sions, meaning they are essentially playing the game blindfolded with one hand tied behind their back.

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Hospital Care Efficiency and the SMART (Specific, Measurable, Agreed, Required, and Timely) Medicine Initiative

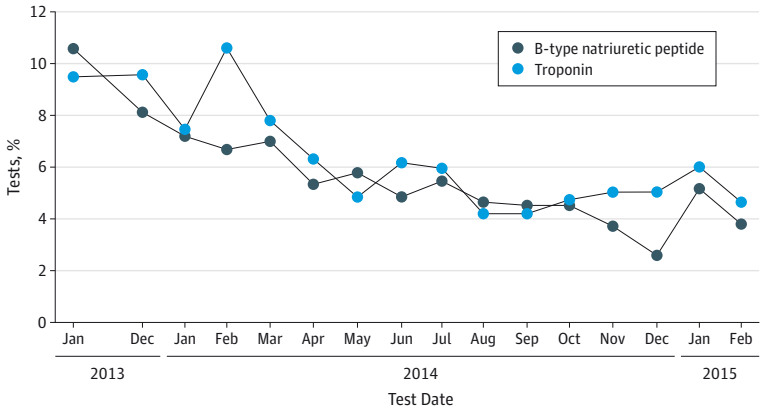
A considerable proportion of hospital resources is spent on various laboratory and imaging tests. This reality presents a significant challenge to medical teams with regard to intelligent and efficient use of these tools during hospital care.[1] The SMART (Specific, Measurable, Agreed, Required, and Timely) Medicine initiative, conducted by the Division of Internal Medicine at the Rambam Health Care Campus, aims to improve the efficiency of medical investigations by making the use of diagnostic tools more precise, focused, and based on the clinical findings.

Methods | The project was a multifaceted medical education campaign managed by a group of senior physicians (including D.B.-H., A.Y., and J.K.), with continuous and systematic monitoring and feedback. The group met monthly to discuss issues from the practice of internal medicine with a content expert and Intel engineers (V.B. and N.G.) who volunteered as part of a nationwide community involvement program. At the end of each meeting, the forum wrote up a set of recommendations that were communicated to all physicians in the Division of Internal Medicine through various channels. The impact of the initiative was continuously measured by quantifiable data related to blood and imaging tests, and a defined set of measurements was reported to the staff as monthly feedback. The need for study approval was waived by the institutional review board of the Rambam Health Care Campus.

Results | Various topics were discussed during 2014, and a set of recommendations for common laboratory tests and other diagnostic tests was compiled by the forum. For example, we agreed that measurement of B-type natriuretic peptide levels as part of the workup for acute dyspnea should not be included in cases with an unequivocal diagnosis of acute left heart failure or with a more likely alternative diagnosis.[2] Proper use of troponin level measurement in the workup of patients presenting with chest pain and recommendations for avoiding unnecessary repeated testing represented another example. Use of both tests was significantly reduced (**Figure 1**). Another issue discussed by our forum was routine (and unnecessary) blood tests. We found that unbundling panel chemistry tests reduced the use of routine measurement of lactic dehydrogenase, creatine kinase, and amylase levels by more than 50% (**Figure 2**). The number of tests ordered for C-reactive protein, hemoglobin A_{1c}, and thyrotropin levels was also significantly reduced. During the first year of the project, we achieved a 20% reduction in the total number of laboratory tests performed, resulting in a savings of $250 000. In addition, the laboratory turnaround time from sample receipt to results dispatch was reduced.

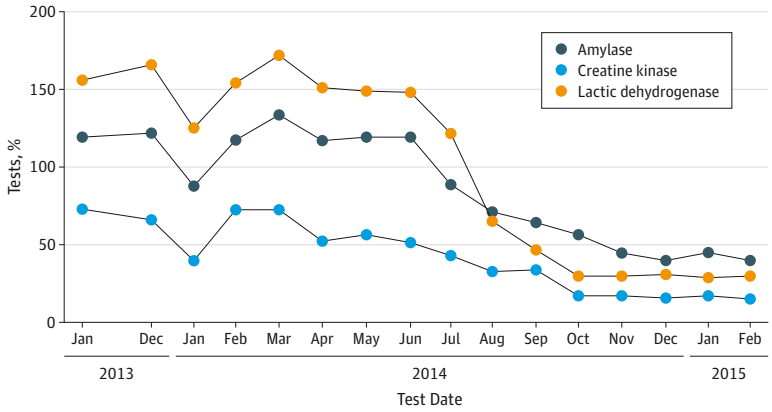
Discussion | We have presented an example of successful development of a method for the use of diagnostic tools for a specific topic list, inspired by the US Choosing Wisely campaign,[1] in an individual hospital. Our initiative was implemented through an educational model that included systematic monitoring and feedback. Although the selected topics may not be generalizable beyond the scope of our division's practice, the guiding principles of the method can be applied in other settings. In recent years, many studies dealing with cost-effectiveness and reduction of low-value health care activities by different types of interventions have been published.[3-6] However, several elements make our initiative unique. First, our recommendations are based on thorough discussion of the

Figure 1. Rates of Measurement of B-type Natriuretic Peptide (BNP) and Troponin Levels



Recommendations were released in March 2014 for measurement of BNP levels in the workup of acute dyspnea and of troponin levels in the workup of acute chest pain. Use of both tests declined significantly ($P < .001$).

Figure 2. Rates of Measurement of Amylase, Creatine Kinase (CK), and Lactic Dehydrogenase (LDH) Levels



Recommendations were released in July 2014 for unbundling of a panel chemistry workup. A significant reduction in routine testing of LDH, amylase, and CK levels resulted ($P < .001$).

medical investigation process required for different scenarios in internal medicine. Second, collaboration with Intel enabled thorough data analysis with high-quality feedback. Last, SMART Medicine has led to a substantial change in the patterns of medical thinking regarding the use of diagnostic tests among our medical personnel; therefore, we believe that its impact will be maintained.

In addition to cost-effectiveness, SMART Medicine has contributed to patient safety by avoiding unnecessary exposure to radiation, contrast media, incidental findings, and false-positive results. In summary, SMART Medicine represents a milestone in the development and implementation of a defined method for wiser use of diagnostic tools.

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Effect of US Drug Enforcement Administration's Rescheduling of Hydrocodone Combination Analgesic Products on Opioid Analgesic Prescribing

Prescription opioid abuse is a major public health problem in the United States.[1] The opioid analgesic hydrocodone bitartrate, traditionally available in combination with nonopioid analgesics, is one of the most commonly abused opioids.[2] In 2011, hydrocodone combination analgesic products were involved in almost 100 000 abuse-related emergency department visits in the United States, more than double the number in 2004.[3]

On October 6, 2014, the US Drug Enforcement Administration[4] moved these products from schedule III of the Controlled Substances Act to the more restrictive schedule II. This change entailed tighter controls on prescribing hydrocodone combination products, including the prohibition of prescription refills. We examined national prescribing patterns to identify trends before and after rescheduling.

Methods | Prescription data are from the IMS Health National Prescription Audit,[5] which estimates the number of prescriptions dispensed from US pharmacies based on a proprietary sample that captures almost 80% of all dispensed retail prescriptions. We calculated the quarterly number of dispensed