

Proceedings from the 2000 Wisconsin Primary Care Research Forum and 14th Annual WReN Meeting

Edited by John W. Beasley, MD

INTRODUCTION

The 14th annual meeting of the Wisconsin Research Network (WReN), the 2000 Wisconsin Primary Care Research Forum, was held June 8-9, 2000 in Waukesha, WI. WReN, a statewide network of more than 600 primary care professionals interested in practice-based research, is organized under the auspices of the Wisconsin Academy of Family Physicians (WAFP) Research Committee, and is supported by the WAFP and the Wisconsin Institute of Family Medicine (WIFM). This 2-day conference is planned as a working meeting for the participants and includes presentations by invited speakers, original research presentations by primary health care professionals, and workshops related to conducting research in the office setting. The following abstracts represent presentations of original research.

Blastomycosis: More Evidence for Exposure Near Or In One's Domicile

DJ Baumgardner, and DP Paretsky, Milwaukee, WI

Background: Our previous publications on the epidemiology of blastomycosis suggested that the etiologic organism, *Blastomyces dermatitidis*, may be acquired at home, however this view was challenged in an editorial [WJM May 1998;97(5):20].

Methods: 1) Field study of two properties which preliminarily suggested disease acquisition in the home. Depth interviews, site visits and environmental cultures using our in-vitro technique were used. 2) An address registry of human and dog blastomycosis cases was constructed from extensions of our previously published case series. 3) Literature review.

Results: 1) Blastomycosis occurred in a dog (December, 1998) and then a cat, confined to its home (September, 1999), from a household in urban Manitowoc County, Wisconsin; and additionally in a house-confined cat (July, 1998) at a home in Milwaukee, WI. Depth interviews implicated the basement and the attic or basement, respectively, as the most likely source of infection at these homes. Twenty environmental cultures from each site were negative. 2) Of the 222 domiciles in the registry, a minimum of 27 (12%) were associated with more than 1 blastomycosis case, 10 sites with more than 2 and 7 with

more than 3. In 4 domiciles, repeat cases occurred in different families. Most cases were separated by 1 year or more (range: 3 weeks to 7 years). 3) Recent case series reveal a minority of outdoor activities and occupations among humans with blastomycosis. The organism has been isolated from an inhabited yard and from a house being razed.

Conclusions: There appears to be growing evidence that blastomycosis may be acquired at home, and that *B. dermatitidis* may be relatively persistent on certain properties.

Effect of Clinical Teaching Method on Patient Satisfaction

J Bedinghaus, S Diehr, D Bower, M Niedfeldt, A Beecher, S Lawrence, C Bertling, and D Simpson, Milwaukee, WI

Problem: Studies of patients' attitudes towards student involvement in outpatient care have documented some negative effects on patient satisfaction. However, teaching methods that are time-efficient and which involve patients in the teaching process may lessen, or even reverse, these negative effects.

Methods: Intervention: Members of the Advanced Faculty Development Group were trained to teach students in the presence of the patient (TIPP) during a faculty development session in April 1999, using videotaped demonstration and roleplay.

Design: Our Patient Satisfaction Questionnaire was modeled after validated instruments including the Medical Outcomes Survey. Questions specific to teaching in the patients' presence were added. To improve return rates, the questionnaire was a single page, at sixth-grade reading level, had no patient identifiers, and was completed before leaving the office.

Setting: Two medical school-based family practice offices and 2 family practice residency clinics.

Subjects: All patients attending these practice sites during the study period were asked to complete the questionnaire. The faculty physicians trained to teach students in the presence of the patient serve as the study group, with faculty physicians not specifically trained to teach this way serving as controls.

Results: Questionnaires were gathered from June through December, 1999. Analysis of the data is in progress. An early analysis of the data indicates that patients' overall satisfaction with the doctor visit is markedly higher when medical students are taught in the patients' presence.

