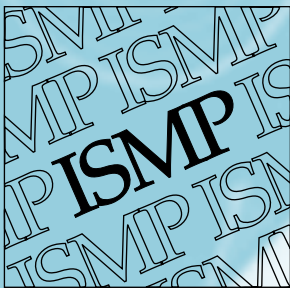


PRELIMINARY COMPARATIVE DATA FROM THE ISMP MEDICATION SAFETY SELF ASSESSMENT

A quality improvement workbook for study participants



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DEAR RESPONDENT:

The Institute for Safe Medication Practices (ISMP) is pleased to provide you with preliminary findings from the ISMP® Medication Safety Self Assessment™ and a quality improvement workbook to assist you in your efforts to prevent medication errors. Your hospital has demonstrated an exemplary commitment to medication safety by completing the self-assessment and submitting your findings to ISMP. Now, as promised, we have compiled comparative data to help you prioritize your ongoing medication error reduction efforts. Please rest assured that your name and the name of your organization are not linked to the data you submitted. Names were used only to generate a mailing label in order to provide you with access to this workbook, which was made possible through a grant from the Commonwealth Fund.

The workbook includes an aggregate profile of hospital respondents, a list of the maximum weighted scores possible for each representative self-assessment characteristic and aggregate comparative reports on the key elements and core distinguishing characteristics of safe medication practices. Directions for interpreting the reports and worksheets are also included to help you use the data to establish medication safety priorities.

We encourage you to share the workbook with the team you assembled to complete the self-assessment, or a similar committee, and use the data to compare your organization to other demographically similar hospitals. However, please do not rely upon your standing compared to others to decide *whether* you need to improve medication safety in certain areas. All scores are relative and cannot be used to predict which hospitals are safe. Thus, if your performance is better than others, do not be lulled into complacency. Instead, use the comparative data to stimulate your ongoing efforts to fully implement all the medication error reduction strategies suggested in the self-assessment.

You will notice that the workbook includes only preliminary data and does not include an in-depth analysis of the data. During the next several months, we will be working with statisticians and researchers to thoroughly analyze the data. Shortly thereafter, we plan to publish our findings in a professional journal. We will keep you informed of our progress through periodic briefings in the *ISMP Medication Safety Alert!* and on our web site at www.ismp.org.

While it is important to widely disseminate and use the workbook and preliminary data from the ISMP® Medication Safety Self Assessment™ within your organization, please refrain from publishing or distributing the data externally. Unauthorized release of the data, which is protected by copyright, may result in misinterpretation and could jeopardize our ability to publish the results of our comprehensive analysis in a peer-reviewed journal where the healthcare community at large can benefit from all that has been learned. If you receive questions from outside your organization regarding the data, please feel free to direct them to the American Hospital Association (AHA) or ISMP.

Again, we thank you for participating in the ISMP® Medication Safety Self Assessment™ and commend you for submitting your findings to us. We are well aware of the challenges you faced in both completing the assessment and sharing your findings. The ultimate goal of the ISMP® Medication Safety Self Assessment™ has been to heighten awareness of distinguishing characteristics of a safe medication system and to create a baseline of hospital medication safety efforts that can be evaluated over time. Additionally, ISMP and AHA plan to use the analysis of aggregate data to develop curricula to support your ongoing efforts to enhance medication safety. Without your help, we would not be able to achieve these goals. In the end, we firmly believe that your collective willingness to share your assessment of medication safety will ultimately restore the public's confidence as we work together to make our healthcare systems safer and more efficient.

Sincerely,



Michael R. Cohen, MS, RPh, FASHP
*President, Institute for Safe
Medication Practices*

ABOUT THE INSTITUTE FOR SAFE MEDICATION PRACTICES AND THE ISMP® MEDICATION SAFETY SELF ASSESSMENT™

As a nonprofit organization, ISMP is well known as an education resource for the prevention of medication errors. The Institute provides independent, multidisciplinary, expert review of errors reported through the U.S. Pharmacopeia (USP) – ISMP Medication Errors Reporting Program (MERP). In May 2000, ISMP sent the ISMP® Medication Safety Self Assessment™ to Directors of Pharmacy using a list compiled by the American Hospital Association (AHA) of 6180 U.S. hospitals. The self-assessment tool was designed to heighten awareness of distinguishing characteristics of a safe medication system, and to create a baseline of hospital efforts to enhance the safety of medications and evaluate these efforts over time. Hospitals were encouraged to complete this self-assessment and submit their findings confidentially to ISMP. While we are unable to estimate how many U.S. hospitals completed the self-assessment, about a quarter of all hospitals chose to participate in this nationwide project by submitting their findings to ISMP for research and education purposes.

ISMP is not a standard setting organization. As such, the self-assessment characteristics in the ISMP® Medication Safety Self Assessment™ are not purported to represent a minimum standard of practice and should not be considered as such. In fact, many of the self-assessment characteristics represent innovative practices and system enhancements that are not widely implemented in most hospitals. In many respects, the self-assessment tool represents the ideal attainment of a safe medication system, not a minimum standard of care.

EXPLANATION OF WEIGHTED SCORES

Hospitals that submitted self-assessment data to ISMP received numerical, weighted scores for each of the representative self-assessment criteria, sub-totals for each of the core distinguishing characteristics and key elements, and a total score for the self-assessment. To determine a weight for each representative self-assessment characteristic, ISMP staff used a standard process to independently evaluate each to determine its impact on patient safety and its ability to sustain improvement.

Therefore, the self-assessment characteristics with the highest weight are those that:

- Target the system, not the workforce;
- Do not rely heavily upon human memory and vigilance;
- Demonstrate through scientific evidence that they are effective in reducing serious medication errors;
- Solve several medication-error related problems at the same time;
- Prevent errors with high-alert medications that have the greatest potential to cause patient harm;
- Simplify complex, error-prone processes;
- Safeguard high-risk patient populations; and
- Make it hard for healthcare practitioners to do their job wrong, and easy for them to do it right.

Some of the self-assessment characteristics were weighted in a way that resulted in no numerical score (0 value) unless there was full implementation of the characteristic throughout the organization. Self-assessment characteristic # 6 is an example:

- Orders cannot be entered into the pharmacy computer system until the patient's allergies have been properly entered and coded (patient allergies are a required field).

As demonstrated with the example above, self-assessment characteristics that cannot be partially implemented or have little or no value unless fully implemented fall into this category and were weighted accordingly.

DEFINITIONS

(for purposes of the ISMP® Medication Safety Self Assessment™ tool and findings)

MAXIMUM POSSIBLE WEIGHTED SCORE

The highest numerical score assigned during the weighting process to each key element, core distinguishing characteristic, and representative self-assessment characteristic; the highest score possible.

MEAN WEIGHTED SCORE

The average weighted numerical score achieved by respondents. This score is directly comparable with the weighted scores that appear on your computer-generated survey form, which was created when you submitted data to ISMP.

PERCENT OF MAXIMUM WEIGHTED SCORE

The mean weighted score reported as a percentage of the maximum numerical score possible. While this percentage is not directly comparable with the weighted scores that appear on your computer-generated survey form, the percentages offer you an opportunity to view collective performance within a familiar "report card" context. To directly compare your numerical scores with the percent of maximum weighted scores in the tables provided, you must divide your numerical weighted score by the maximum possible weighted score and multiple the results by 100.

