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Perioperative Medicine

Association between reduced hospital length of stay and 30-day readmission rate and mortality: 14-year experience in 129 Veterans affairs hospitals. *Ann Intern Med* 2012; 157:837–45

Measures aimed at reducing length of stay measurements are a priority for institutions and the healthcare system. This observational study (1987–2000) investigated whether reduction of length of stay have impacts on 30-day readmission rates in 129 Veterans Affairs Hospitals in the United States. Risk-adjusted 30-day readmission rates for all combined diagnoses decreased from 16.5% in 1987 to 13.8% in 2000. All-cause admission 90-day mortality rate was reduced by 3% annually. Although this study focused solely on Veterans Hospitals, it indicates that reduction of the length of stay is not associated with an increased readmission rate at 30 days. These findings provide an important information when thinking of the strategies to prevent hospital readmission.

Preventing preterm births: Analysis of trends and potential reduction with interventions in 39 countries with very high human development index. *Lancet* 2013; 381:223–34

Prematurity-related death and disabilities are major issues in highly developed countries. This study investigated

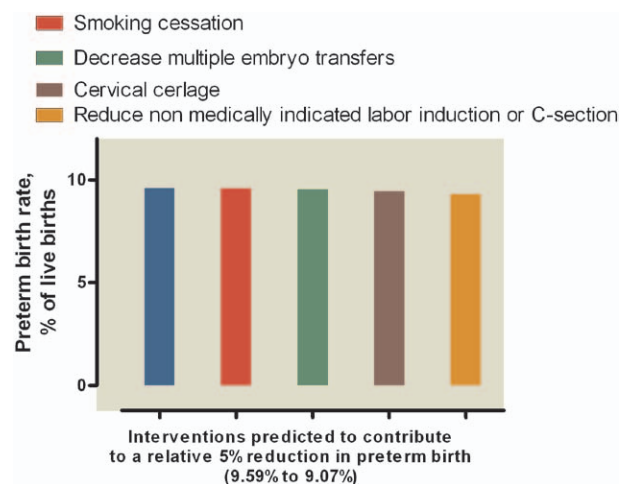


Fig. 1. Interventions predicted for reducing the rate of preterm birth. Five interventions modeling at high coverage predicted a 5% relative reduction of preterm birth rate among 39 countries with very high human development index. Reductions would translate to aversion of 58,000 preterm births and total economic cost savings of approximately \$3 billion.

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the drivers of rate and efficacy of interventions and their estimated cost saving in 39 highly developed countries. Important drivers of premature birth were identified such as nonmedically indicated labor induction, cesarean section, and assisted reproductive technologies. Interventions that reduced the premature birth rate in these countries were smoking cessation, decreasing multiple embryo transfer during assisted reproductive technologies, reduction of C-sections for delivery, and of nonmedically indicated labor induction (fig. 1). These original and important findings give suggestions for how to decrease prematurity rates in highly developed countries.

Neuroinflammatory cytokine signaling and Alzheimer disease. *N Engl J Med* 2013; 368:710–1

This article appears in the “clinical implications of basic research” section of the *New Engl J Med*. This section consists of very concisely written material for the nonexpert reader to understand the pathophysiological mechanisms of a major disease, and the relevance of the original research findings to the identification of potential therapeutic targets. The topic of the current issue explains how inflammation may cause neurotoxicity and cell death *via* cytokine production in Alzheimer disease. The article discusses the role of a monoclonal antibody, which prevents cytokine binding to their receptors, in a therapeutic strategy, based on its proven experimental efficacy in restoring behavioral changes associated with cognitive decline in mice.

Final report on Stapel also blames field as a whole. *Science* 2013; 338:1270–1

This article reports on the devastating consequences of scientific fraud at all levels. Taking a recent example of a story of proven scientific fraud, it points out that colleagues, reviewers, and editors of the journals to which the material has been submitted are partially responsible by having published these studies despite a careful peer-review process. Fraud is reported as an addiction from which it is hard to escape. High-quality journals, including *ANESTHESIOLOGY*, pay extreme attention to this point in their peer-review process, because serving our patients with the highest levels of ethics and quality is our first mission as physicians.

Critical Care Medicine

Association of hydroxyethyl starch administration with mortality and acute kidney injury in critically ill patients requiring volume resuscitation: A systematic review and meta-analysis. *JAMA* 2013; 309:678–88

Hydroxyethyl starch for intravenous replacement: More harm than benefit. *JAMA* 2013; 309:723–4

This is a major systemic review and meta-analysis, included more than 10,000 patients in randomized controlled trials, that investigated the risk of mortality and renal failure associated with the use of hydroxyethyl starch for fluid resuscitation in various situations experienced by patients in the intensive care unit, including primarily, but not exclusively, studies on sepsis and septic shock. The relative risk of mortality among patients receiving hydroxyethyl starch was increased after retraction of the seven studies suspected of scientific fraud by Boldt (590 patients; fig. 2). An increased relative risk of renal failure and renal replacement therapy was demonstrated in patients receiving the colloid *vs.* crystalloids or albumin. Although it can be argued that this study primarily focused on septic shock and not on nonintensive care unit surgical patients, it robustly suggests that the harms of hydroxyethyl starch outweigh their benefits and that these products should not be used for fluid resuscitation in critically ill patients with septic shock. Please also see the corresponding editorial *Hydroxyethyl Starch for Intravenous Replacement: More Harm than Benefit*.

