Factors Affecting Referrals in Family Medicine

Introduction and Background:

Previous studies have found that 1-33% of all office visits lead to a specialist referral. In a 2015 study of 983 office visits in the Residency Research Network of Texas (RRNeT), 25% patients were referred to a specialist physician (unpublished data). Most referred patients were directed to Cardiology, Ophthalmology, Dermatology, Surgery, ENT and Behavioral Health for additional assessment or treatment.

Unnecessary referrals to specialist care can generate large costs to health care systems and, in areas with low health insurance coverage like Texas, large costs to individual patients. One study of physicians in surgical subspecialties, emergency medicine, obstetrics/gynecology, and radiology found that 93% sometimes or often engaged in "defensive medicine" to protect themselves from liability. Examples of defensive medicine included ordering more tests or medicines than medically indicated, referring to specialists in unnecessary circumstances, and suggesting invasive procedures against professional judgment. (Studdert et al. 2005) These unnecessary tests and treatments can, in turn, generate iatrogenic consequences that require more tests, treatments, and costs. For example, early MRI imaging for low back pain was correlated with higher disability and higher costs, even when controlling for radiculopathy. Low risk back pain patients with early MRI testing had medical costs \$7643 to \$8584 higher than the no MRI groups (Webster 2013).

In 2010, RRNeT conducted a qualitative study of efficiencies in family medicine (Young et al., 2013), addressing, how does a primary care physician save costs in the health care system? One method is the careful selection of specialists when referring a patient. "The desired specialist traits included those who were flexible in their approach to patient care, stayed focused in their field, ran efficient office practices, and didn't refer patients to other specialists." The particular specialist chosen can profoundly impact the care trajectory for a patient because of specialists' differences in approach to care, the use of high-cost services, and quality of care. (Barnett 2011) Unfortunately, many practice settings do not allow a range of choices for referrals. A remote rural setting is one example; a family medicine residency program in a health care setting where internal referrals are expected might be another example.

Others have studied primary care physicians' referral practices, including why a physician chooses a particular specialist for referrals. These studies have been based on particular health systems or insurance plans, so their findings have limited generalizability. (Kinchen et al. 2004; Forrest et al. 2006). The purpose of this study is to examine the factors that affect specialist choice in our unique healthcare settings, family medicine residency programs, and compare those factors to family physicians in community practice.

Purpose:

This study aims to better understand why primary care physicians choose to refer to certain specialists. We are interested in the characteristics of the specialist that make them optimal for family doctors; in order to know what, outside of clinical expertise, influences the physician's decision to select a particular specialist for their patient. And, if these factors are related to their patients' experiences, their own personal experience, or other administrative factors like insurance coverage and practice affiliation.

Methods:

Subjects: Subjects will be Family Medicine physicians, physician faculty and residents in Texas. *Exclusion Criteria*: Physicians, physician faculty and residents who are not practicing in family medicine, or who do not make referrals for their patients.

Measures: Without divulging any PHI, the subject is asked a series of multiple choice questions to understand their decision making process when they made a referral for a patient. The first series of questions are in relation to the most recent referral they have made for one of their outpatients that was not for a routine screening (e.g. referring a diabetic patient for a routine eye exam). The questions ask the physician to rate how important certain factors related to the specialist were in their decision to refer to them. They will also be asked a series of questions describing a past "negative" referral experience. The survey should take the physicians approximately 10-15 minutes to complete. There is no follow-up and no PHI is recorded.

Procedure: The research coordinator and study PI have developed on online survey. The study team will email the survey to the members of the Residency Research Network of Texas (RRNET)--members of RRNET are practicing family medicine physician faculty at residency programs across Texas (UT Southwestern at Austin, UTHSCSA, Christus Santa Rosa, Christus Memorial Spohn, Texas Tech University HSC, McAllen Medical Center, Valley Baptist Hospital at Harlingen, John Peter Smith Hospital in Fort Worth, Methodist Hospital of Dallas, Baylor Family Medicine at Garland, and UT Rio Grande Valley at Edinburg). These individuals will be asked to participate in the study, and they will also be asked to forward the email onto their colleagues in family medicine (faculty, residents and private practice physicians) with the request to please complete the survey, if interested. We will have email reminders sent 3 times with 2 weeks in between each reminder email. After 6 weeks, we will stop sending reminders and the survey will close.

Data Analysis Plan: This study is a cross-sectional, descriptive study. Therefore, much of the analysis will be simple frequencies and mean ratings on survey items. We will be collecting demographic information about the respondents as well as practice characteristics. These will allow us to compare group differences in survey responses across groups defined by age, gender, ethnicity, practice location and type, training level and clinical experience. T-tests and ANOVA will be used to assess group difference in mean ratings. The population of our survey includes approximately 120 family physician faculty and 300 family medicine residents in 11 residency programs. We also plan to survey 200 Texas family physicians in non-training practice sites. Based on others' research in similar settings, we anticipate a 65% response rate, or a sample size of about 403 subjects out of 620 queried. Setting alpha at .05 and beta at .20, a sample of 400 will allow us to detect a small effect size (d=.28) when comparing two groups (such as males and females) or a small-to-moderate effect size (d=.33) when comparing three groups (ethnic groups) or four groups (training level, d=.40).

Citations:

Barnett, Keating, Christakis, O'Malley, and London. Reasons for choice of referral physician among primary care and specialist physicians. 2011. *J Gen Intern Med* 27(5): 506-12.

Complexity of Family Medicine Visits: An RRNET Study. (2015, in progress)

Forrest, Nutting, von Schrader, Rohde and Starfield. Primary care physician specialty referral decision making: Patient, physician, and health care system determinants. *Medical Decision Making*. 2006. 26: 76-85.

Kinchen, Cooper, Levine, Wang and Powe. Referral of patients to specialists: Factors affecting choice of specialist by primary care physicians. *Annals of Family Medicine*. 2004. 2(3):245-52.

Studdert DM, Mello MM, Sage WM, DesRoches CM, Peugh J, Zapert K, Brennan TA. Defensive medicine among high-risk specialist physicians in a volatile malpractice environment. *JAMA*. 2005; 293(21): 2609-2617.

Webster BS, Bauer AZ, Choi Y, Cifuentes M, Pransky GS. latrogenic Consequences of Early Magnetic Resonance Imaging in Acute, Work-Related, Disabling Low Back Pain. *Spine*. 2013; 38(22): 1939–1946.

Young RA, Bayles B, Benold TB, Hill JH, Kumar KA, Burge S. family physicians' perceptions on how they deliver cost-effective care: a qualitative study from the Residency Research Network of Texas (RRNeT). *Fam Med*. 2013; 45(5): 311-8.