MEAN TOTAL ASSESSMENT SCORE

The mean numerical score achieved by respondents for each of the key elements and the self-assessment tool in its entirety.

AGGREGATE DATA

A compilation of individual data submitted by hospitals to represent the whole; collective results.

RESPONDENT PROFILE

Below is an aggregate snapshot of the hospitals that chose to submit data from the ISMP® Medication Safety Self Assessment™ to a confidential, national data base managed by ISMP for education and research purposes only. Demographic statistics for all U.S. hospitals on the original mailing list are included for comparison. Overall, demographics of respondent hospitals are similar with respect to all U.S. hospitals in many of the categories listed. However, there are a few notable differences. Compared to all U.S. hospitals, respondents were less likely to be government controlled and under 100 beds, and more likely to be nonprofit and of a general medical/surgical type.

Response rate

Total respondents: 1435

Response rate: 23%

(based upon the total number of self-assessment tools sent to hospitals in the initial mailing)

Respondent profile compared to the national profile

<i>Bed size</i>	<i>Respondents</i>	<i>National comparison**</i>
< 100	35%	47%
100-299	41%	37%
>300	24%	16%
<i>Setting</i>	<i>Respondents</i>	<i>National comparison**</i>
Rural	47%	40%
Urban	53%	60%
<i>Region</i>	<i>Respondents</i>	<i>National comparison**</i>
West	14%	18%
Midwest	35%	28%
Northeast	15%	15%
South	36%	38%
<i>Ownership</i>	<i>Respondents</i>	<i>National comparison**</i>
For profit	8%	18%
Nonprofit	75%	53%
Government	17%	29%
<i>Physician training program</i>	<i>Respondents</i>	<i>National comparison**</i>
Yes	30%	23%
No	70%	77%
<i>Part of a larger healthcare system</i>	<i>Respondents</i>	<i>National comparison**</i>
Yes	57%	51%
No	43%	49%
<i>Type of hospital</i>	<i>Respondents</i>	<i>National comparison**</i>
General medical/surgical	91%	82%
All others ^a	9%	18%

**National comparisons taken from: Annual Survey Database fiscal year 1999, Health Forum LLC, An American Hospital Association Company, copyright 2000.

^aExamples of others include oncology, pediatric, and psychiatric hospitals.

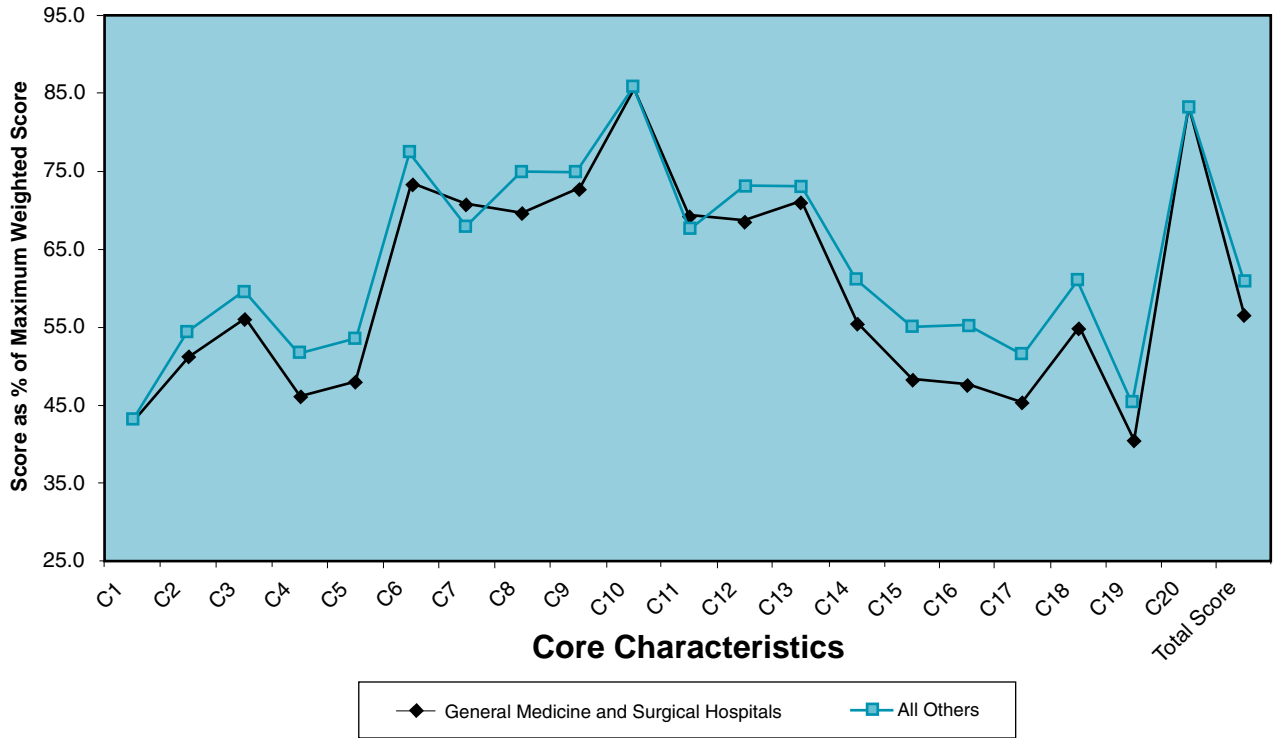
Graphic Display of Core Distinguishing Characteristics Stratified by Bed Size, Setting, Region, Physician Training Program, Pharmacy Residency Program, and Type of Hospital

Information presented graphically is often easier to interpret at a glance. Therefore, graphs that display aggregate performance within the core distinguishing characteristics of a safe medication system have been provided. Technically, bar graphs would be the most appropriate chart to use for this purpose. However, we have chosen to use line graphs simply because the similarities and differences between performance are more obvious at a glance. However, please note that each data point is discrete and there is no relationship between adjacent data points. Each line graph presents a comparison of performance between demographically *dissimilar* hospitals based upon the following parameters:

