Regulatory Mechanisms for the Purchase and Use of Expensive Imaging Technologies

An International Comparison

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Abstract

Background

The health care services market is characterized by information asymmetry, that is, disparity between the information available to the patient and the information held by the health care provider. Due to this asymmetry of information, the patient often places much of the responsibility for his health care in the hands of the health care provider. This situation is liable to cause a market failure i.e., supplier induced demand (SID) – a situation where the health care provider manipulates the patient's demand for health care services that are either not entirely suitable to his needs or exceed his needs, this with the purpose of maximizing profits. Health care systems around the world are thus concerned that health care providers would purchase imaging devices (CT, MRI, PET) in amounts exceeding the needs of the population. The Israeli Ministry of Health commissioned the Myers-JDC-Brookdale Institute to conduct a study to examine the mechanisms used by various countries to regulate the excessive purchase and use of expensive imaging technologies.

Goals

The goals of this study were: (1) to review the mechanisms used by various countries to regulate the purchase and use of expensive imaging technologies and to examine the effect of these mechanisms on the expenditure on health care, the quality of care, and the access to imaging services; (2) to offer the Ministry of Health recommendations on regulatory mechanisms that would enable the purchase of expensive imaging technologies constraining the growth of expenditure on health care and without undermining the quality of care or access to services; (3) to reevaluate the suitability of the Certificate of Need (CoN) mechanism currently used in Israel.

Methods

The study included four stages: (1) a review of the country reports in the Health Systems in Transition (HiT) series on the health care systems in about 30 countries; (2) a review of both academic and gray literature on the planning of the purchase of health care technologies, specifically imaging technologies, and the related mechanisms for purchase regulation; (3) an analysis of case studies, based on up-to-date data collected in 17 countries through a questionnaire specifically developed for this study; (4) Development of recommendations for the Israeli policymakers based on the international comparative analysis and integration of the data.

Findings

We found three main regulatory mechanisms for the purchase and use of imaging technologies, whose strengths and weaknesses we then assessed: (1) legislation/regulation (CoN, licenses, or purchase permits) and direct restrictions on the number and type/quality of purchased devices; (2) financial tools such as payment mechanisms, resource restricted and conditional budgeting, and caps on profits or volume of services; (3) centralized procurement and purchase.

We further found that planning health and imaging services is essential to regulating the purchase and use of the medical devices in a way that meets the needs without excesses. Involving providers in the planning increases the likelihood of compliance.

Discussion

Most of the countries reviewed have clear-cut criteria for the planning and purchase of imaging devices and in most of the countries, several regulatory mechanisms are used concomitantly. Financial tools are the most common mechanism used and effective for compliance and enforcement. Countries with health care systems based on national health services (NHS) make greater use of regulatory mechanisms than countries with statutory health insurance systems. Managed competition appears to reduce the need for regulation. There seems to be an emerging trend of centralized procurement and purchase.

Recommendations for Israel

1. The national plan for MRI services and devices should be updated to include additional imaging services and devices, based on the national outline plan for the healthcare institutions (TAMA 49) and in collaboration with the hospitals and the health plans. This will be the foundation for the framework to expand the number of imaging equipment in the country.
2. The updated and expanded national plan for imaging services and devices should take into consideration the criteria commonly used in other countries and adapt them to the Israeli context.
3. Every healthcare provider should be required to develop a dedicated plan for the purchase of imaging devices and provision of imaging services that meets the conditions and criteria of the national plan for imaging services and devices.
4. The CoN mechanism should be replaced with the requirement for the approval of the health care providers' dedicated plans by the Ministry of Health or an entity on its behalf.

5. Compliance with the national plan for imaging services and devices and approval of the plan submitted by the health care provider should be a prerequisite for the allocation of governmental funds for the purchase of devices.
6. Activity-based payments to hospitals, such as the procedure-related group (PRG) payments, create incentives for hospitals to avoid overprovision of care, including imaging services. It should therefore be expanded to more procedures. A diagnostic-related group (DRG) payment system should be developed for internal medicine wards as well as for outpatient/community-based services.
7. The hospital revenue cap (the ceiling imposed on hospitals' revenues from each health plan) should be adjusted to the needs of the growing and aging population.