IRENE Newsletter

IOWA RESEARCH NETWORK

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Our MISSION and PURPOSE

IRENE's mission is to improve the health and well-being of Iowans through collaboration in practice-based research on questions important to primary care physicians and their patients. IRENE's purpose is to create and foster a network of research collaboration between the academic medical center and primary care physicians throughout the state of Iowa with a particular focus on improving rural health.

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Update on the Management of Skin and Soft Tissue Infections by Primary Care Clinicians in the Era of Community-Acquired Methicillin Resistant Staphylococcus Aureus: An Iowa Research Network Study

By Mary Merchant

Community-acquired methicillin resistant staphylococcus aureus (CA-MRSA) is a rapidly emerging public health problem and one most often managed initially by community-based primary care physicians. CA-MRSA occurs in all ages and populations and presents as a skin infection such as a boil, furuncle, deep-seated folliculitis, impetigo or abscesses. It is important that primary care physicians and nurses at the front lines of treating CA-MRSA infections recognize and treat these cases appropriately.

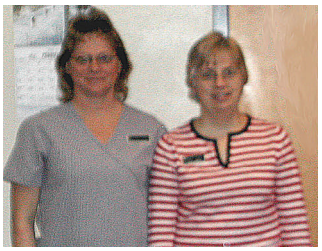
The Agency for Healthcare Research and Quality (AHRQ) sponsored a task order to study the management of CA-MRSA, and the Department of Family Medicine at the University of Iowa applied for and received funding to study this problem through the Iowa Research Network (IRENE). The purpose of this study was to identify and evaluate best methods and procedures for primary care practices to follow in managing CA-MRSA infections.

Focus group meetings at each clinic and retrospective medical record review for 259 subjects at nine family medicine offices have been completed for this study. Currently, the prospective study is ongoing. A clinic coordinator is currently recruiting new subjects as they come in for treatment, obtaining their informed consent and completing data collection forms on their care. The goal is to have 30 prospective cases to compare with the 30 retrospective cases at each office. The clinic coordinators are instrumental in the success of the study by obtaining the data from their practices.

CA-MRSA Study Clinic Coordinators:

Kari VanDam
Medical Associates
LeMars, IA

Kate Brasch and Robin Davis
Genesis Family Medicine
Davenport and Blue Grass, IA

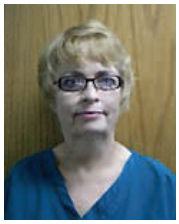


Deb Brandel and Linda Aulwes
Family Medicine Associates
Guttenberg, IA

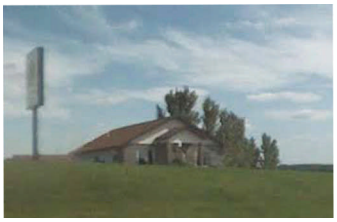
Kristie Thompson
UIHC CMS Lone Tree Clinic
Lone Tree, IA

Carol Ryan, RN
Regional Family Health
Manchester, IA

Craig Logemann, PharmD
Urbandale Family Physicians
Urbandale, IA



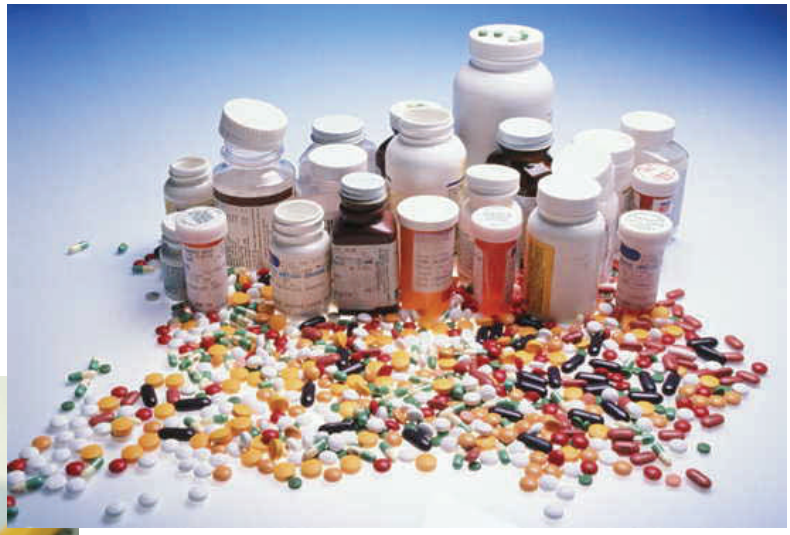
Katherine Jaeger and Connie Kapple
UIHC CMS Sigourney Clinic,
Sigourney, IA