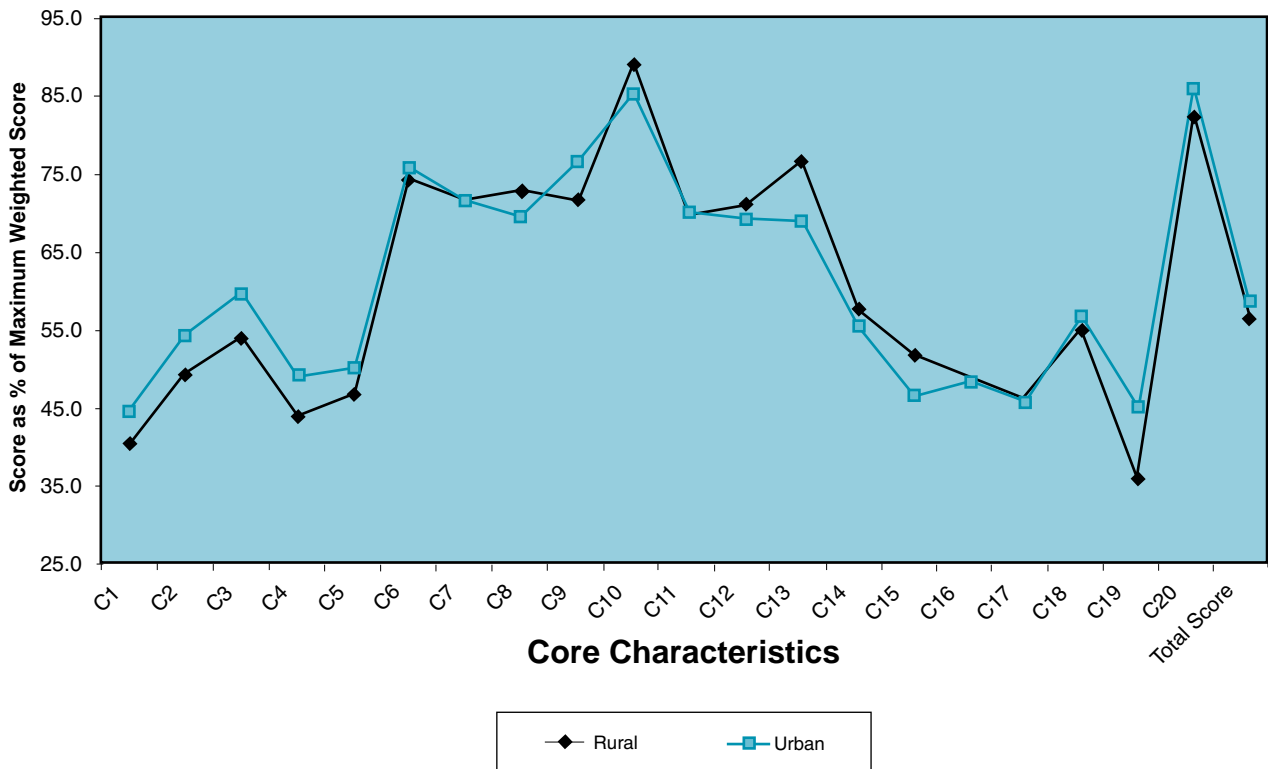
- bed size;
- rural or urban setting;
- four geographical regions in the U.S.;
- physician training program;
- pharmacy residency program; and
- type of hospital.

Your weighted scores for each core distinguishing characteristic are not directly comparable to the graphic display of aggregate performance on each chart. Our purpose for providing the data in this format is to demonstrate, quickly and visually, the minimal variation between demographically *dissimilar* hospitals.

