

**Final summary of MRSA/SSTI Survey of Illinois Family Physicians
IDPH & IAFP
April 15, 2008**

I. Background:

The majority of community acquired bacterial infections are treated by primary care physicians, but these practices are not currently included in a systematic surveillance program focusing on antimicrobial resistant organisms in Illinois.

In order to characterize current clinical management of SSTI in patients outside of the hospital (including nursing home patients) by Family Physicians in Illinois, an electronic survey was conducted. In addition to general SSTI questions, there was a specific focus on Methicillin Resistant *Staphylococcus aureus* (MRSA).

The survey was distributed to Family Physicians who were members of the Illinois Academy of Family Physicians (IAFP).

II. Methods:

A. Survey tool

- An electronic survey was created using SurveyMonkey by the Illinois Department of Public Health (IDPH) and IAFP, with input from local health departments and the IAFP Public Health Committee. The survey focused on outpatient management of MRSA/SSTI.
- The survey consisted of 32 multiple-choice questions covering 10 areas of interest. A number of free text options were also offered.
- Completion of the survey by a physician required no more than 15 minutes.

B. Population surveyed

- According to IAFP data, 82% of practicing Family Physicians in Illinois are members. 75% of IAFP members have e-mail addresses.
- Surveys were distributed electronically to “Active IAFP Members” (i.e. practicing Family Physicians in Illinois, excluding members who were medical students, in residency training or retired). 2,300 physicians were sent an electronic link to the survey.
- The survey link was distributed to active IAFP members electronically three times, and remained open for completion from January 24, 2008 through February 22, 2008.

C. Data analysis

- The answer frequencies for multiple choice questions were tabulated by SurveyMonkey. These tabulations were compared to the raw data for accuracy.
- Answers from free text sections were compiled separately.

III. Response rate:

One hundred ninety-six (196) physicians completed the survey, for a response rate of 8.5% which is typical of IAFP electronic surveys.

IV. Geographic Distribution of Physician Respondents:

One hundred seventy (86.7%) of the respondents specified practice location at the county level. Physician practices were located in 45 counties, in both rural and urban settings. A Geographic Information System (GIS) map showing the distribution of respondents is included in this report on page 3.

Respondent distribution correlated with population density (based upon the 2000 census):

- 43.5% (74/170) of respondents practiced in Cook County (which has 44.7% of the Illinois population).
- 57% (97/170) had practice locations in the five most densely populated counties (Cook, DuPage, Kane, Lake, and Will counties, with 61.2% of the Illinois population).