Does Dissemination of a Tobacco Cessation Clinical Guideline and Low Intensity Implementation Strategies Improve Cessation Advice Rates?

D Pine, S Sullivan, B Farrell, K Swenson, and C David, Minneapolis, MN

Background: Tobacco cessation counseling is an effective intervention in clinical practice, but not routinely provided. A tobacco cessation guideline (Institute for Clinical Systems Integration Health Care Guideline: Tobacco Use Prevention and Cessation) was accepted at 2 medical clinics in 1996. The objective was to measure the effect of implementation on rates of smoking status assessment and cessation counseling.

Setting: Two community-based primary care clinic sites.

Methods: Nurses were trained to assess tobacco use status during visit planning. A flow sheet to enable effective counseling was developed. A guideline training session for clinical staff was carried out. Self-help materials were made available online. We audited the medical records for 50 patient visits per physician before and after implementation (n=450, 1995, baseline; n=500, 1996; n=300, 1999).

Results: Assessment of smoking status improved from 60% in 1995 to 79% in 1996 to 97% in 1999 (p<.001 for all pairwise comparisons). The proportion of users who were advised to quit was 24% in 1995, 12% in 1996, and 19% in 1999.

Conclusions: The improvement in tobacco use screening is likely related to the improvement in visit planning. The low cessation advice rate suggests that additional interventions are needed.

Prevention of Sexually Transmitted Disease (STD) and Unplanned Pregnancy: Focus Group Results Concerning Knowledge, Attitudes and Beliefs Among Young Men

WL McGill, Prairie du Sac, WI

Pregnancy and childbearing are traditionally "domains of the woman." Yet, the male condom can be an effective prophylactic against pregnancy and STD. Further, data show that male partner involvement improves the consistent use of reliable methods of contraception.

To develop education and attitude-change software for preventing STD and unplanned pregnancy, 3 focus groups were conducted with 22 male college students aged 18-22. Content analyses found that factors related to condom use and contraceptive support fell into 5 main categories:

- Access issues concerned purchasing and carrying condoms. As testimony, one respondent was carded and refused purchase of condoms at a pharmacy;
- Cognitive-emotional factors included "embarrassment," "morning-after worry" and "poor planning" (e.g., when sex occurs "unexpectedly" following a party);
- Normative issues highlighted a dilemma whereby the female partner greets the appearance of a condom favorably ("cool") or unfavorably (an "expectation");
- Relationship issues focused on responsibility. Perceived

responsibility for pregnancy prevention reportedly improves as the relationship shifts from casual to serious;

- Situational issues included concerns about coitus interruptus and the effects of alcohol on safe behaviors.

The focus group data suggest that young men anticipating sexual intercourse engage in an "ad hoc" cost-benefit analysis of condom use, and of initiating dialogue about contraception. Software that facilitates advance considerations may help clarify the benefits of contraception and the costs of unplanned pregnancy and STD.

Survey of Wellwoman Exam Providers

H Scully, Wausau, WI

Background: Anecdotally, there appears to be a wide variety in how wellwoman care is provided. This involves both the allotted time and the content of the history and physical exam. A literature review found that there is an abundance of information from specific organizations, (e.g. osteoporosis literature) that states what should be talked about during the exam. Few articles looked at how much time was allotted by physician specialty (family physicians, internists and gynecologists) for "annual exams." In one study, if a Pap was obtained the average visit time was 20.7 minutes. In my own experience, if I obtain a Pap the visit was a minimum of 30 minutes. The purpose of this study was to determine how family physicians, family medicine residents, nurse practitioners and physician assistants conduct wellwoman exams.

Methods: A survey was sent to providers at different clinics in the UWDFM. Questions asked were time spent and what providers included in the history, physical, and patient education components.

Conclusions: A wide variation was found among providers on what was included. Some prevention items were done more frequently than others. The usual time spent was 30 minute, with a only few outlying in time. This result is significantly different than results of previous studies. No other study has looked at everything that is recommended and how often all of the recommendations are met.