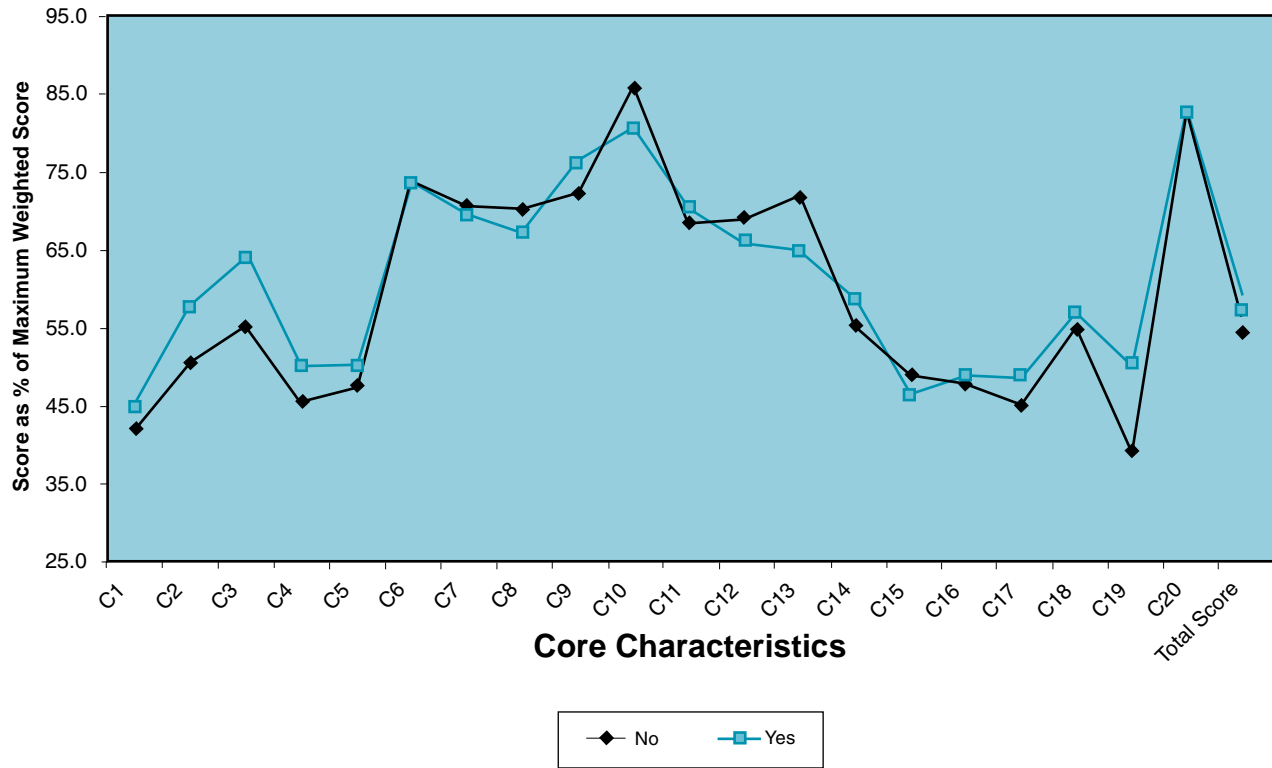
Core Characteristic by Type of Hospital



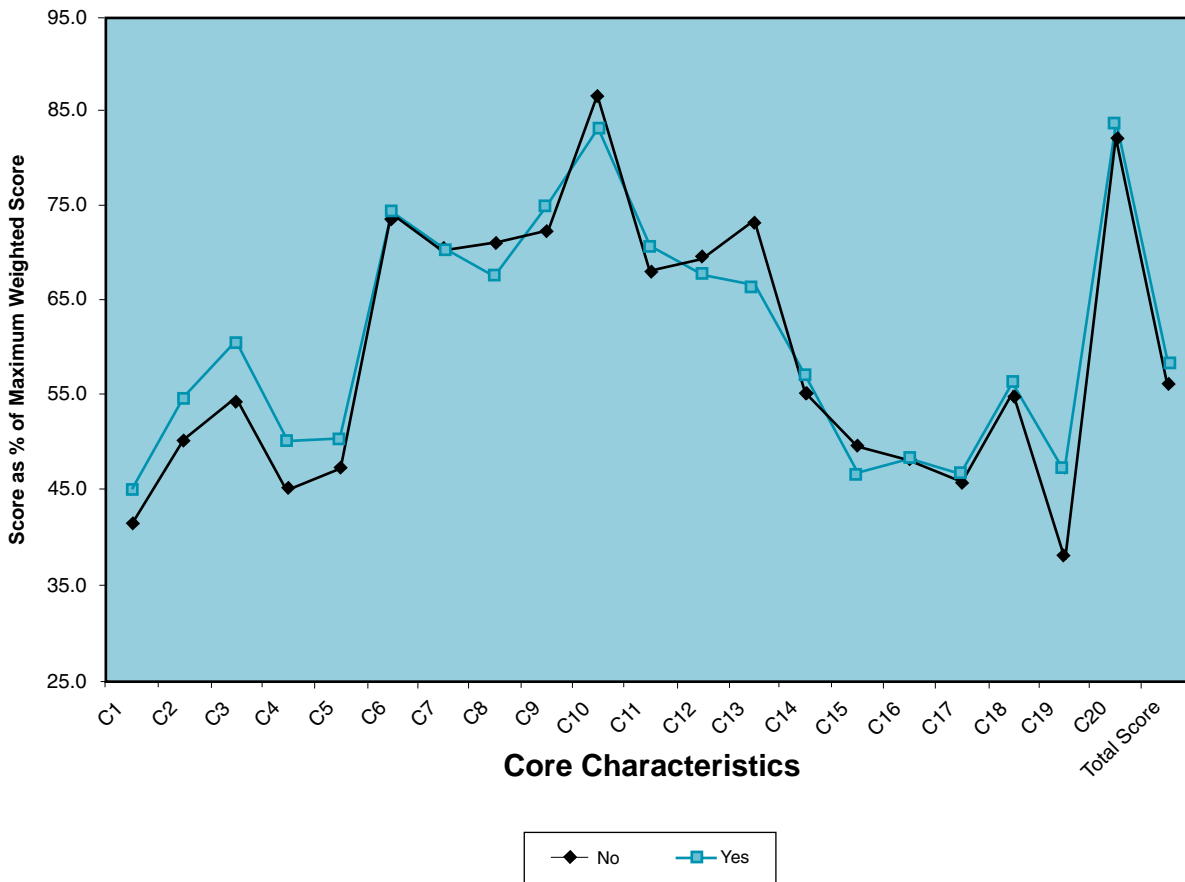
Core Characteristic by Setting



Core Characteristic by Pharmacy Residency Program

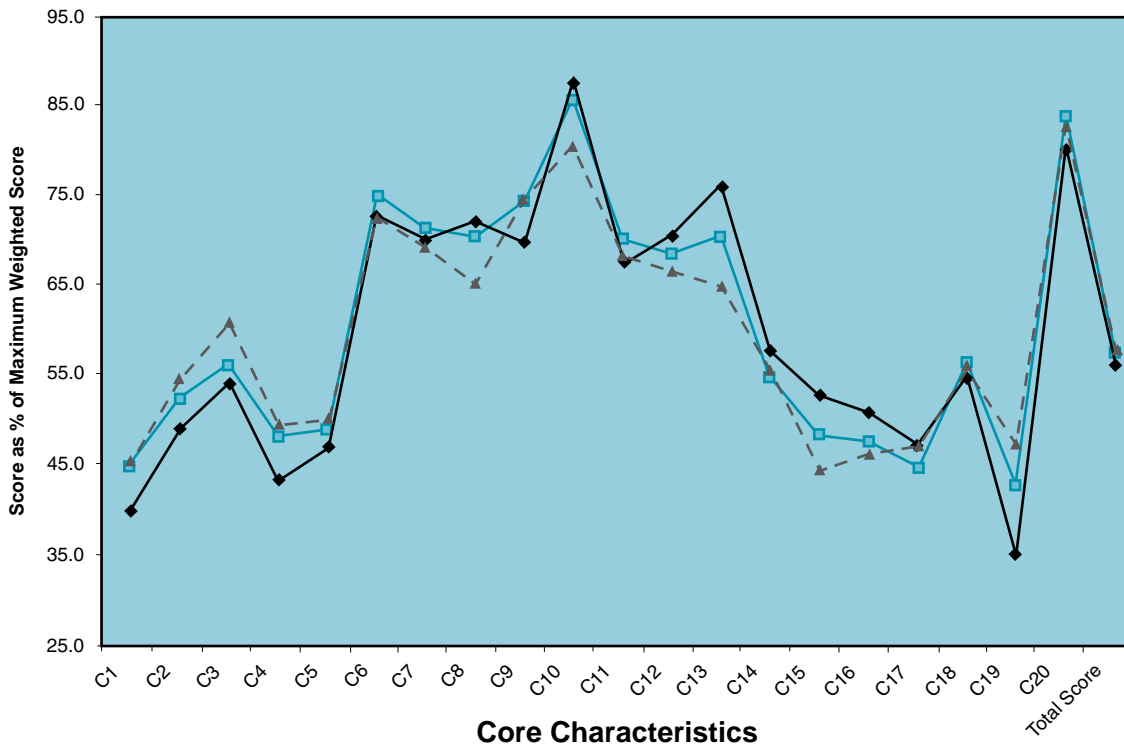


Core Characteristic by Physician Training Program

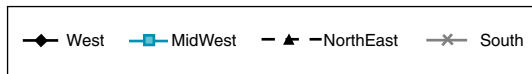
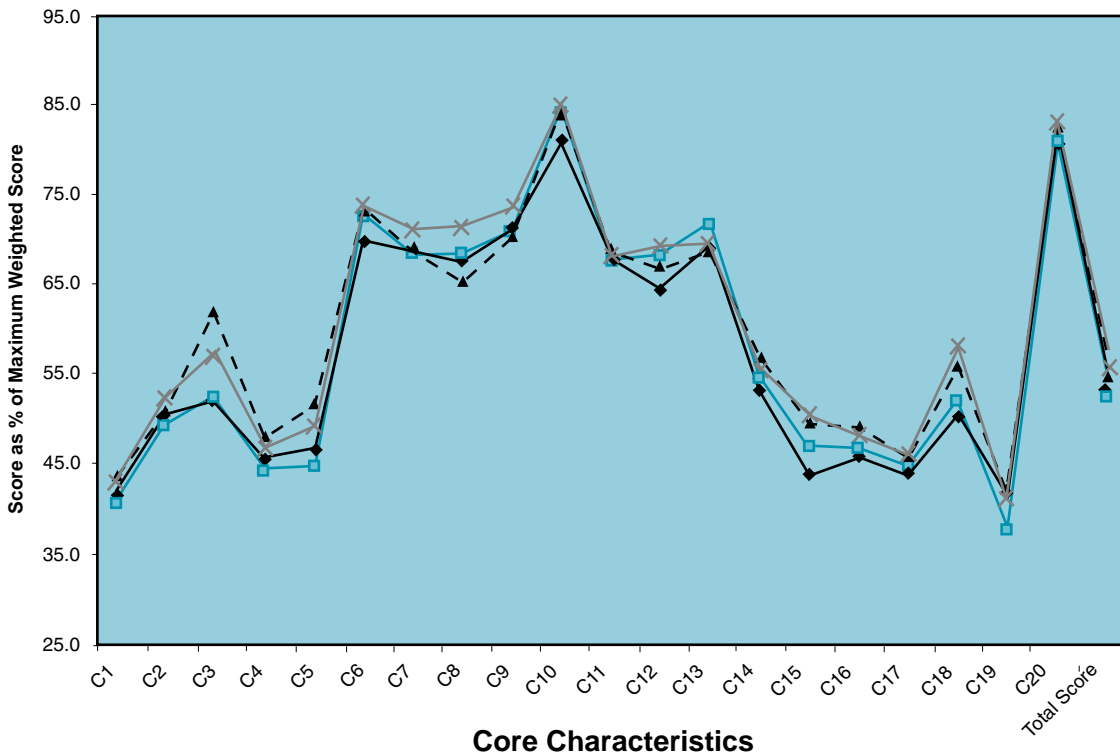


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Core Characteristic by Bedsize



Core Characteristic by Region



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SECTION I: Worksheet for Key Elements of Medication Use

The ISMP® Medication Safety Self Assessment™ is divided into ten key elements that most significantly influence safe medication use. Based on the research and experience of ISMP and others, we believe that weaknesses in these key elements are at the root of medication errors. For reference, a brief description of the ten key elements appears in the Appendix. For each key element, Table I (page 12) provides:

- the maximum possible, weighted score (note: the maximum score was obtained by using the highest possible weighted scores for self-assessment characteristics with part A and B questions);
- the mean weighted score for all respondents;
- the mean weighted score as a percentage of the maximum possible weighted score; and
- the mean total assessment score for all respondents.

