Chapter 58. Practices Rated by Research Priority

Further research on a number of practices would clarify a range of questions (eg, whether the practice is effective, what aspects of a multi-faceted intervention matter the most, how best to implement the practice). The conceptual framework for this categorization is described in Chapter 56. In Table 58.1 and 58.2, the practices are grouped in zones: "research likely to be highly beneficial," and "research likely to be beneficial." We also list, in the far-right column, the practices' categorization for "Strength of the Evidence" (as detailed above in Tables 57.1-57.5). For presentation in this table, this category is simplified into a 1 ("highest strength of evidence") to 5 ("lowest strength of evidence") which corresponds exactly to the groupings in Tables 57.1-5. We list these here to allow the reader to compare and contrast the research priority rankings with the evidence rankings. Practices that are not listed in either Table 58.1 or 58.2 may benefit from more research, but were not scored as highly as those included in these 2 lists.

Table 58.1 Further Research Likely to be Highly Beneficial

Chapter	Patient Safety Target	Patient Safety Practice	Strength of the Evidence (1-5 Scale; 1 is highest)
20.4	Surgical site infections	Perioperative glucose control	3
18	Mortality associated with surgical procedures	Localizing specific surgeries and procedures to high volume centers	2
20.3	Surgical site infections	Use of supplemental perioperative oxygen	2
39	Morbidity and mortality	Changes in nursing staffing	2
15.1	Hospital-acquired urinary tract infection	Use of silver alloy-coated catheters	2
6	Medication errors and adverse drug events (ADEs) primarily related to ordering process	Computerized physician order entry (CPOE) with clinical decision support (CDSS)	3
14	Hospital-acquired infections due to antibiotic-resistant organisms	Limitations placed on antibiotic use	3
20.1	Surgical site infections	Appropriate use of antibiotic prophylaxis	1
31	Venous thromboembolism (VTE)	Appropriate VTE prophylaxis	1
33	Morbidity and mortality in post-surgical and critically ill patients	Various nutritional strategies (especially early enteral nutrition in critically ill and post-surgical patients)	1
37.1	Inadequate pain relief in patients with abdominal pain in hospital patients	Use of analgesics in the patient with acute abdomen without compromising diagnostic accuracy	4

12	Hospital-acquired infections	Improve handwashing compliance (via education/behavior change; sink technology and placement; washing substance)	4
9	Adverse events related to chronic anticoagulation with warfarin	Patient self-management using home monitoring devices	1
21	Morbidity due to central venous catheter insertion	Use of real-time ultrasound guidance during central line insertion	1
38	Morbidity and mortality in ICU patients	Change in ICU structure—active management by intensivist	2
32	Contrast-induced renal failure	Hydration protocols with acetylcysteine	3
43.1	Adverse events due to patient misidentification	Use of bar coding	4
27	Pressure ulcers	Use of pressure relieving bedding materials	1
20.2	Surgical site infections	Maintenance of perioperative normothermia	3
25	Perioperative cardiac events in patients undergoing noncardiac surgery	Use of perioperative beta-blockers	1
48	Missed or incomplete or not fully comprehended informed consent	Use of video or audio stimuli	2
28	Hospital-related delirium	Multi-component delirium prevention program	2
7	Medication errors and adverse drug events (ADEs) related to ordering and monitoring	Clinical pharmacist consultation services	3
13	Serious nosocomial infections (eg, vancomycin-resistant enterococcus, *C. difficile*)	Barrier precautions (via gowns & gloves; dedicated equipment; dedicated personnel)	3
9	Adverse events related to anticoagulation	Anticoagulation services and clinics for coumadin	3
48	Missed, incomplete or not fully comprehended informed consent	Provision of written informed consent information	3
49	Failure to honor patient preferences for end-of-life care	Computer-generated reminders to discuss advanced directives	3

9	Adverse events related to anticoagulation	Protocols for high-risk drugs: nomograms for heparin	3
26.3	Falls	Use of bed alarms	3
11	Adverse drug events (ADEs) in drug dispensing and/or administration	Use of automated medication dispensing devices	4

Table 58.2 Further Research Likely to be Beneficial

Chapter	Patient Safety Target	Patient Safety Practice	Impact/ Evidence Category (1-5)
17.2	Ventilator-associated pneumonia	Continuous aspiration of subglottic secretions (CASS)	1
17.1	Ventilator-associated pneumonia	Semi-recumbent positioning	2
26.5	Falls and fall injuries	Use of hip protectors	2
30	Hospital-acquired complications (functional decline, mortality)	Geriatric evaluation and management unit	2
47	Adverse events due to transportation of critically ill patients between health care facilities	Specialized teams for interhospital transport	3
34	Stress-related gastrointestinal bleeding	H_2-antagonists	3
37.2	Inadequate pain relief	Acute pain service	3
15.2	Hospital-acquired urinary tract infection	Use of suprapubic catheters	3
26.2	Restraint-related injury; Falls	Interventions to reduce the use of physical restraints safely	3
45	Adverse events due to provider inexperience or unfamiliarity with certain procedures and situations	Simulator-based training	4
49	Failure to honor patient preferences for end-of-life care	Use of physician order form for life-sustaining treatment (POLST)	4
42.2	Adverse events during cross-coverage	Standardized, structured sign-outs for physicians	4
44	Adverse events related to team performance issues	Applications of aviation-style crew resource management (eg, Anesthesia Crisis Management; MedTeams)	4
16.2	Central venous catheter-related bloodstream infections	Antibiotic-impregnated catheters	1
17.3	Ventilator-associated pneumonia	Selective decontamination of digestive tract	2

42.4	Failures to communicate significant abnormal results (eg, pap smears)	Protocols for notification of test results to patients	3
36	Pneumococcal pneumonia	Methods to increase pneumococcal vaccination rate	3
16.3	Central venous catheter-related bloodstream infections	Cleaning site (povidone-iodine to chlorhexidine)	4
16.4	Central venous catheter-related bloodstream infections	Use of heparin	4
16.4	Central venous catheter-related bloodstream infections	Tunneling short-term central venous catheters	4
29	Hospital-acquired complications (eg, falls, delirium, functional decline, mortality)	Geriatric consultation services	4
46	Adverse events related to fatigue in health care workers	Limiting individual provider's hours of service	4
26.4	Falls and fall-related injuryies	Use of special flooring material in patient care areas	5
43.2	Performance of invasive diagnostic or therapeutic procedure on wrong body part	"Sign your site" protocols	5
42.1	Adverse events related to discontinuities in care	Information transfer between inpatient and outpatient pharmacy	2
48	Missed, incomplete or not fully comprehended informed consent	Asking that patients recall and restate what they have been told during informed consent	1
8	Adverse drug events (ADEs) related to targeted classes (analgesics, KCl, antibiotics, heparin) (focus on detection)	Use of computer monitoring for potential ADEs	2
24	Critical events in anesthesia	Intraoperative monitoring of vital signs and oxygenation	4
42.3	Adverse events related to information loss at discharge	Use of structured discharge summaries	5