

# Lost in Translation

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## SEE RELATED ARTICLES, P. 70 AND 80.

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“Knowledge translation” is the latest in a long line of efforts to “translate research into practice,” motivated by multiple observations that clinicians’ behaviors are often unmoved by “evidence”<sup>1-3</sup> and unaffected by guidelines.<sup>4,5</sup> In this issue of *Annals*, 2 articles highlight different aspects of this problem. Hurley et al<sup>6</sup> report an examination of the factors affecting emergency physicians’ failure to adopt the routine use of spacers and metered-dose inhalers in asthma, despite a long stream of research reports and exhortation; and Wright et al<sup>7</sup> report an organized attempt to develop a department-level system for the translation of evidence-based knowledge into a standardized practice system, using asthma care as an exemplar.

The essence of these 2 articles, and others like them, is to ask, Why aren’t those clinicians out there paying attention to what we’re doing? This is basically an act of projection by academic medicine. Recognizing that clinicians are not eagerly incorporating research findings into their practice, researchers glibly assume that the problem could not be with the research but must lie externally, in the “resistance” of clinicians.

In response to this phenomenon of resistance, universities and funding agencies send out squads of researchers and embark on change programs, to study, explain, and modify clinicians’ seemingly perverse, aberrant, and irrational behavior. But as others have suggested,<sup>8</sup> the phenomenon that actually needs explaining is the behavior of the medical professoriate; it is clinicians who should be sending out researchers to try to understand why there are pockets of people (mostly in universities) who believe that their abstractions are useful guides to a complex, highly contingent, conflicted, constrained, and messy world.

The rhetoric used in these discussions bears examination; typically, the issue has been framed as “*translating* research/knowledge/evidence *into* practice/action/change.” This bears a remarkable resemblance to the rhetoric of colonialism, in which the imperialist masters expressed a perceived need to bring a simplified version of, say, western civilization to the childlike locals (who, ungratefully, seemed not to appreciate it).<sup>9</sup> “Translation,” of course, implies that the material to be transferred is foreign, inherently different and difficult to comprehend, especially for the recipients. The implication here is that research is too sophisticated and complex for

practitioners to understand directly, so there is a need to make it easy for them, to compensate for their ignorance. The possibility that it is we as researchers who are ignorant of the clinicians’ context, needs, and constraints is never raised; translation here is unidirectional. And the idea that this material needs to be “inserted into” practice (whether practice wants it or not) is, to put it gently, the rhetoric of physical violation (Leif Solberg, oral communication, January 2003).

Something may have been lost in the translation of research into practice, but we should consider the possibility that it is the research community that is lost. Research fundamentally values knowledge for its own sake; practical applications are nice but not essential in the deepest sense. The desire to have practical impact is understandable but not fundamental, and trying to force impact is futile. Nothing can be gained by further perseveration in asking why clinicians fail to adopt research recommendations. Progress may come from asking, instead, why research is failing to provide useful answers to questions important to clinicians.

Although there are many potential reasons for this failure, 2 have received little attention: the “messiness” of clinical work and the malign influence of Taylorism.

## THE MESSY DETAILS

When confronted with an unruly, complex domain, researchers naturally tend to simplify their problems by bounding out the messy details; this approach is efficient but also risks producing keyhole views of clinical work that, for all their internal validity, lack a practical validity as representations of the clinicians’ world.<sup>10</sup> When the messy details that have been excluded are important in making things actually work, then the research leads to irrelevancies. For example, Boyd et al<sup>11</sup> reviewed evidence-based guidelines for the 15 most common chronic diseases, published by national and international medical organizations, and found that, for an elderly woman with 5 common conditions (chronic pulmonary disease, type 2 diabetes, hypertension, osteoporosis, and osteoarthritis), applying all the evidence-based guidelines would require her to receive 12 drugs (costing about \$5,000 per year) and a complicated nonpharmacologic regimen, simultaneously exposing her to more than 20 drug-drug, drug-disease, and drug-diet interactions. By bounding out the messiness of the clinical world (in this case, the reality of patients with multiple comorbid conditions), the guidelines have become useless, if not ludicrous.

The ironic contradiction between the 2 articles published in this issue may have originated from this bounding-out process. Hurley et al<sup>6</sup> advocating increased use of metered-dose inhalers with spacers (a common academic position, although the evidence supporting it may not be as strong as the advocacy suggests), whereas the elaborate superstructure for moving evidence into practice reported by Wright et al<sup>7</sup> resulted in . . . a decrease in the use of metered-dose inhalers. The reasons for this unexpected result are not clear but likely lie in the messy details of clinical work that were brushed away in producing the master plan for rational asthma care.