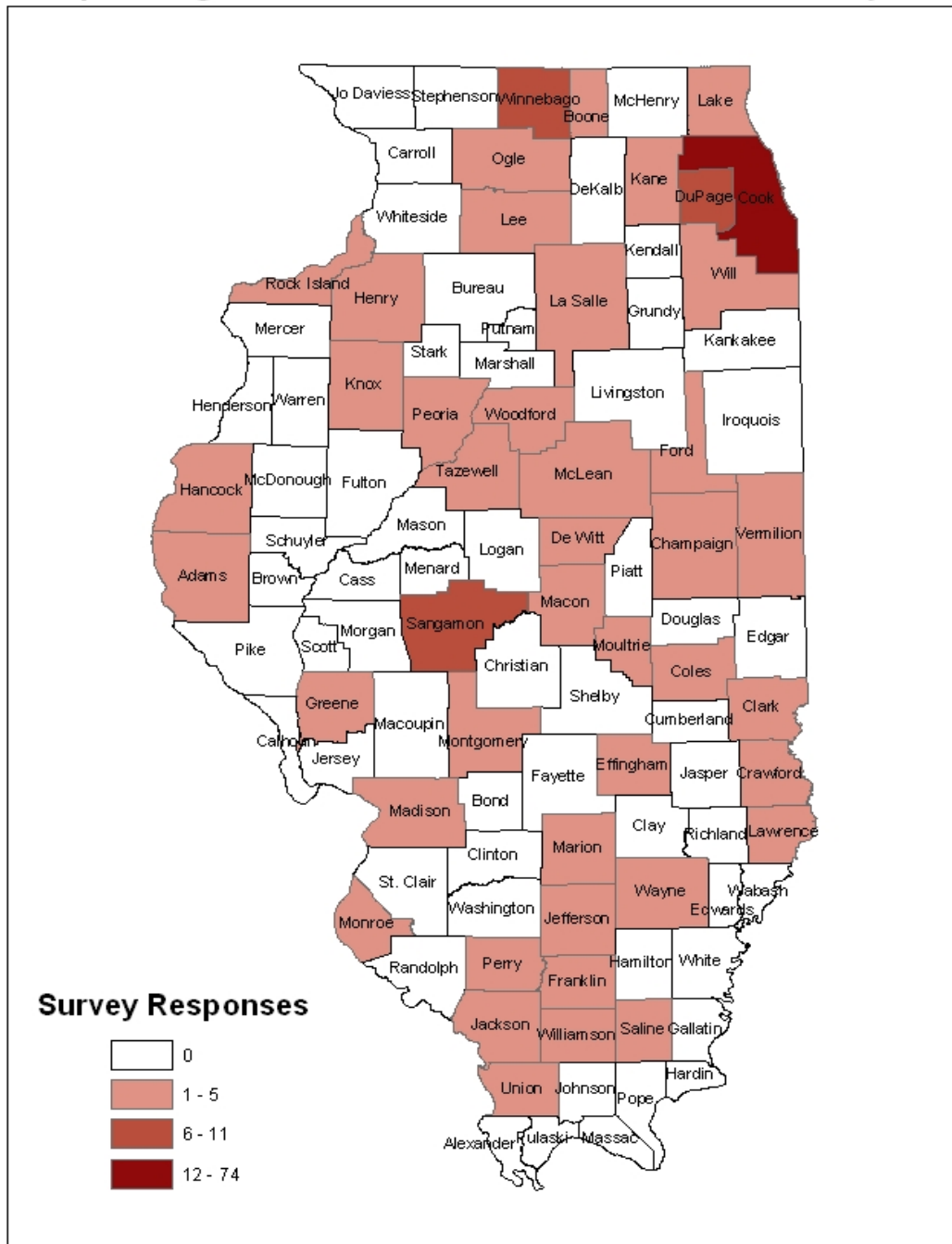
V. Limitations of the survey:

1. Only Family Physicians who were active members of the Illinois Academy of Family Physicians were surveyed.
2. The survey was conducted electronically. Members were required to have an e-mail address in order to participate.
3. The survey was subjective. No objective data (e.g. record review) was requested.
4. The response rate was 8.5% (196/2,300), which is fairly typical for IAFP electronic surveys. This number represents 5.2% of all practicing family physicians in Illinois*. The number of responses was too small to make generalizable statements regarding clinical management of MRSA/SSTI by Family Physicians in Illinois.

*Calculation:

- 2,300 active IAFP members with e-mail were surveyed, which was 75% of the 3,066 active members
- 3,066 active IAFP members were 82% of 3,739 Illinois Family Physicians estimated to be practicing when the survey was conducted
- $196/3,739 = 5.2\%$ of all practicing Illinois Family Physicians

Illinois Counties Represented by Family Physicians Completing IAFP-IDPH MRSA-SSTI Survey 2008



VI. Results:

1. Practice Characteristics:

- The majority (58.7%) of respondents were in practices with >5 physicians. The respondent practice size roughly correlated with practice size of Illinois Family Physicians (FPs) (all respondents answered this question):

Survey Respondent Practice Size	Percent of survey responses
Solo Practice	16.3%
2 to 5 physicians	25.0%
More than 5 physicians	58.7%

Illinois Family Physician Practice Size	Percent of Practices
Solo Practice	20%
2 Person Partnership	10%
Family Practice Group (usu. 3-8 FPs)	40%
Multi-Specialty Group	21%

- Two physicians responded that they have exclusively “house call” practices
- Nearly all respondents (91.8%) provided care to both children and adults
- Many physicians provided care in settings, or to populations, where the risk of SSTI transmission is high:



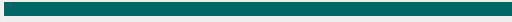
4. Do you provide care in these settings or for these groups (check all that apply)?			
		Response Percent	Response Count
Correctional facilities		5.8%	9
Skilled nursing, assisted living or long term care facilities		70.3%	109
Athletic teams or athletes		42.6%	66
Military personnel		9.7%	15
Urgent Care Center or Emergency Department		40.0%	62
	answered question		155
	skipped question		41

2. Burden of SSTI:

- Most physicians estimated that 1% (32.1%) or 2% - 5% (57.5%) of patients presenting for care each week have SSTI.
- Respondents were nearly evenly divided over whether the number of SSTI had increased during the prior calendar year. (48.2% answered yes, 37.8% said no).

