Waste-Based Model of Population Health, Part 2
Supplementary Materials

1. O'Connor, Annette M; Llewellyn-Thomas, Hilary A.; and Flood, Ann Barry. Modifying unwarranted variations in health care: Shared decision making using patient decision aids. *Health Aff* 2004; 23(No. Suppl2):63-72 (Oct 7).

   An article outlining the principles and methods used to create strong "shared decisioni making" support tools. The Wennberg article, below, shows what can happen to health care quality and costs when such tools are competently used.

   Link: https://www.healthaffairs.org/doi/10.1377/hlthaff.var.63

2. Wennberg, David E.; Marr, Amy; , Lang, Lance; O'Malley, Stephen; and Bennett, George. A randomized trial of a telephone care management strategy. *New Engl J Med* 2010; 363(13):1245-55 (Sep 23).

   This study reports the findings of a randomized controlled trial involving more than 174,000 enrollees within a single commercial health insurance plan. Half of the enrollees received telephone-based decision support around a set of elective surgical procedures, such as prostate surgery, artificial hip joints, artificial knee joints, and surgery for low back pain. When patients were given a fully-informed, fair choice, the overall hospitalization rate (for all causes, not just the elective surgical procedures) fell by 10.1 percent, and total health care spending (again, from all sources) fell by 3.7 percent.

   This is a strong example of the effect of well-executed "shared decision making," using validated decision support tools.

   Link: https://www.nejm.org/doi/full/10.1056/NEJMsa0902321

3. Reiss-Brennan, Brenda; Brunisholz, Kim D.; Dredge, Carter; Briot, Pascal; Grazier, Kyle; Wilcox, Adam; Savitz, Lucy; and James, Brent C. Association of integrated team-based care with health care quality, utilization, and cost. *JAMA* 2016; 316(8):826-34 (Aug 23/30).

   A step-wedge randomized controlled trial of care management tools for chronic diseases, deployed into primary care clinics. Clinical outcomes improved. The intervention required additional investment in primary care, with primary care costs increasing 4 percent, representing about $18 per enrolled participant per year, totaling about $3 million per year. Total care costs fell by $115 per enrolled participant, totaling about $16 million per year. The main source of the savings was dramatic drops in hospitalization rates (22 percent delcine) and visits to specialists / outpatient procedures (21 decline).

   This is a classic example of “move upstream,” where better upstream primary care improves health and reduces needs for expensive hospitalization and other forms of downstream care.

   Link: https://jamanetwork.com/journals/jama/fullarticle/2545685