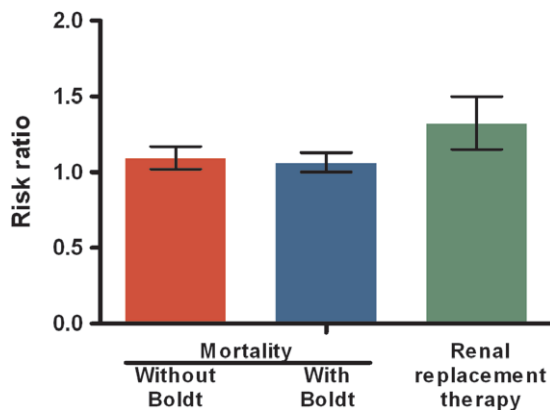


Fig. 2. Effects of hydroxyethyl starch of mortality and renal replacement therapy. Bars represent relative risk and 95% confidence intervals.

Pain Medicine

Epidural steroid injections are associated with less improvement in patients with lumbar spinal stenosis. *Spine* 2013; 38:279–91

The use of epidural steroids for radicular symptoms in patients with lumbar spinal stenosis is common. This trial evaluated long-term outcomes in patients with lumbar spinal stenosis comparing surgery with no surgery. In this subgroup analysis of patients who underwent epidural steroid injections before enrollment and randomization were compared with those that did not. There was no improvement in outcome in patients with epidural steroid injections and those treated surgically or nonsurgically. It must be recognized

that there are limitations to database analyses, and patient expectations may have impact on long-term outcome and crossover rates.

Adverse event reporting in randomized controlled trials of neuropathic pain: Considerations for future practice. *Pain* 2013; 154:213–20

In order to improve treatment recommendations, physicians need high-quality information regarding both the risks and benefits of the available treatments. Many investigators and clinicians focus on the benefits of available therapies rather than the potential risks when considering treatments for pain management. Clinical trials are a prime source of this needed information, but the ways in which adverse events are identified and reported will affect the quality of this information. In their recent article published in *Pain*, Cornelius *et al.* conducted a systematic review of adverse event reporting in trials of antidepressant and antiepileptic drugs. The review involved 74 studies and more than 16,000 patients. The main finding was that the methods used to detect adverse events, the frequency of collection, and the criteria for reporting varied widely. Analysis showed that the methods and frequency of adverse event data collection had a direct impact on the number and type of events detected during the trials. Moreover, adverse event data summaries in publications often included only a fraction of the data actually collected. The authors concluded that measures need to be taken to improve the comparability of adverse event reporting.

Education

A thematic review of resident commentary on duty hours and supervision regulations. *J Grad Med Ed* 2012; 4:454–9

After many years of discussion by the U.S. medical community, the Accreditation Council for Graduate Medical Education formalized and implemented duty-hour standards in 2011. There has been a great deal of concern about what constitutes the “right” or “best” duty-hour protocols. Faculty, graduate trainees, and the general public all have a stake in and strong views on the answers to these questions.

Light has been shed on this important educational issue by Drolet *et al.* (table 1). This study analyzed free text comments about the Accreditation Council for Graduate Medical Education duty-hour standards provided by resident trainees. A mixed-methods quantitative–qualitative survey was performed to characterize the opinion themes of 874 (34.1%) of 2,561 residents (representing a wide variety of all types of Graduate Medical Education programs) responding to the questionnaire (22.0% of 11,617 surveyed). One hundred ninety-three anesthesiology residents (7.5% of all

Table 1. Summary of Results

Theme	Total Number	Negative Number	Positive Number
Overall impression	762	725	37
Coverage issues (shifts, call, scheduling, etc.)	564	564	0
Patient care	369	351	18
Preparation for senior roles	308	308	0
Education	276	268	8
Resident quality of life	230	147	83
Supervision	24	16	8

Readers are encouraged to review Drolet *et al.*: N Engl J Med 2010; 363:e34, which presents the quantitative aspects of this mixed-methods quantitative survey.

residents included in the data analysis) contributed to the survey.

Resident comments about the duty-hour standards were overwhelmingly negative (83%). The three themes that garnered the most negative comments were focused on the, (1) 16 duty-hour limit for interns, (2) negative impact on training and education, and (3) effect on preparation for more senior roles in the future (see study by Drolet *et al.*; table 1). An example of the comments collected in the survey vividly displays the negative emotion of residents about the Accreditation Council for Graduate Medical Education duty-hour standards:

“These requirements put residents in an awful position between meeting requirements and doing what is best for patients.”

The study by Drolet *et al.* elucidates a “lack of ownership” by residents of the Accreditation Council for Graduate Medical Education duty-hour standards that may undermine the intended goals of better graduate medical education and safer patient care. Medical education leaders will potentially benefit from understanding the negative support by residents for the duty-hour standards and considering this input as these requirements evolve.