3. Initial management of SSTI:

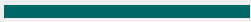
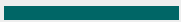



1. The majority of physicians (56.3%) responded that boils or abscesses were lanced and drained. However, 41.1% stated that this was only done “sometimes”.
2. 81.7% of physicians reported that laboratory testing is routinely performed on material obtained from boils or abscesses.
3. Hospital laboratories performed the laboratory testing for 52.2% of the physician practices. Independent laboratories such as Quest Diagnostics performed the remainder of the testing (47.8% of practices).
4. For physicians who routinely perform laboratory testing, the majority (98.3%) obtain culture and antimicrobial susceptibility.

9. If yes, which laboratory testing is performed (check all that apply)?				
			Response Percent	Response Count
Real Time Polymerase Chain Reaction (PCR)			6.9%	12
Culture			9.2%	16
Culture and antimicrobial susceptibility			98.3%	170
Other (Gram stain)				1
	answered question			173
	skipped question			23


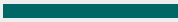



- The turn-around time for laboratory testing was 1 - 5 days for PCR, and 2 – 4 days for culture and antimicrobial susceptibility.

4. First-line Antibiotic Choice for SSTI:

- 87.4% of respondents initiate empiric antibiotic treatment for SSTI.


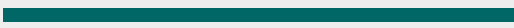
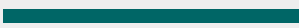
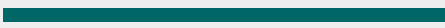


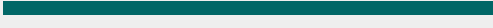

14. If yes, please check your antibiotic(s) of choice. (Empiric antibiotic choice for SSTI)			
		Response Percent	Response Count
Beta lactam (penicillins or cephalosporins)		40.9%	70
Clindamycin		30.4%	52
Macrolide (erythromycin, clarithromycin, azithromycin)		6.4%	11
Trimethoprim-sulfamethoxazole		66.1%	113
Tetracycline (minocycline, doxycycline)		40.0%	62
Other* (see below)			10
	answered question		171
	skipped question		25
	<u>*Free text answers for question 14:</u> <ul style="list-style-type: none"> • Quinolone: Levofloxacin (3), Ciprofloxacin (1) • Rifamycin: Rifampin (1), Rifampin with TMP/SMX (1) • Sometimes TMP/SMX with Augmentin • If significant cellulites, then use TMP/SMX • Antibiotics are probably not needed with good I & D 		

- 67.2% of respondents (189 physicians answered the question) prescribe antibiotics that cover MRSA as first-line treatment for SSTI (prior to culture results returning).

15. If yes, please check your antibiotic(s) of choice. (Empiric antibiotic choice for MRSA)			
		Response Percent	Response Count
Beta lactam (penicillins or cephalosporins)		5.2%	7
Clindamycin		34.1%	46
Macrolide (erythromycin, clarithromycin, azithromycin)		0.7%	1
Trimethoprim-sulfamethoxazole		83.0%	112
Tetracycline (minocycline, doxycycline)		14.8%	20
Other* (see below)			6
		answered question	135
		skipped question	61
		<p>*Free text answers for question 15:</p> <ul style="list-style-type: none"> • Quinolone: Levofloxacin (1) • Rifamycin: Rifampin (2), Rifampin with TMP/SMX (1) • Routinely use Duricef which may or may not cover MRSA • Only cover for MRSA if it is a boil or pustular-otherwise use a cephalosporin 	

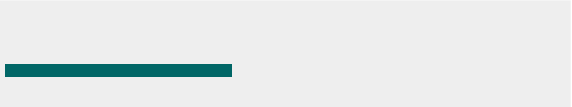
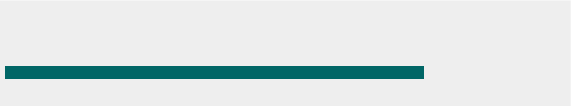
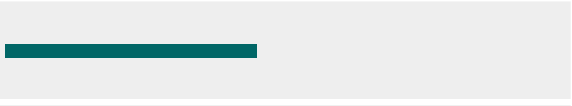

5. Screening for MRSA Exposure Risk Factors:

- 67.0% of respondents routinely screen for risk factors for MRSA infection in patients with SSTI.