Brandy Summers
The Country Doctor
Bloomfield, IA

Physician and Pharmacist Collaboration to Improve Blood Pressure Control

By Barry Carter, PharmD



Two IRENE investigators (Carter and James) had a paper which was published in Archives of Internal Medicine on November 23rd, 2009. In this study, the investigators studied six Iowa community-based family medicine residency medical offices. Offices were randomized to control or intervention sites. In the intervention sites, patients with uncontrolled BP were recruited. Clinical pharmacist faculty members who are employed in these offices provided team-based care to improve blood pressure.

The pharmacists recommended dosage increases, additions to the BP regimen and other strategies to the patients' physicians. They also worked with the patients to improve poor medication adherence if that was identified as a problem. Some of the key findings were:

- 402 patients with uncontrolled hypertension were enrolled from the 6 sites.
- 96.2% of pharmacist recommendations were accepted by the physicians.
- The mean number of antihypertensive medications added was higher in the intervention group than in the control group (1.1 vs. 0.3, p< 0.001) and the number of medication changes was higher in the intervention group (3.6 vs. 2.2 changes per patient, p = 0.001).
- Self-reported adherence improved in both the active control and intervention groups (NS).
- BP reduction was significantly greater in the intervention group compared to the active control (p<0.05).

Table 3. Clinic Blood Pressure (BP), 24-Hour BP, BP Control, and Guideline Adherence Scores[a]

Variable	Baseline	3 Months	6 Months
Control (n=210)			
BP, mean (SD), mm Hg			
Systolic	150.6 (14.1)[b]	146.1 (19.6)	143.8 (20.5)[b]
Diastolic	83.6 (12.3)	81.5 (14.0)	79.1 (14.3)
BP control, %	0	25.4	29.9[c]
24-h BP, mean (SD), mm Hg			
Systolic	137.9 (15.8)	. . .	131.5 (17.7)
Diastolic	77.2 (10.7)	. . .	73.7 (10.7)
Total guideline adherence score, % criteria met, mean (SD)	49.4 (19.3)	. . .	53.4 (18.1)[d]
Intervention (n=192)			
BP, mean (SD), mm Hg			
Systolic	153.6 (12.8)[b]	134.8 (14.6)	132.9 (15.5)[b]
Diastolic	87.4 (11.9)	79.9 (11.3)	77.7 (11.2)
BP control, %	0	49.7	63.9[c]
24-h BP, mean (SD), mm Hg			
Systolic	136.2 (14.6)	. . .	121.1 (13.7)
Diastolic	78.5 (11.7)	. . .	70.2 (8.7)
Total guideline adherence score, % criteria met, mean (SD)	40.4 (22.6)	. . .	62.8 (13.5)[d]

[a] *P* values are based on between-group differences adjusted for baseline age, sex, race/ethnicity, educational degree, insurance status, annual household income, marital status, smoking status, alcohol intake, body mass index, number of coexisting conditions, number of antihypertensive medications, and medication adherence. Blood pressure control is defined as less than 130/80 mm Hg for patients with diabetes or chronic kidney disease and as less than 140/90 mm Hg for patients without diabetes or chronic kidney disease.
[b] *P*< .05.
[c] *P*< .001.
[d] *P*= .04 (unadjusted) and *P*= .09 (adjusted).

Table 4. Unadjusted and Adjusted Effects of Intervention vs Control at 6 Months[a]

Outcome	Unadjusted Effect (95% CI)	Adjusted Effect (95% CI)[b]
BP, mm Hg		
Systolic	−11.9 (−21.6 to −2.2)	−12.0 (−24.0 to 0.0)
Diastolic	−3.6 (−10.7 to 3.4)	−1.8 (−11.9 to 8.3)
BP control odds ratio	4.2 (2.6 to 6.7)	3.2 (2.0 to 5.1)
24-h BP, mm Hg		
Systolic	−8.0 (−17.8 to 1.9)	−10.3 (−23.7 to 3.1)
Diastolic	−3.9 (−9.7 to 1.8)	−3.1 (−9.0 to 2.8)
Total guideline adherence score odds ratio	11.1 (0.4 to 21.7)	9.6 (−2.3 to 21.5)

Abbreviations: BP, blood pressure; CI, confidence interval.
[a] Effects are reported as difference (95% CI) for BP levels and guideline adherence scores and as odds ratio (95% CI) for BP control in the intervention group compared with the control group.
[b] Adjustment for baseline age, sex, race/ethnicity, educational degree, insurance status, annual household income, marital status, smoking status, alcohol intake, body mass index, number of coexisting conditions, number of antihypertensive medications, and medication adherence.