Recognition of Alcohol Use Disorders in Primary Care

RL Brown, LA Saunders, Madison, WI

Purpose: This study assesses the proportion of patients with alcohol use disorders (AUD's) recognized in primary care settings and the demographic and clinical predictors of recognition.

Methods: 225 (19.8%) of 1136 randomly selected adult patients aged 18-59 at 3 university-affiliated, community-based family medicine clinics were found to have DSM-III-R alcohol abuse or dependence by a validated, structured diagnostic interview. Three years of medical records were reviewed for recognition of AUD's and possible predictors. Recognition was defined liberally.

Results: Nearly one-third (32.1 %) of the medical records showed evidence that the subjects' AUD's were recognized. A logistic regression found that recognition was

significantly higher for men, for older patients, for patients with concomitant drug problems, for patients with more severe AUD's, and for minorities. Race and other variables were significant predictors only in a bivariate analysis.

Conclusion: Although the study may have been limited by incomplete record keeping, there seems to be substantial under-recognition of alcohol disorders, especially for patients with less severe disorders who are most likely to benefit from brief interventions.

2000 Influenza Update: The Wisconsin Influenza Surveillance Program

JL Temte, T Haupt, P Shult, Madison, WI

Background: Influenza surveillance in Wisconsin is conducted by the Wisconsin Surveillance Program of the United States. Influenza Sentinel Physician Surveillance Network. This program is administered by the Wisconsin Division of Public Health and represents the cooperative efforts of the Wisconsin Laboratory of Hygiene and Wisconsin family physicians in academic and non-academic settings.

Methods: During the 1999-2000 influenza season, 50 Wisconsin family physicians participated in weekly influenza reporting, based upon numbers of patients with influenza-like illnesses and total number of patients seen.

Results: Influenza-like illnesses peaked in the last week of December, 1999, and represented 11% of all patients seen during that week. The symptom reporting provided very similar findings as compared to surveillance conducted using virus cultures. Overall, the 1999-2000 influenza epidemic was about average in terms of timing and intensity, despite a lot of media attention and direct-to-consumer marketing of antiviral agents.

Discussion: Wisconsin maintains an excellent and multidimensional influenza surveillance system, with impressive support of practicing family physicians. An update on influenza prevention, control and treatment will be provided along with discussion on the functioning of the Wisconsin Surveillance Network.

Does Participation in Practice-Based Research Improve Clinical Management? Evidence from a Depression Trial

D Hahn, N Werner, and J Henk, Madison, WI

Background: Skills learned by clinicians who participate in practice-based research (PBR) may directly improve subsequent patient care, but this is an untested model to incorporate research findings into practice.

Methods: Managed care organization (MCO) physicians volunteered (cases) to participate in a pilot study that included didactic sessions and clinical experience in diagnosing, treating and following depression. We performed yearly cross-sectional audits of the MCO administrative and pharmacy databases for depression and anxiety diagnoses, visit frequency and use of antidepressant medications before (1991-1993), during (1994) and after (199-1998) the research study after excluding study patients.

Cases were compared to nonparticipating physicians (same specialties and practice sites) as controls. The analysis was based on 45,799 unique physicianpatient pairs consisting of 10 physicians (5 cases and 5 controls) and 25,116 patients encountered in 1991-1998.

Results: Increasing temporal trends in diagnosing and prescribing for depression were found for both cases and controls ($P < .0001$, before to after) although increased diagnoses were significantly greater in cases than controls during the study ($P < .03$). Ninety day continuous use of an antidepressant was significantly greater for cases in 1995 ($P < .05$) and 1996 ($P < .05$). Visit frequency for depression during ($P = .05$) and after ($P < .01$) the study was also significantly greater for cases.

Conclusions: Participation in a PBR study of depression resulted in a sustained increase in depression followup and a temporary increase in patient adherence to antidepressant medication. Participation in PBR may be a viable model for direct translation of research findings into practice.

