scheduling.

The Phase 1 go-live took place on July 1, 2008 and included HIM Chart and Deficiency Tracking, Prelude Registration/ADT, Resolute Hospital and Professional Billing, Cadence Scheduling (for divisions using Tempus), and OpTime OR Scheduling and Preference Cards.

The Cadence Scheduling roll-out was complete in September 2009. In January 2009, the Scheduling Center began a pilot of Schegistration for Orthopedics, Pulmonary, Allergy & Immunology, Sports Medicine and Gastroenterology. In February 2009 ENT (at Burnet) and Orthopedics (at Liberty) began piloting Welcome.

On November 11, 2009, ASAP ED went live and on January 10, 2010, EpicCare Inpatient, EpicRx Pharmacy, HIM Deficiency Tracking, Hematology/Oncology and Beacon, OpTime Periop Documentation, Psychiatry, and Radiant Radiology all went live as part of the Phase 2 go-live.

MyChart went live in October 2010 and Home Care went live with Epic on October 1, 2011. The EpicCare Ambulatory roll-out was complete in January 2012.

Anesthesia will go live with Epic in Spring 2013.

We're sure you have questions about Epic: the reasons behind such a big change, the benefits and more. We have answers:

- What is Epic?
- Why did we implement Epic?
- Why did we choose Epic?
- How is Epic built?

What is Epic?

Epic is a fully integrated clinical and hospital information system. In Epic, health records are comprehensive, patient-centered, and integrated for use across the continuum of care. While many electronic medical record (EHR) software systems are comprised of content modules purchased and then modified to work together, every Epic module was built from the ground up and designed to work together seamlessly from the very beginning.

Cincinnati Children's purchased Epic's enterprise product, which includes an unmatched range of content modules. Read about the modules, their implementation dates, and the systems replaced.

Why did we implement Epic?

Our old systems were "data silos." In other words, there wasn't integrated view of the information in all the different systems, and we couldn't create comprehensive reports across systems. This caused a lot of unnecessary work, like asking families the same questions repeatedly and creating duplicate files.

Epic integrated our systems, both clinical and financial. Now we have a single patient database, and any information entered in any Epic module is available to users in the other

modules. For example, if a child's home address is entered upon registration it shows up in other areas of the system, too, from billing to scheduling to pharmacy. You don't have to ask families the same information over and over, or spend time entering the same information from department to department – you can just verify the information and move on. Epic's access rights settings, which determine who can see what information in the system, can be used to ensure users see only the information they need for their job.

While the majority of Epic is already implemented there are still some areas that have yet to go-live. The majority of our legacy applications have been replaced by Epic; just a handful of non-Epic applications remain.

Why did we choose Epic?

We chose Epic because of the high quality of its software, its track record of successful implementations, and its corporate culture. They also focus primarily on pediatric medical centers, academic medical centers, and large healthcare networks. Epic's other pediatric clients include:

- The Children's Hospital of Philadelphia (CHOP)
- Children's Healthcare of Atlanta (CHOA)
- The Children's Hospital - Denver
- Texas Children's Hospital
- Children's Medical Center Dallas
- Children's Memorial Hospital (Chicago)
- University of Chicago Comer Children's Hospital
- Children's Medical Center of Dayton
- Nationwide Children's Hospital (Columbus)
- Children's Hospital Boston (financials)
- Seattle Children's Hospital (financials)
- Nemours (incl. Alfred I. duPont Hospital for Children - Wilmington, DE)
- Akron Children's Hospital

Epic fosters a community of collaboration among its clients, encouraging all its clients to share the templates and reports they design for the benefit of the entire group. This unique

approach helps clients benefit from the lessons others learn and accelerates progress. Overall, Epic was the best "fit" for CCHMC.

How is Epic built?

Epic brings its incredibly detailed implementation plan to every client. From phasing to build structure to training, our planning didn't start from scratch because each time Epic does an implementation, it refines and improves the plan for the clients who follow. So thanks to Epic, we're benefiting from everything previous clients have learned during their implementations rather than reinventing the wheel.

Epic's implementation plan includes:

Planning

During design sessions the design teams reviewed process workflows and system options and made decisions regarding future workflows and system configuration. The Epic design teams are made up of parents of CCHMC patients, Information Services staff for the Epic project (known as the Epic project team), and diverse representatives chosen by selected departments and divisions to fill defined roles in the design process.

Design

Epic uses its own software to build a model system; its setup is based on the best practices observed in previous clients' system builds. The model provides us with pre-built workflows and selected content, such as order sets. We have used a lot of the model system content. But since the content of the model is not primarily pediatric content, we have built a great deal of additional Cincinnati Children's site-specific content.

Validation

At a design session, the design teams made workflow and content decisions. After that design session concludes, the Epic and CCHMC project teams built demos of those new workflows. At the following session, the teams viewed the demos and validated the decisions they made, reviewing the workflows step-by-step.

This process gives the teams an opportunity to ensure the workflows and decisions are what they intended once they are built into the system. It also allows them to confirm that the decisions made will meet their requirements.

Site-Specific Builds

Evidence-Based Practices The Clinical Effectiveness team is working with the divisions to identify disease-specific best practices. When possible, we will design Epic around those practices for the divisions and provide mechanisms for measuring and monitoring outcomes.

Configuration, Not Customization Epic offers us many options for us to configure templates, order sets, text, workflows, etc. Our project teams are using the system's own tools to configure Epic to meet the needs of our practitioners, financial and administrative staff. That is, we do not need to have custom programming done to design a CCHMC-specific system; configuration is a necessary element of the Epic product.

Testing

Unit Testing After the system is built, we test each module individually to ensure that it functions as planned and is error-free.

Integrated Testing After each module has been tested individually, we do integrated testing, running scenarios that take patients through the entire continuum of care and financial

management. All interfaces and interactions with systems outside of Epic will also be tested at this time.

Training

Training is required of all users and is coordinated by Epic-certified trainers. If you'll use Epic, you'll receive training to perform your job. Epic training is delivered via different means, such as classroom and web-based training, to meet the needs of different learners.

Go-Live

The "go-live" is the time period when the system is first used in real-time patient care and working environment.

Optimization

After the system has been in use for a period of time, we'll evaluate how it's being used and work with CCHMC users to design more efficient workflows and refine data gathering. Optimization is a continuous process. We'll have a permanent optimization team that follows the implementation teams as the system is rolled out.

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Appendix C

PMC Pastoral Care Flowsheet Visual Representation in a Training Environment

Appendix C: PMC Pastoral Care Flowsheet Visual Representation in a Training Environment

Figure 7 – Pastoral Care Flowsheet View One; Visit Type, Referral Source, Assessment of Pastoral Needs and Resources

Figure 8 – Pastoral Care Flowsheet View Two; Pastoral Services Provided

Vita

Kevin Eugene Adams was born June 29, 1961, in Lenoir North Carolina and is a United States citizen. He graduated from Fort Chiswell High School, Fort Chiswell, Virginia. He received an Associate in Science degree from Wytheville Community College, Wytheville, Virginia in 1980. He received a Bachelor of Arts in Religious Studies from the University of North Carolina at Chapel Hill in 1982. He received a Master of Divinity in Theology from the Southern Baptist Theological Seminary in Louisville, Kentucky in 1986. He is an ordained minister and a board certified chaplain through the Association of Professional Chaplains. Kevin is curently a staff chaplain at the University of Virginia Health System in Charlottesville.