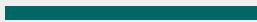
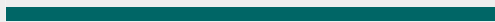


18. If yes, which risk factors (check all that apply)?			
		Response Percent	Response Count
Admission to nursing home or skilled nursing center		76.0%	98
Close contact or household member of person with MRSA		91.5%	118
Crowded living conditions (e.g. incarceration, military barracks)		54.3%	70
History of hospitalization in past 12 months		72.9%	94
History of invasive medical procedure in past 12 months		47.3%	61
Men who have sex with men		20.9%	27
Participation in contact sports		73.6%	95
Permanent indwelling catheters or devices that penetrate the skin		59.7%	77
	answered question		129
	skipped question		67

6. Decolonization:

- Only 19.7% of respondents routinely screen for MRSA colonization (36/183 answered yes to the question).
- For those who routinely screen for MRSA colonization, 97.8% obtain the specimen from the nares. Other sites sampled were: axilla (15.6%), groin (8.9%), rectum (6.7%), and throat (2.2%).

21. If yes to #19 (Do you routinely screen for MRSA colonization?), in which of the following patients (check all that apply)?			
		Response Percent	Response Count
Household members of patients with MRSA infection		35.7%	15
Patients with recurring SSTI caused by MRSA		78.6%	33
Patients with severe/systemic MRSA infection		40.5%	17
Residents of long term care, assisted living or skilled nursing facilities		45.2%	19
Other* (see below)			7
		answered question	42
		skipped question	154
		<p><u>*Free text answers to question 21</u></p> <ul style="list-style-type: none"> • All patients with confirmed MRSA are screened • A number of physicians mentioned hospital screening of ICU patients (2), pre-surgical patients (1), and all patients at hospital admission (1) 	




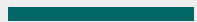
- Although most Family Physicians do not routinely screen for MRSA colonization, if a patient is found to be colonized with MRSA (e.g. during a hospital admission), then 60.8% of respondents would attempt decolonization (166 answered the question). A table listing preferred methods of decolonization is included on the next page.

23. If yes to #19 (Do you routinely screen for MRSA colonization?), which decolonization method would you employ (check all that apply)?			
		Response Percent	Response Count
Antimicrobial washes		52.8%	56
Intranasal mupirocin		90.6%	96
Rifampin		10.4%	11
Combination* (please describe)		6.6%	7
	answered question		106
	skipped question		90
	<u>*Free text answers to question 23</u> <ul style="list-style-type: none"> • Refer for decolonization • TMP-SMX with hibiclens washes and mupirocin intranasal • Intranasal mupirocin and hibiclens (2) • Bactrim bid • Mostly if pre-op • Sometimes add rifampin • Throat gargles as well as the above 		

- If MRSA decolonization is attempted, 56.9% of respondents would NOT obtain specimens post-decolonization to evaluate for clearance of the organism. 43.1% would evaluate for clearance (109 physicians answered this question).
- For those who would reculture a patient post-decolonization (62 physicians), the time frame for obtaining specimens post-decolonization was one month (40.0%), two weeks (38.3%), or one week (21.7%).
- If a patient remains colonized with MRSA post-decolonization, 56.4% of respondents would NOT attempt another round of decolonization. 43.6% of respondents would attempt another round of decolonization (101 physicians answered the question).
- Most respondents (46.2%) would attempt at most two rounds of decolonization. 42.3% would attempt only one round, and 11.5% would give three rounds of decolonization. No physicians responded that they would give more than three rounds of decolonization.


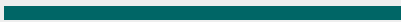



7. Observed Clusters of MRSA:

- 74.3% of respondents had not observed clusters of MRSA infections during the preceding 12 months (1/1/07 to 12/31/07). The definition of a cluster was “3 or more laboratory confirmed cases during a 14-day period in one setting, among family members, in a skilled nursing center, etc”.