Potential Cost Savings After an Electronic Medical Record Installation; A Work in Progress

P Smith, Madison, WI

About 5% of medical practices are presently using an electronic medical record (EMR) in the United States. There very little published literature about the cost of implementing these systems and even less about the additional costs of maintaining the systems and potential cost savings when compared to the present methods of patient care. The Belleville Family Medical Clinic is currently gathering data about present cost of transcription, copying medical records, chart reviewing for quality improvement projects, total copying costs and electricity use prior to the implementation of an EMR in the summer of 2000. During 18 weeks of data collection, there were 4.3 chart copy requests per week. Staff time for copying averaged 15.1 minutes per request, 4.3 hours per month at a cost of \$1100 per year. During 15 weeks of data collection, transcriptionists averaged 10.7 minutes per note and averaged 33.2 hours per week for a total cost of \$32,200 per year for salary and benefits. Following implementation of the EMR, similar data will be collected and compared or potential cost savings.

Reach Out and Read Pre-Program Evaluation with Age and Gender Comparisons

Janice A Litza, Milwaukee, WI

Background: The basis of the "Reach Out and Read" program is to introduce children to books and the importance of reading, starting at the age of 6 months, thereby promoting school success, especially in lower income children. The purpose of this study is to evaluate reading activities among children in a Milwaukee family practice residency clinic prior to instituting this program.

Methods: A cross-sectional survey was completed with 49 of 50 parents of children ages 6 months to 5 years (one

refused). Survey questions were taken directly from the "Reach Out and Read" manual so that comparisons could be made to published results, which formed the basis for the program intervention. Proportions were compared using the chi-square test with Yates' correction.

Results: Compared to similar populations previously surveyed, a greater percentage of our clinic patients list reading or books as a child's favorite activity and as the parent's favorite activity (8% and 22% vs. 12% and 31%); and have children read to most days (20% vs. 57%). There were no significant differences among gender or ethnicity in our small study. Children who are between the ages of 2 and 5 are read to more than those <2 and those 5 years old (86% vs. 56% and 25%, respectively; $p=0.02$). A similar difference was noted regarding children taken to the library (59% vs. 17% and 50%; $p=0.02$).

Conclusions: Although our clinic patients appear to enjoy reading more and read more often compared to other groups studied, there is a significant disparity among the ages. This study should be repeated once the "Reach Out and Read" program is instituted to assess whether intervention will improve and equalize reading activities among all age groups.

Patients' Smoking Counts: Implications of Quantification Practices

TR Halkowski, Milwaukee, WI

Purpose: To analyze how primary care patients characterize, assess, and quantify their tobacco use. We also note implications of patients' smoking amount formulations for intervention.

Methods: Fifty consecutive videotaped primary care visits were collected from 2 primary care clinics, (in Lexington, KY and Milwaukee, WI). These visits were transcribed and the encounters containing discussions of tobacco use were then analyzed for the discourse patterns used by patients to characterize their smoking amounts.

Results: Patients' responses to their physician's question "How much do you smoke?" fell into 4 categories: a) Unmitigated quantification (e.g., "Two packs a day"); b) Quantification with pre or post selfassessment (e.g., "Not very much, 3 or 4 cigarettes a day"); c) self-assessment only, with doctor's pursuit of quantification; and, d) Courseofaction formulation, (e.g., "Well, I opened a pack this morning, and I'll be smokin' them down tomorrow").

Conclusions: Patients' self-assessments of their smoking amount display a "stance" toward their habit, which provides useful information regarding the patient's readiness to quit, motivation level, and sense of self-efficacy (each of which affects smoking cessation rates). While patients' courseofaction formulations seem to resist explicit quantification, they provide useful information regarding the daily and weekly patterns of patients' tobacco use, formulated in ways congruous to the patient's "life world."