The data are further stratified by bed size, setting, and physician training program to allow better comparison against demographically similar organizations.

The greatest opportunities for improvement among *all* respondents are within the following key elements, which are listed in order beginning with the lowest score as a percentage:

<i>Key Elements</i>	<i>Mean % of the Maximum Weighted Score</i>
I. Patient Information	43%
II. Drug Information	53%
III. Communication of Drug Orders	46%
IX. Patient Education	48%
X. Quality Process and Risk Management	51%

USING THE KEY ELEMENT WORKSHEET I

Step 1: Use your computer-generated survey results form, which was created when you submitted data to ISMP, to transfer your total weighted scores for each key element onto Worksheet I on page 13.

Step 2: Convert your weighted scores into a percent of the maximum possible weighted score using the following formula:

Your weighted score *divided* by the maximum possible weighted score (found on Worksheet I and Table I) *multiplied* by 100 *equals* your score as a percent of the maximum possible weighted score.

Example

Your weighted score for key element # 3 = 48

The maximum possible weighted score for key element # 3 = 92

48 divided by 92 multiplied by 100 = 52%

Insert your percent of the maximum possible weighted score onto Worksheet I.

Step 3: List your facility's bed size and setting in the spaces provided on Worksheet I. Circle *Yes* or *No* to indicate if your hospital provides physician training.

Step 4: On Table I, page 12, highlight the *mean weighted scores* and the *% of maximum weighted scores* for key elements in institutions that are demographically similar to your hospital.

Step 5: Using Table I, list the highlighted scores for each key element of demographically similar hospitals in the spaces provided on Worksheet I.

Step 6: Compare your weighted scores with the aggregate results of all respondents and those that are demographically similar to your hospital.

Step 7: List on the bottom of Worksheet I the key elements with the greatest opportunities for improvement in your hospital. These may include key elements with the lowest scores (as a percent of the maximum possible weighted scores) as well as those where your score was low in comparison to other demographically similar hospitals. **Remember all scores are relative and cannot be used to predict which hospitals are safe. Thus, if your performance is better than others, do not be lulled into complacency. Instead, use the comparative data to stimulate your ongoing efforts to fully implement all the medication error reduction strategies suggested in the self-assessment.**

TABLE I
Key Elements of Medication Use Stratified by Bed Size, Setting, and
Physician Training Program: AGGREGATE RESPONDENT SCORES

Key Element	I Patient Information	II Drug Information	III Communication	IV Drug Labeling	V Drug Storage	VI Devices	VII Environment	VIII Staff Education	IX Patient Education	X Q/IRM	Total
Maximum possible weighted score	100	152	92	80	192	72	92	108	52	300	1240
Bed Size											
<100 beds mean weighted score	39.6	76.5	39.5	47.8	139.3	48.6	67.5	60.1	26.2	147.3	692.3
% of maximum weighted score	40%	50%	43%	60%	73%	68%	73%	56%	50%	49%	56%
100-299 beds mean weighted score	44.2	80.9	44.0	49.5	143.0	50.4	63.9	56.2	24.5	152.8	709.4
% of maximum weighted score	44%	53%	48%	62%	75%	70%	69%	52%	47%	51%	57%
≥300 beds mean weighted score	44.7	85.3	45.2	48.8	138.9	49.1	60.3	55.1	23.8	158.0	709.2
% of maximum weighted score	45%	56%	49%	61%	72%	68%	66%	51%	46%	53%	57%
Setting											
Rural mean weighted score	40.6	76.5	40.5	47.8	139.6	49.3	66.6	59.1	25.0	148.0	692.9
% of maximum weighted score	41%	50%	44%	60%	73%	69%	72%	55%	48%	49%	56%
Urban mean weighted score	44.5	83.9	44.7	49.6	141.6	49.5	62.3	55.8	24.9	155.7	712.5
% of maximum weighted score	45%	55%	49%	62%	74%	69%	68%	52%	48%	52%	58%
Physician Training Program											
No mean weighted score	41.7	78.2	41.2	48.3	140.7	48.9	65.6	57.4	24.9	149.5	696.3
% of maximum weighted score	42%	51%	45%	60%	73%	68%	71%	53%	48%	50%	56%
Yes mean weighted score	45.0	85.4	46.0	49.7	140.8	50.7	61.5	57.3	25.0	158.3	719.6
% of maximum weighted score	45%	56%	50%	62%	73%	70%	67%	53%	48%	53%	58%
Grand Totals											
mean weighted score	42.7	80.4	42.7	48.7	140.7	49.4	64.3	57.3	24.9	152.1	703.3
% of maximum weighted score	43%	53%	46%	61%	73%	69%	70%	53%	48%	51%	57%

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Key Elements Worksheet I

Key Element	I Patient Information	II Drug Information	III Communication	IV Drug Labeling	V Drug Storage	VI Devices	VII Environment	VIII Staff Education	IX Patient Education	X QI/RM	Total
Maximum possible weighted score	100	152	92	80	192	72	92	108	52	300	1240
Individual Hospital Scores											
List your total weighted scores for each key element											
List your calculated % of the maximum possible weighted score											
Aggregate Respondent Scores											
Your Bed Size: _____											
List applicable mean weighted respondent scores											
List applicable % of maximum weighted respondent scores											
Your Setting: _____											
List applicable mean weighted respondent scores											
List applicable % of maximum weighted respondent scores											
Physician Training: Y N											
List applicable mean weighted respondent scores											
List applicable % of maximum weighted respondent scores											
Individual Hospital Key Element Opportunities for Improvement											

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SECTION II: Worksheet for Core Distinguishing Characteristics

Each of the ten key elements of the ISMP® Medication Safety Self Assessment™ is further defined by one or more core distinguishing characteristics of a safe medication system. For reference, a list of the 20 core distinguishing characteristics appears in the Appendix. For each core distinguishing characteristic, Table II (page 16) provides:

- the maximum possible, weighted score (note: the maximum score was obtained by using the highest possible weighted scores for self-assessment characteristics with part A and B questions);
- the mean weighted score for all respondents; and
- the mean weighted score as a percentage of the maximum possible weighted score.

The data are further stratified by bed size, setting, and physician training program to allow better comparison with demographically similar organizations.