29. If yes to #28 (Have you observed clusters of MRSA infection?), in which of the following settings (check all that apply)? NOTE: Only 44 physicians answered this question.			
		Response Percent	Response Count
Athletic Team		27.3%	12
Daycare		9.1%	4
Household		63.6%	28
Skilled nursing, assisted living or long term care facility		31.8%	14
Other*			7
		answered question	44
		skipped question	152
		<u>*Free text answers to question 29</u> <ul style="list-style-type: none"> • Jail • School • Hospital • Health club • MSM • Students using the recreation center facility at the university 	

- 59.5% of respondents would NOT notify the local health department if they detected a cluster of SSTI. 40.5% would notify the local health department (163 physicians answered the question).

8. Guidelines for Treatment Options:

31. Which source(s) do you utilize for guidance in management decisions for MRSA (check all that apply)?			
		Response Percent	
		Response Count	
Professional organizations such as AAFP, AAP, AMA, IAFP, IDSA		77.1%	138
Government agencies such as CDC or IDPH		67.6%	121
Colleague		43.0%	77
CME (published article or conference)		48.0%	86
Specific publication such as Red Book or Sanford		38.0%	68
Other*			15
	answered question		129
	skipped question		67
	<p><u>*Free text answers to question 31</u></p> <ul style="list-style-type: none"> • Hospital infectious disease committee • Infectious Disease Specialist (4) • Hospital Infection Control (2) • Hospital Pharmacy (most recent antimicrobial sensitivities) (2) • Up To Date (2) • Epocrates • I am unaware of real guidance at this time that is consistent for the outpatient setting • No real guidance available for urgent care settings 		

9. Additional Comments:

- I have attempted eradication of MRSA only on occasion when concern about nursing home isolation is a problem.
- We are seeing community acquired MRSA in people who have no risk factors. It's very random. Family members don't seem to get it.
- We are seeing a great increase in MRSA in healthy persons in their early 20's. They present with boils and abscesses on the buttocks often tunneling and very painful.
- I just moved from Illinois to San Diego on January 1, 2008. In Illinois I saw 1 to 2 MRSA skin and soft tissue infections daily, but I worked at a low socio-economic class clinic. Here, I work at a La Jolla clinic and have not seen any yet.
- My job is full time in hospital, and I am not sure if the hospital notifies the public health service if culture is positive for MRSA.
- The routine culturing of inpatients is a waste of resources.
- I haven't seen any clusters of SSTI MRSA infections.
- MRSA soft tissue infections seem to progress faster than non-MRSA cellulitis. It is a real concern.
- No question we are seeing more and more MRSA, though no cases that have been invasive. Each case has been SSTI, but they have been aggressive.
- MRSA is now a very common community acquired pathogen in my patient population. My practice is to treat all abscesses and boils with antibiotics that will cover MRSA.
- We try to get the patient's primary physician involved for follow-up, which is not the urgent care role.
- Have not yet used decolonization. Have not had recurrences after antibiotic treatment. Size of abscess or boil often determines approach for I & D or not. Patient willingness for I & D may be a barrier in some settings. Due to the heightened awareness of MRSA in the outpatient setting, in the last year the drainage from abscesses and boils has almost always been sent for C&S. And, trimethoprim-sulfamethoxazole is increasingly the first drug used.
- This topic is getting more attention than it probably deserves.
- If someone has cellulitis - I treat with bactrim or doxycycline empirically due to the MRSA rate of wound abscess cultures at 50 to 80% in our hospital ED.
- Our setting is a university health center. This is not a new problem for us. We see it frequently and treat early and aggressively. We see patients coming back to us from outside facilities that are treated w/ PCN and Cephalosporin with poor results and more likely to have complicated wounds
- Good concern, would like to have updated guidelines
- Big increase in community acquired MRSA occurs often in family/household clusters usually sensitive to bactrim.
- I do not think that decolonization is any longer recommended, given risk of re-colonization and antibiotic resistance.
- Inner city practice, urgent care, near Cook county jail - see lots of prisoners and household contacts of prisoners. MRSA is endemic in our population - doubt it does any good to attempt to detect and treat colonization.
- This is a rapidly growing problem. The biggest problem is colonization of family members, teammate etc. There is no good information on how to deal with that.
- We do see a significant amount of MRSA. A majority of MRSA in the community is highly sensitive to other common antibiotics and easily eradicated. We do occasionally see some highly resistant MRSA infections. These are difficult for us and our infectious disease consultants to treat particularly because our antibiotic susceptibility panels are missing the drugs that we use to treat these organisms.