## TAYLORISM

“Taylorism” is a highly rationalized approach to management espoused in manufacturing settings by Frederick Winslow Taylor around the turn of the century.<sup>12</sup> Modestly called “scientific management,” it had many characteristics in common with today’s efforts to improve the quality, efficiency, and evidentiary basis of medical practice: a hubristic, muscular belief in scientific modernism; the separation of planning (done by an elite group) from execution (done by ordinary workers); a valuing of abstract, theoretical models (“the one best way”) over informal, front-line experience; and the use of organizational and social authority to enforce these views. Because health care is roughly 100 years behind manufacturing in the process of industrialization,<sup>13</sup> the appearance of Taylorism in the clinical world is just about on time. In health care, the manifestations of Taylorism include, among other things, the evidence-based medicine and practice guidelines movements. Together they show the separate planning of work (eg, protocols, guidelines) by an academic elite; the desire to “. . . obtain complete compliance with standardized care, exceptional circumstances notwithstanding<sup>7</sup>”; and the enforcement of those plans from within (eg, physician-specific report cards<sup>7</sup>) or without (“pay for performance” and similar schemes<sup>14</sup>). Taylorism meshes nicely with the scientific positivism that underlies most medical research, but their combined effect is to lead both research and management into programs that are highly rationalized and abstracted, internally consistent, but potentially uninformed by an external reality; hence, the need to translate them.

Taylorism ultimately failed in manufacturing, although strong influences are still present in our economic and business systems.<sup>15,16</sup> Thus, we might expect medical Taylorism to similarly founder or be subverted because the models of clinical work inscribed in these systems clash too strongly with the realities of the clinical workplace.<sup>17</sup> Therefore, we should not expect the applications stemming from these efforts to result in the ideal, rational pathways they were proposed to be, requiring clinicians only to feed in data and occasionally fill in some details. Someone will still have to do the ad hoc, variegated work of managing patients’ trajectories. This is not a deplorable outcome of “corrupting” processes or clinical resistance; it is the only way to get them to work in the first place.<sup>18</sup>

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## REFERENCES

1. Freeman AC, Sweeney K. Why general practitioners do not implement evidence: qualitative study. *BMJ*. 2001;323:1100-1102.
2. Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001.
3. Marchione M. Evidence shows sloppy stroke care in US. Available at: <http://www.cbsnews.com/stories/2005/01/25/health/main669114.shtml>. Accessed June 29, 2007.
4. Cabana MD, Rand CS, Powe NR, et al. Why don't physicians follow clinical practice guidelines? a framework for improvement. *JAMA*. 1999;282:1458-1465.
5. Wears RL. Headaches from practice guidelines. *Ann Emerg Med*. 2002;39:334-337.
6. Hurley K, Sargeant J, Duffy J, et al. Why are emergency departments holding back on holding chambers for children with asthma? facilitators and barriers to change. *Ann Emerg Med*. 2008;51:70-77.
7. Wright SW, Trott A, Lindsell C, et al. Creating a system to facilitate translation of evidence into standardized clinical practice: a preliminary report. *Ann Emerg Med*. 2008;51:80-86.
8. Brooks D. Kicking the secularist habit: a six step program. *Atlantic Monthly*. March 2003;26-28.
9. Kipling R. The white man's burden. Available at: <http://www.fordham.edu/halsall/mod/Kipling.html>. Accessed May 20, 2007.
10. Nemeth CP, Cook RI, Woods DD. The messy details: insights from the study of technical work in health care. *IEEE Trans Syst Man Cybernetics A*. 2004;34:689-692.
11. Boyd CM, Darer J, Boulton C, et al. Clinical practice guidelines and quality of care for older patients with multiple comorbid diseases: implications for pay for performance. *JAMA*. 2005;294:716-724.
12. Kanigel R. *The One Best Way: Frederick Winslow Taylor and the Enigma of Efficiency*. New York, NY: Penguin Books; 1997.
13. Kleinke JD. The industrialization of health care. *JAMA*. 1997;278:1456-1457.
14. Rosenthal MB, Dudley RA. Pay-for-performance: will the latest payment trend improve care? *JAMA*. 2007;297:740-744.
15. Scott JC. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press; 1998.
16. Braverman H. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. 25th ed. New York, NY: Monthly Review Press; 1998.
17. Berg M. *Health Information Management: Integrating Information Technology in Health Care Work*. London, England: Routledge; 2004.
18. Berg M. *Rationalizing Medical Work*. Cambridge, MA: MIT Press; 1997.