The greatest opportunities for improvement among *all* respondents are within the following core distinguishing characteristics, which are listed in order beginning with the lowest score as a percentage:

<i>Core Distinguishing Characteristics</i>	<i>Associated Key Elements</i>	<i>Mean % of the Maximum Weighted Score</i>
Core #19: Simple redundancies that support a system of independent double checks or an automated verification process are used for vulnerable parts of the medication system to detect and correct serious errors before they reach patients.	Quality Processes and Risk Management	41%
Core #1: Essential patient information is obtained, readily available in useful form, and considered when prescribing, dispensing, and administering medications.	Patient Information	43%
Core #4: Methods of communicating drug orders and other drug information are standardized and automated to minimize the risk for error.	Communication Related to Medications	46%
Core #17: A non-punitive, system-based approach to error reduction is in place and supported by management, senior administration, and the Board of Trustees/Directors.	Quality Processes and Risk Management	46%
Core #16: Patients are included as active partners in their care through education about their medications and ways to avert errors.	Patient Education	48%
Core #5: Strategies are undertaken to minimize the possibility of errors with products that have similar or confusing manufacturer labeling/packaging and/or drug names that look and sound alike.	Drug Labeling, Packaging, and Nomenclature	48%
Core #15: Practitioners involved in medication use are provided with ongoing education about medication error prevention and safe use of drugs that have the greatest potential to cause harm if misused.	Staff Competency and Education	49%
Core #2: Essential drug information is readily available in useful form and considered when ordering, dispensing, and administering medications.	Drug Information	52%
Core #18: Practitioners are stimulated to detect and report errors, and multidisciplinary teams regularly analyze errors that have occurred within the organization and in other organizations for the purpose of redesigning systems to best support safe medication practices.	Quality Processes and Risk Management	55%

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USING THE CORE DISTINGUISHING CHARACTERISTIC WORKSHEET II

Step 1: Use your computer-generated survey results form, which was created when you submitted data to ISMP, to transfer your total weighted scores for each core distinguishing characteristic onto Worksheet II on page 17.

Step 2: Convert your weighted scores into a percent of the maximum possible weighted score using the following formula:

Your weighted score *divided* by the maximum possible weighted score (found on Worksheet II and Table II) *multiplied* by 100 *equals* your score as a percent of the maximum possible weighted score.

Example:

Your weighted score for core distinguishing characteristic # 2 = 48

The maximum possible weighted score for core distinguishing characteristic # 2 = 108

48 divided by 108 multiplied by 100 = 44%

Insert your percent of the maximum possible weighted score onto Worksheet II.

Step 3: List your facility's bed size and setting in the spaces provided on Worksheet II. Circle *Yes* or *No* to indicate if your hospital provides physician training.

Step 4: On Table II, page 16, highlight the *mean weighted scores* and the *% of maximum weighted scores* for each core distinguishing characteristics in institutions that are demographically similar to your hospital.

Step 5: Using Table II, list the highlighted scores for each core distinguishing characteristic of demographically similar hospitals in the spaces provided on Worksheet II.

Step 6: Compare your weighted scores with the aggregate results of all respondents and those that are demographically similar to your hospital.

Step 7: List on the bottom of Worksheet II the core distinguishing characteristics with the greatest opportunities for improvement in your hospital. These may include core distinguishing characteristics with the lowest scores (as a percent of the maximum possible weighted scores) as well as those where your score was low in comparison to other demographically similar hospitals. **Remember all scores are relative and cannot be used to predict which hospitals are safe. Thus, if your performance is better than others, do not be lulled into complacency. Instead, use the comparative data to stimulate your ongoing efforts to fully implement all the medication error reduction strategies suggested in the self-assessment.**

TABLE II
Core Distinguishing Characteristics Stratified by Bed Size, Setting, and
Physician Training Program: AGGREGATE RESPONDENT SCORES

Related Key Elements	I		II		III		IV				V				VI		VII		VIII		IX		X				Total
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20							
Maximum possible weighted score	100	108	44	92	40	40	28	44	96	24	72	44	48	68	40	52	112	88	72	28	1240						
Bed Size																											
<100 beds mean weighted score	39.6	52.8	23.7	39.5	18.7	29.1	19.6	31.7	67.0	21.0	48.6	31.0	36.5	39.1	21.0	26.2	52.3	47.7	24.8	22.5	692.3						
% of maximum weighted score	40%	49%	54%	43%	47%	73%	70%	72%	70%	88%	68%	71%	76%	58%	52%	50%	47%	54%	34%	80%	56%						
100-299 beds mean weighted score	44.2	56.4	24.6	44.0	19.5	30.0	20.0	31.0	71.4	20.5	50.4	30.1	33.8	37.0	19.2	24.5	49.6	49.3	30.5	23.5	709.4						
% of maximum weighted score	44%	52%	56%	48%	49%	75%	71%	71%	74%	86%	70%	68%	70%	55%	48%	47%	44%	56%	42%	84%	57%						
>300 beds mean weighted score	44.7	58.6	26.7	45.2	19.8	29.1	19.4	28.7	71.5	19.3	49.1	29.2	31.1	37.5	17.6	23.8	52.2	48.8	33.8	23.2	709.2						
% of maximum weighted score	45%	54%	61%	49%	49%	73%	69%	65%	75%	81%	68%	67%	65%	55%	44%	46%	47%	55%	47%	83%	57%						
Setting																											
Rural mean weighted score	40.6	53.0	23.5	40.5	18.6	29.2	19.7	31.5	67.5	20.9	49.3	30.6	36.0	38.6	20.5	25.0	51.6	47.9	25.9	22.6	692.9						
% of maximum weighted score	41%	49%	54%	44%	47%	73%	70%	72%	70%	87%	69%	70%	75%	57%	51%	48%	46%	54%	36%	81%	56%						
Urban mean weighted score	44.5	58.0	25.9	44.7	19.9	29.7	19.7	30.0	71.9	20.0	49.5	29.9	32.4	37.2	18.5	24.9	50.8	49.2	32.2	23.5	712.5						
% of maximum weighted score	45%	54%	59%	49%	50%	74%	70%	68%	75%	84%	69%	68%	68%	55%	46%	48%	45%	56%	45	84%	58%						
Physician Training Program																											
No mean weighted score	41.7	54.2	24.0	41.2	18.9	29.4	19.7	31.2	69.1	20.7	48.9	30.4	35.1	37.5	19.8	24.9	50.9	48.3	27.4	22.9	696.3						
% of maximum weighted score	42%	50%	55%	45%	47%	74%	70%	71%	72%	86%	68%	69%	73%	56%	50%	48%	45%	55%	38%	82%	56%						
Yes mean weighted score	45.0	58.8	26.5	46.0	20.1	29.6	19.7	29.6	71.6	19.9	50.7	29.7	31.8	38.6	18.6	25.0	52.0	49.3	33.6	23.3	719.6						
% of maximum weighted score	45%	55%	60%	50%	50%	74%	70%	67%	75%	83%	70%	68%	66%	57%	47%	48%	46%	56%	47%	83%	58%						
Grand Totals																											
mean weighted score	42.7	55.6	24.8	42.7	19.3	29.5	19.7	30.7	69.8	20.4	49.4	30.2	34.1	37.9	19.5	24.9	51.2	48.6	29.3	23.1	709.3						
% of maximum weighted score	43%	52%	56%	46%	48%	74%	70%	70%	73%	85%	69%	69%	71%	56%	49%	48%	46%	55%	41%	82%	57%						