- VII. Brief summary of results: [196 physicians completed the survey, (#) = # of physicians]
1. Family Physicians serve in settings, or care for populations, where patients are likely to have MRSA and SSTI (P.4).
 2. The majority of respondents (108) routinely perform incision and drainage on boils or abscesses. However, many others (79) reported that this was only performed “sometimes” or never (5) (P.5). 156 respondents submit specimens from SSTI for laboratory testing, most commonly culture and antimicrobial susceptibility (P.5).
 3. The majority of respondents (166) prescribe empiric antibiotics for SSTI (P.6). Many physicians selected clindamycin (52), trimethoprim-sulfamethoxazole (113), or tetracycline (22), which cover MRSA, as a first-line antibiotic (P.7).
 4. The majority of respondents (126) routinely screen for risk factors for MRSA in patients with SSTI. However, a number of high risk groups (e.g. MSM, persons in crowded living conditions such as military barracks, persons with recent invasive medical procedures, etc) were missed by many of the physicians (P.8).
 5. The majority of respondents (147) did NOT screen for MRSA colonization, but if a patient was found to be colonized, many physicians (101) felt obligated to attempt decolonization. For those who did routinely perform screening (36), patients with recurrent MRSA SSTI infections were most likely to be screened for colonization in the outpatient setting (P.9).
 6. Intranasal mupirocin (96) and/or antimicrobial washes (56) were the most commonly used methods of decolonization, when it was attempted (P.10).
 7. Most respondents (62) would NOT obtain specimens for culture after attempting decolonization. However, if a patient remained colonized with MRSA following decolonization, some respondents would attempt one (36) to two (9) additional rounds of decolonization (P. 10).
 8. Most respondents (133) had not observed clusters of MRSA infections. If clusters were noted, the majority of respondents (97) would NOT notify the local health department (P. 11).
 9. Professional organizations (138) and government agencies (121) were the most common sources utilized for guidance in management decisions for MRSA. A number of physicians felt that there were no established guidelines, particularly regarding decolonization in the outpatient setting (P. 12).

VIII. Conclusions:

1. Generalizable conclusions about the clinical management of MRSA/SSTI by Family Physicians in Illinois cannot be made based upon the results of this survey because the number of respondents was too small. However, the results are very interesting, with responses from physicians distributed across the state, and give some insight into FP practices (similar to a focus group).
2. Family Physicians are likely to encounter SSTI and MRSA in their daily work. It is important that this group have clear guidance regarding appropriate management of these infections. A continuing medical education program will assist with this goal.
3. This survey identified several areas where clinical practice may not follow current guidelines for management of SSTI/MRSA:
 - a. Need to perform incision and drainage for abscesses whenever possible
 - b. Need to submit specimens for culture and antimicrobial susceptibility
 - c. Appropriate empiric antibiotic selection
 - d. Screening for MRSA risk factors
 - e. Need to notify the local public health department when clusters are identified
4. There is a need for clinical guidance regarding screening for MRSA colonization (under what circumstances, from which body site, etc) and appropriate decolonization (if any) in the outpatient setting.
5. A number of questions were asked solely to obtain information for IDPH, and to inform future clinical guidance from that agency (e.g. the turn-around time for lab test results, the number of rounds of decolonization a physician would attempt).

IX. Recommendations:

1. Share the results of the survey with the IAFP Public Health Committee, IAFP Executive Board, IAFP membership, and local public health agencies within Illinois.
2. Create a continuing medical education program for primary care physicians, with a focus on the outpatient management of SSTI and MRSA.
3. Guidance regarding screening criteria for MRSA colonization and the appropriate approach to decolonization (if any) must be developed.

X. Acknowledgements:

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