Patients' indigenous formulations of their smoking amount

can be useful in helping to identify current roadblocks to quitting. In addition, they can help one to anticipate future difficult situations and plan how to manage them.

Cultural Foods: Diet Recalls and Grocery Store Inventories in Inner City Milwaukee

M Ebersole, and P Hunter, Milwaukee, WI

Introduction: Family physicians ask patients to change their diets to prevent complications of chronic disease. Patients in inner cities present unique challenges in such efforts.

Objective: We piloted methods of collecting data about diet of patients in inner city Milwaukee and food stores in their neighborhoods.

Methods: The student used 24-hour diet recall and food frequency questionnaires with 20 patients she saw during a clinical rotation. Persons younger than 18, lactating, pregnant or on a therapeutic diet were excluded. No intervention was carried out besides advice on dietary modifications as requested by the patients. The student also visited 24 corner grocery stores, mainly in the 53208 ZIP code area. She asked the cashier to list the top 10 selling food items.

Results: The diets of the 20 patients interviewed were very high in fat and sodium and very low in fiber. Patients readily accepted interviews and frequently asked for informal clinical feedback. The interviews did not lengthen the patients' visits. The diets varied greatly between patients, but the aggregate nutritional content of diets was similar to that of the top selling food items in the 24 corner grocery stores. None of the stores had computerized data on sales readily available.

Conclusions: A medical student on a clinical rotation can obtain nutritional data from patients using 24-hour diet recall and food frequency questionnaire without interrupting clinical activities at a clinic. Such nutritional data is consistent with top selling food items in corner groceries in the same neighborhoods.

Medical Technology as Teacher: The Effect of an Electronic Medical Record on Resident Knowledge of Drug Interactions

MF Carroll, Milwaukee, WI

The electronic medical record (EMR) has become increasingly prevalent in primary care. Many EMRs incorporate readily available information databases, such as lists of drug interactions, that may be accessed by physicians at the point of care. However, the potential impact of EMRs on resident learning has not been addressed in the literature. Recently an EMR with a feature of checking for drug-drug interactions was implemented in a resident-based family medicine clinic. We wondered if resident learning about drug interactions would be accelerated by the use of this feature.

To assess resident knowledge base of drug interactions, we developed a 38-question examination. All questions

were based on interactions involving the 200 most commonly prescribed medications. The interactions were of level I or II (most serious) clinical significance, as defined by a standard pharmacology reference. The examination was administered at time of EMR implementation and 7 months later. Control groups from 2 similar programs are being tested at the same interval. Changes in scores on the examination over the 7-month period will be compared, looking for evidence of an educational benefit of the EMR. Implication for use of the EMR in resident education will be discussed, along with recommendations for future research.

Do Men and Women Delay or Avoid Routine Health Care Because They are Overweight?

B Knox, and JW Beasley, Madison, WI

The purpose of this research project is to determine whether men and women delay or avoid routine health maintenance because they perceive themselves to be overweight. Obesity is prevalent in today's society. Current statistics show 25% of Americans are obese. As physicians we cannot accomplish our goal of health care maintenance for patients if a large number of obese individuals delay or avoid seeking routine medical care. Society will benefit from this study when we make physicians more aware of patients' perceptions of their weight. In addition, the study will continue to identify and remove barriers that keep patients out of their doctor's office.

This observational study uses a self-administered health questionnaire which will be given to 1000 persons in community-based settings throughout Wisconsin. Twenty-five Wisconsin Research Network (WReN) researchers and selected members will find a target person within their respective communities to distribute 40 surveys to a non-patient population. The target person will choose a group, such as a church or service organization, where he/she will distribute the 3-page, 17-item questionnaire to individuals age 18 or over. Participation is voluntary, and respondents are anonymous. All questionnaires are to be folded up and placed in the attached envelope, sealed, and returned to the designated box. The target person will return all sealed surveys to the WReN researcher, who will then return them to the principal investigator.



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