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Core Distinguishing Characteristics Worksheet II

Related Key Elements	I		II		III		IV		V				VI		VII		VIII		IX		X				Total
Maximum possible weighted score	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20					
	100	108	44	92	40	40	28	44	96	24	72	44	48	68	40	52	112	88	72	28	1240				
Individual Hospital Scores																									
List your total weighted scores																									
List your calculated % of the maximum possible weighted scores																									
Aggregate Respondent Scores																									
Your Bed Size:																									
List applicable mean weighted respondent scores																									
List applicable % of maximum weighted respondent scores																									
Your Setting:																									
List applicable mean weighted respondent scores																									
List applicable % of maximum weighted respondent scores																									
Physician Training: Y N																									
List applicable mean weighted respondent scores																									
List applicable % of maximum weighted respondent scores																									
Individual Hospital Core Distinguishing Characteristics Opportunities for Improvement																									
Core Number	Related Key Element					Core Number	Related Key Element																		

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SECTION III: Worksheet for Representative Self-Assessment Characteristics

Each of the 20 core distinguishing characteristics of the ISMP[®] Medication Safety Self Assessment[™] is divided into representative self-assessment characteristics, which were used to evaluate your success with each of the core distinguishing characteristics. Worksheet III provides the maximum possible weighted score for each representative self-assessment characteristic, which is grouped under the corresponding core distinguishing characteristic for easy reference.

Using the Representative Self-Assessment Characteristics Worksheet III

Step 1: Use your computer-generated survey results form, which was created when you submitted data to ISMP, to transfer your weighted scores for each of the representative self-assessment characteristics onto Worksheet III which begins on page 19. **When transferring your scores to Worksheet III, please note that the questions on both your Survey Results Form and Worksheet III are presented sequentially in alternating columns. For example, Question 1 is listed in the left column, Question 2 is listed in the right column, Question 3 is listed in the left column, and so on.**

Step 2: Using your completed Worksheets I and II for reference, highlight on Worksheet III the core distinguishing characteristics and key elements that have been selected as opportunities for improvement.

Step 3: Using the original ISMP[®] Medication Safety Self Assessment[™] tool, have your medication safety team or similar committee review the representative self-assessment characteristics that comprise the key elements and core distinguishing characteristics that were identified as opportunities for improvement in Step 2. Compare your weighted scores with the maximum possible weighted score for applicable representative self-assessment characteristics.

Step 4: Identify self-assessment characteristics where you have scored significantly less than the maximum possible score. Develop your medication safety action plan based on attaining the maximum weighted score (E answers) for these self-assessment characteristics. You may want to prioritize your activities by selecting self-assessment characteristics with the highest **possible** weighted scores for action first. Another option is to group the self-assessment characteristics by ease of implementation and begin to initiate those at the top of the list first.

Long term steps: In the future, ISMP will provide all U.S. hospitals that participated in this study with a way to reassess their efforts and compare their baseline scores with future scores over time.

Representative Self-Assessment Characteristics Worksheet III

I. Patient Information

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 1	4		Question 2	4	
Question 3	4		Question 4	8	
Question 5	4		Question 6	8	
Question 7	8		Question 8A	4	
Question 8B	8		Question 9	4	
Question 10	4		Question 11	16	
Question 12	4		Question 13	4	
Question 14	12		Question 15	8	
Total Core Characteristic 1: 100					

II. Drug Information

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 16	4		Question 17	4	
Question 18	4		Question 19	8	
Question 20	4		Question 21	4	
Question 22	16		Question 23	16	
Question 24	8		Question 25	8	
Question 26	4		Question 27	8	
Question 28	12		Question 29	4	
Question 30	4				
Total Core Characteristic 2: 108					

II. Drug Information *(continued)*

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 31	4		Question 32	4	
Question 33	12		Question 34	8	
Question 35	8		Question 36	4	
Question 37	4				
Total Core Characteristic 3: 44					

III. Communication of Drug Orders and Other Drug Information

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 38	12		Question 39A	16	
Question 39B	8		Question 40	4	
Question 41	4		Question 42	4	
Question 43	4		Question 44	4	
Question 45	4		Question 46	12	
Question 47	4		Question 48	8	
Question 49	8		Question 50	8	
Total Core Characteristic 4: 92					

IV. Drug Labeling, Packaging, and Nomenclature

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 51	8		Question 52	4	
Question 53	4		Question 54	8	
Question 55	4		Question 56	4	
Question 57	4		Question 58	4	
Total Core Characteristic 5: 40					

IV. Drug Labeling, Packaging, and Nomenclature *(continued)*

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 59	4		Question 60	4	
Question 61	4		Question 62	4	
Question 63	4		Question 64	12	
Question 65	4		Question 66	4	
Total Core Characteristic 6: 40					

V. Drug Standardization, Storage, and Distribution

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 67	4		Question 68	8	
Question 69	8		Question 70	4	
Question 71	4				
Total Core Characteristic 7: 28					

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 72	4		Question 73	4	
Question 74	4		Question 75	4	
Question 76	8		Question 77	12	
Question 78	4		Question 79	4	
Total Core Characteristic 8: 44					

V. Drug Standardization, Storage, and Distribution *(continued)*

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 80	8		Question 81	8	
Question 82	8		Question 83	8	
Question 84	8		Question 85	12	
Question 86	4		Question 87	4	
Question 88A	8		Question 88B	8	
Question 89A	4		Question 89B	4	
Question 90A	8		Question 90B	4	
Question 91	8		Question 92	8	
Total Core Characteristic 9: 96					

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 93	4		Question 94	4	
Question 95	4		Question 96	4	
Question 97	4		Question 98	4	
Total Core Characteristic 10: 24					

VI. Medication Delivery Device Acquisition, Use, and Monitoring

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 99	4		Question 100	8	
Question 101	4		Question 102	12	
Question 103	8		Question 104	4	
Question 105	4		Question 106	4	
Question 107	4		Question 108	12	
Question 109	4		Question 110	4	
Total Core Characteristic 11: 72					

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VII. Environmental Factors

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 111	4		Question 112	8	
Question 113	4		Question 114	4	
Question 115	8		Question 116	8	
Question 117	4		Question 118	4	
Total Core Characteristic 12: 44					

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 119	4		Question 120	4	
Question 121	4		Question 122	8	
Question 123	8		Question 124	8	
Question 125	4		Question 126	8	
Total Core Characteristic 13: 48					

VIII. Staff Competency and Education

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 127	8		Question 128	8	
Question 129	8		Question 130	8	
Question 131	8		Question 132	4	
Question 133	8		Question 134	8	
Question 135	4		Question 136	4	
Total Core Characteristic 14: 68					

VIII. Staff Competency and Education *(continued)*

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 137	4		Question 138	4	
Question 139	12		Question 140	4	
Question 141	4		Question 142	8	
Question 143	4				
Total Core Characteristic 15: 40					

IX. Patient Education

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 144	4		Question 145	4	
Question 146	4		Question 147	4	
Question 148	4		Question 149	8	
Question 150	8		Question 151	4	
Question 152	8		Question 153	4	
Total Core Characteristic 16: 52					

