

## Cost Containment: Medical Technology

By Christine Chen

Medical technologies are responsible for a significant portion of increasing healthcare costs. Approximately half the growth of healthcare expenditures in the United States is attributed to the development and dissemination of medical technology. While many new medical technologies produce significant improvements in patient health outcomes and quality of life, some may not generate benefits that justify their cost, creating wasteful health expenditures. Of particular concern are 'me-too' products. Efforts to stem rising costs should not deter investment and utilization in major innovations in medical technology. Harnessed properly, new medical technology can generate significant patient benefits while driving down overall healthcare costs.

### Me-too products

Medical technologies must obtain FDA approval to be distributed on the market. However, FDA requirements are limited. They only address issues of the product's safety and whether its benefits outweigh any health risks. Manufacturers do not have to demonstrate that their products are more clinically or cost effective than those in the current market. As a result, medical technology manufacturers have an incentive to create 'me-too' products.

Me-too products are modifications to existing products on the market. They are developed to take market share from innovative medical products or to extend patent life and thereby increase profit. They may offer incremental improvements or may provide no clinical advantage relative to earlier products. Me-too technology is often more expensive than older alternative treatments.<sup>1</sup> Spending on more expensive medical technology that does not demonstrate substantial gains creates waste in the healthcare system.<sup>2</sup>

Critics often state that instead of making marginal improvements on preexisting medical technology, manufacturers should invest in major innovations.<sup>3</sup> However, decision-makers exercise caution in attempting to suppress the creation of me-too products as some may produce benefits. There are experts who claim that me-too products may "create competition among drug and device manufacturers, and that competition is also a powerful driver of better quality and lower costs."<sup>4</sup> The goal should be to stimulate demonstrable price and quality competition.

### Medical innovations decreasing healthcare costs

Major technological innovations can help to decrease the healthcare expenditures. There are many examples where pharmaceuticals reduce the cost of healthcare by decreasing the need for invasive procedures and other medical care. In 2000, the Agency for Health Care Policy and Research released findings that greater utilization of a "blood-thinning drug would prevent 40,000 strokes a year, saving \$600 million a year"<sup>5</sup> By stopping strokes before they cause brain damage, these drugs would save lives while reducing per patient treatment costs from \$6,000 to \$1,700.<sup>6</sup> Another study concluded that cancer patients with immune systems weakened by high-dose chemotherapy who received a "pharmaceutical known as colony-stimulating factor" each experienced a savings of \$30,000 in hospitalization costs for bone marrow transplants.<sup>7</sup>

Also receiving attention are "disruptive innovations," which refer to the creation of more affordable and simplified products and services.<sup>8</sup> In the area of healthcare, disruptive innovations reduce the skills and costs needed to operate and own the equipment to carry out a medical procedure.<sup>9</sup> An example is

improved patient self-care in chronic disease management through technological advancement.<sup>10</sup> Patients with diabetes now have access to medical equipment that allow them to self-test their blood glucose levels, monitor their blood clotting factor, and test their own cholesterol. This reduces their need for physician visits and formal modes of testing. The advent of angioplasty also reduced the cost and skills needed to remove plaque blocking the heart by providing a less invasive procedure that could be carried out by cardiologists in lieu of cardiac surgeons.<sup>11</sup>

## Conclusion

The healthcare system will benefit from shifting away from wasteful investment in medical technology and allocating resources to the production and utilization of major medical innovation that generate significant patient health benefits and reduce the need for more expensive care.

ITUP recognizes that determining the extent of whether cost savings may be derived by technological innovations is complex.<sup>12</sup> The caveat to increases in convenience and availability is increased consumption of medical technology, which may offset derived savings.<sup>13</sup> Additionally, with greater survival rates and longevity, individuals will consume more medical care and lead to higher healthcare expenditures.<sup>14</sup> However, as California explores its options to improve the affordability of healthcare, it should factor in the potential of truly innovative medical technology to improve the efficiency of care and quality of life.



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<sup>1</sup> “Me-Too” drugs drive the rise in drug expenditure, BMJ, <http://www.bmj.com/cgi/content/full/331/7520/0-b?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=me+too&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT> (accessed April 17, 2007)

<sup>2</sup> Redberg, Rita F., Evidence, Appropriateness, and Technology Assessment In Cardiology: A Case Study of Computed Tomography, Health Affairs, Vol. 26, No. 1, pg. 86-95, January/February 2007, <http://content.healthaffairs.org/cgi/content/full/26/1/86?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=Redberg&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT> (accessed April 16, 2007).

<sup>3</sup> Lee, Thomas H., “Me-Too” Products – Friend or Foe?, New England Journal of Medicine, Vol. 350, No. 3, pg. 211-212, 2004 January 15, <http://content.nejm.org/cgi/content/full/350/3/211> (accessed April 16, 2007).

<sup>4</sup> Ibid.

<sup>5</sup> Matchar David B., Samsa, Gregory P., Secondary and tertiary prevention of stroke. Patient Outcomes Research Team (PORT) Final Report-Phase 1. AHRQ Pub. No. 00-N001. Rockville, MD: Agency for Healthcare Research and Quality, June 2000. Ingram, Robert A., Counting the True Cost and Value of Medicines, *Oncologist*, 2003; 8; 2-4, <http://www.TheOncologist.com/cgi/content/full/8/1/2> (accessed April 4, 2007).

<sup>6</sup> Fagan SC, Norgensern LB, Petitta A et al., Cost-effectiveness of tissue plasminogen activator for acute ischemic stroke, *Neurology*, 1998, Vol. 50, Issue 4, pg. 883-889, <http://www.neurology.org/cgi/content/abstract/50/4/883> (accessed April 4, 2007). Ingram, Robert A., Counting the True Cost and Value of Medicines, *Oncologist*, 2003; 8; 2-4, <http://www.TheOncologist.com/cgi/content/full/8/1/2> (accessed April 4, 2007).

<sup>7</sup> Peters, WP et al. Comparative effects of granulocyte-macrophage colony-stimulating factor (GM-CSF) on priming peripheral blood progenitor cells for use with autologous bone marrow after high-dose chemotherapy. *Blood* 1993;81:1709–1719. Ingram, Robert A., Counting the True Cost and Value of Medicines, *Oncologist*, 2003; 8; 2-4, <http://www.TheOncologist.com/cgi/content/full/8/1/2> (accessed April 4, 2007).

<sup>8</sup> Smith, Mark D., Disruptive Innovation: Can Health Care Learn From Other Industries? A Conversation With Clayton A. Christensen, 2007 March 13, w288-295, <http://content.healthaffairs.org/cgi/reprint/hlthaff.26.3.w288v1?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=disruptive+&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT> (accessed April 4, 2007).

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> How Changes in Medical Technology Affect Health Care Costs, Kaiser Family Foundation, March 2007, <http://www.kff.org/insurance/snapshot/chcm030807oth.cfm> (accessed April 4, 2007). Medical technology refers to “the procedures, equipment, and processes by which medical care is delivered.” Examples include drugs and other therapies, medical devices, and surgical procedures.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.