ARCHIVES OF INTERNAL MEDICINE

Reference: Carter BL, Ardery G, Dawson JD, James PA, Bergus GR, Doucette WR, Crhischilles EA, Franciscus CL, Xu Y. Physician and pharmacist collaboration to improve blood pressure control. Archives of Internal Medicine 2009: 169:1996-2002 (November 23, 2009)

These studies demonstrate the significant improvement in blood pressure control that can be achieved with team-based care, especially with the use of pharmacists. Further work to refine and expand this model is currently underway in three studies being conducted within IRENE, the Iowa City VA, and a national study being done in 27 clinics around the United States.

American Cancer Society Colon Cancer Screening Project Update

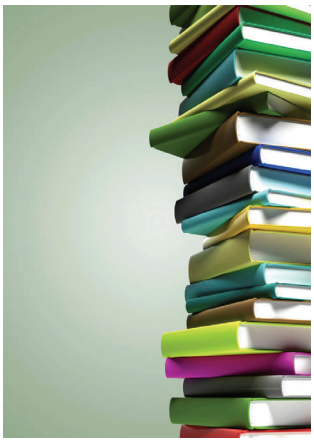
The purpose of this project was to test office reminder systems of gradually increasing intensity to ensure that the patient is educated about CRC screening and receives a physician recommendation for screening. Patients due for screening within each practice (never screened or lapsed with screening) are being randomized equally to one of four groups of increasing intensity: 1) Usual care, 2) Physician chart reminder alone, 3) Physician chart reminder + multifaceted mailed patient education, including a fecal immunochemical test (FIT) or 4) Physician chart reminder + multifaceted mailed patient education/FIT + a telephone reminder. Preliminary results show a 40.5% and 45.8% return rate for the FIT from groups 3 and 4 respectively. We thank these offices for their participation in this study.

Following is a list of offices/city and recruitment to date:

Office City	Total Enrolled
Spencer Family Care Avera Health, Spencer	69
Medical Associates, Le Mars	98
Kossuth Regional Health Center, Algona	27
Unity Healthcare, Muscatine	40
Siouxland Medical Education Foundation, Sioux City	24
Sioux Center Medical Clinic, Sioux Center	51
Rebelsky Family Practice LLC, Grinnell	20
Regional Family Health, Manchester	37

Office City	Total Enrolled
Union County Health Foundation, Elk Point & Alcester	49
Ellsworth Family Medicine, Iowa Falls	30
Medical Associates, Clinton	14
Family Medicine Associates, Guttenberg	54
Dubuque Family Practice, PC, Dubuque	46
Alegent Health Center, Corning	38
Burlington Area Family Practice Center, West Burlington	36

Recent IRENE Publications:



1. Carter, B. L., Ardery, G., Dawson, J. D., James, P. A., Bergus, G. R., Doucette, W. R., Chrischilles, E. A., Franciscus, C. L., & Xu, Y. (2009). Physician and pharmacist collaboration to improve blood pressure control. Archives of Internal Medicine, 169(21), 1996-2002.
2. Carter, B. L. (2009). Equivalence of generic and brand-name drugs for cardiovascular disease. JAMA, 301 (16), 1654.
3. Carter, B. L. (2009). Zlepseni kontroly krevniho tlaku jako vysledek spoluprace lekare a farmaceuta. [Czech] [Improving blood pressure control with physician/pharmacist collaboration]. *Vnitr Lek*, 55, 389-394.

IRENE Manuscript Submitted for Publication:

1) Daly, J. M., Ely, J. W., Levy, B. T., Smith, T. C., Merchant, M. L., Bergus, G. R., & Jogerst, G. J. (In submission). Family physicians' perspectives on management of skin and soft tissue infections: An Iowa Research Network study. *Journal of the American Board of Family Medicine.*

If you are interested in receiving a copy of any of the above publications, please email the request to IRENE@uiowa.edu.

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