X. Quality Processes and Risk Management

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 154	12		Question 155	8	
Question 156	12		Question 157	12	
Question 158	4		Question 159	8	
Question 160	4		Question 161	4	
Question 162	8		Question 163	8	
Question 164	8		Question 165	8	
Question 166	16				
Total Core Characteristic 17: 112					

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X. Quality Processes and Risk Management *(continued)*

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 167	4		Question 168	4	
Question 169	12		Question 170	12	
Question 171	12		Question 172	8	
Question 173	8		Question 174	12	
Question 175	4		Question 176	4	
Question 177	8				
Total Core Characteristic 18: 88					

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 178	4		Question 179	4	
Question 180	4		Question 181	4	
Question 182	4		Question 183	4	
Question 184A	4		Question 184B	4	
Question 185	12		Question 186A	12	
Question 186B	12		Question 187	12	
Question 188A	8		Question 188B	8	
Total Core Characteristic 19: 72					

Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>	Representative Self-Assessment Characteristics	Maximum Possible Score	<i>YOUR SCORE</i>
Question 189	8		Question 190	4	
Question 191	4		Question 192	4	
Question 193	4		Question 194	4	
Total Core Characteristic 20: 28					

Total Score 1240

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Key Elements of Medication Use

- I. Patient Information:** To guide appropriate drug therapy, healthcare providers need readily available demographic and clinical information (such as age, weight, allergies, diagnoses and pregnancy status), and patient monitoring information (such as laboratory values, vital signs and other parameters), that gauge the effects of medications and the patients' underlying disease processes.
- II. Drug Information:** To minimize the risk of error, the drug formulary must be tightly controlled and up-to-date drug information must be readily accessible to healthcare providers through references, protocols, order sets, computerized drug information systems, medication administration records, and regular clinical activities by pharmacists in patient care areas.
- III. Communication of Drug Orders and Other Drug Information:** Because failed communication is at the heart of many errors, healthcare organizations must eliminate communication barriers between healthcare providers and standardize the way that orders and other drug information is communicated to avoid misinterpretation.
- IV. Drug Labeling, Packaging, and Nomenclature:** To facilitate proper identification of drugs, healthcare organizations should provide all drugs in clearly labeled, unit dose packages and take steps to prevent errors with look-alike and sound-alike drug names, ambiguous drug packaging, and confusing or absent drug labels.
- V. Drug Standardization, Storage, and Distribution:** Many errors are preventable simply by minimizing floor stock, restricting access to high-alert drugs and hazardous chemicals, and distributing drugs from the pharmacy in a timely fashion. Whenever possible, healthcare organizations also should use commercially available solutions and standard concentrations to minimize error-prone processes such as IV admixture and dose calculations.
- VI. Medication Delivery Device Acquisition, Use, and Monitoring:** To avoid errors with drug delivery devices, healthcare organizations must assess the devices' safety before purchase; ensure appropriate fail-safe protections (e.g., free-flow protection, incompatible connections, safe default settings, etc.); limit variety to promote familiarity; and require independent double checks for potential device-related errors that could result in serious patient harm.
- VII. Environmental Factors:** Environmental factors, such as poor lighting, cluttered work spaces, noise, interruptions, high patient acuity, and non-stop activity contribute to medication errors when healthcare providers are unable to remain focused on medication use. Staffing pattern deficiencies and excessive workload also underlie a broad range of errors and present unique challenges to healthcare organizations today.
- VIII. Staff Competency and Education:** Although staff education is a weak error reduction strategy alone, it can play an important role when combined with system-based error reduction strategies. Activities with the highest leverage include ongoing assessment of healthcare providers' baseline competencies and education about new medications, non-formulary medications, high-alert medications, and medication error prevention.
- IX. Patient Education:** Patients can play a vital role in preventing medication errors when they have been educated about their medications and encouraged to ask questions and seek satisfactory answers. Because patients are the final link in the process, healthcare providers should teach them how to protect themselves from medication errors, and seek their input in related quality improvement and safety initiatives.
- X. Quality Process and Risk Management:** Healthcare organizations need systems for identifying, reporting, analyzing, and reducing the risk of medication errors. A non-punitive culture of safety must be cultivated to encourage frank disclosure of errors and near misses, stimulate productive discussions, and identify effective system-based solutions. Strategically placed quality control checks are also necessary. Simple redundancies that support a system of independent double checks for high risk, error-prone processes promote the detection and correction of errors before they reach and harm patients.

Core Distinguishing Characteristics

1. Essential patient information is obtained, readily available in useful form, and considered when prescribing, dispensing, and administering medications.
2. Essential drug information is obtained, readily available in useful form, and considered when ordering, dispensing, and administering medications.
3. A closed drug formulary system is established to limit choice to essential drugs, minimize the number of drugs with which practitioners must be familiar, and provide adequate time for designing safe processes for the use of new drugs added to the formulary.
4. Methods of communicating drug orders and other drug information are standardized and automated to minimize the risk for error.
5. Strategies are undertaken to minimize the possibility of errors with drug products that have similar or confusing manufacturer labeling/packaging and/or drug names that look and sound alike.
6. Readable labels that clearly identify drugs are on all drug containers, and drugs remain labeled up to the point of actual drug administration.
7. IV solutions, drug concentrations, doses, and administration times are standardized whenever possible.
8. Medications are delivered to patient care units in a safe and secure manner and available for administration within a time frame that meets essential patient needs.
9. Unit-based floor stock is restricted.
10. Hazardous chemicals are safely sequestered from patients and not accessible in drug preparation areas.
11. The potential for human error is mitigated through careful procurement, maintenance, use, and standardization of medication delivery devices.
12. Medications are prescribed, transcribed, prepared, dispensed, and administered in a physical environment that offers adequate space and lighting, and allows practitioners to remain focused on medication use without distractions.
13. The complement of qualified, well-rested practitioners matches the clinical workload without compromising patient safety.
14. Practitioners receive sufficient orientation to medication use and undergo baseline and annual competency evaluation of knowledge and skills related to safe medication practices.
15. Practitioners involved in medication use are provided with ongoing education about medication error prevention and the safe use of drugs that have the greatest potential to cause harm if missed.
16. Patients are included as active partners in their care through education about their medications and ways to avert errors.
17. A non-punitive, system-based approach to error reduction is in place and supported by management, senior administration and the Board of Trustees/Directors.
18. Practitioners are stimulated to detect and report errors, and multidisciplinary teams regularly analyze errors that have occurred within the organization and in other organizations for the purpose of redesigning systems to best support safe practitioner performance.
19. Simple redundancies that support a system of independent double checks or an automated verification process are used for vulnerable parts of the medication system to detect and correct serious errors before they reach patients.
20. Proven infection control practices are followed when storing, preparing, and administering medications.

Organizations that have endorsed the ISMP® Medication Safety Self Assessment™:

American Hospital Association (AHA)
American Organization of Nurse Executives (AONE)
American Pharmaceutical Association (APhA)
American Society of Health-System Pharmacists (ASHP)
AmeriNet
Association of American Medical Colleges (AAMC)
Catholic Health Association (CHA)
Federation of American Health Systems
Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
National Association of Children's Hospitals (NACH)
National Association of Public Hospitals and Health Systems (NAPH)
Premier
United States Pharmacopeia (USP)
VHA

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