A Decade to the Israeli Center for Technology Assessment in Health Care

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Abstract

The Israeli Center for Technology Assessment in Health Care (ICTAHC) was established in 1998 at the Gertner Institute for Epidemiology and Health Policy Research, on foundations set in 1992 by the Medical Technology Assessment Unit. The Center is defined as an independent multidisciplinary research center, whose main aims are to assist in developing processes for the adoption of new technologies, identify and propose health priorities, and serve as an educational center for all stakeholders. Moreover, the Center promotes working relations with overseas counterparts as an essential component for expansion and advancement of the field of health technology assessment. Throughout the years, ICTAHC had contributed significantly to the development of the discipline of health technology assessment in Israel and to actual decision making in the health care system. The Center had outlined the principles, guidelines and overall framework for technology assessment in the country, as well as substantiating the discipline through various research areas, which materialized into a variety of technology-related policy accomplishments. Today, the Center serves as a national focal point in the health care system in Israel, as well as maintaining an active position in the international milieu. It has been a decade since the establishment of ICTAHC. This paper reviews the evolution of the center, describes changes in the HTA field in Israel, identifies areas of focus and main research accomplishments, and illustrates the breadth of potential research scope and projections for the future.

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> "*Medical technology must be managed logically. It should be based on a systematic and scientific process that must be combined with skillful judgment.*"
>
> Professor Joshua Shemer
> Director, ICTAHC

It is widely accepted by health care systems worldwide that the availability of resources for the financing and delivering of health technologies is limited [1]. Decisions on health technology management require a multidimensional perspective in order to make informed decisions concerning efficient use of resources [2]. The origin of health technology assessment resides in discussions that followed what was then seen as the uncontrolled diffusion of the expensive medical computed tomography equipment in the early 1970s in the United States [3;4]. The need for an analytical determination of by-product effects of new technology led to the materialization of the concept of HTA into a practicing discipline. This health field was first institutionalized by the Office of Technology Assessment (OTA) of the U.S. Congress, with the development of a health program in 1975 [5]. According to the OTA [6], health technology assessment is defined as a form of research, analysis and evaluation that attempts to examine the various impacts of a particular technology on the society for its safety, efficacy, effectiveness and cost-effectiveness, and its social, economic and ethical implications both in absolute and comparative terms. Moreover, HTA may be used to identify those areas in technology management requiring further research and evaluation. The goal of HTA is to provide decision makers with valid and timely information about the general value of a given technology [4].

Since 1975, many centers and organizations dedicated to HTA have emerged on a regional, national and international level. Among them are an HTA committee established in Catalonia, Spain (in 1984), later becoming the Catalan Agency for HTA (CAHTA), the International Society for Technology Assessment in Health Care (ISTAHC, in 1985), local centers serving the national level in various countries such as Sweden (SBU, in 1987), Canada (CADTH, renamed, in 1989), France (ANAES, renamed, in 1990) and the United Kingdom (NCCHTA, in 1990) [7-9]. Also, the International Network of Agencies for Health Technology

HTA = health technology assessment
ICTAHC – Israeli Center for Technology Assessment in Health Care
OTA – Office of Technology Assessment
CAHTA – Catalan Agency for Health Technology Assessment and Research
ISTAHC – International Society for Technology Assessment in Health Care
SBU – Swedish Council on Technology Assessment in Health Care
CADTH – Canadian Agency for Drugs and Technologies in Health
ANAES – Agence Nationale d'Accréditation et d'Evaluation en Santé
NCCHTA – National Coordinating Centre for Health Technology Assessment

Assessment (INAHTA, in 1993*), as well as Health Technology Assessment International (HTAi, in 2003**), were established.

Most of the centers are involved in the actual assessment of medical technologies, providing supportive tools at policy levels. Furthermore, the centers dedicate resources to research in this field, mainly aimed at improving the methodologies used and making the assessment process more efficient [4,9]. In Israel, HTA takes an active role both in research and in the everyday practical setting.

To mark a decade since the establishment of the Israeli Center for Technology Assessment in Health Care, this paper will review the evolution of the center, portray changes in the HTA field in Israel, describe areas of focus and main research accomplishments, and illustrate the breadth of potential research scope and projections for the future.

Evolution and establishment of the ICTAHC

The foundations for the ICTAHC were set by the Medical Technology Assessment Unit at the Gertner Institute for Epidemiology and Health Policy Research, which is a non-profit institute. The Medical Technology Assessment Unit has been operating since 1992 and was the first official body in Israel to deal with the concept of HTA. Although the worldwide environment in the health policy arena in the early 1990s encouraged the implementation of HTA, activating a unit in Israel was catalyzed by two events. The first was the local publication in 1989 of guidelines for long-term national health policy [10], and the second, conclusions drawn in 1990 from a thorough examination of the Israeli health care system conducted to evaluate the need for reform [11]. Both works specifically mentioned the need for creating, developing and advancing health technology assessment as a conceptual field and as a feasible tool.

In its first years, the Medical Technology Assessment Unit focused on outlining basic principles, guidelines and the overall framework for technology assessment. In addition, in order to substantiate this discipline, consideration was given to distributing the body of knowledge that was assembled and gained. Disseminating the knowledge in Israel includes, until today, a scholastic framework taught at university as a full semester course for advanced degree students in Management of Health Systems [12], as well as sporadic invited lectures.

In 1994, the Medical Technology Assessment Unit joined ISTAHC as an active member. Later that year, the Medical Technology Assessment Unit organized, in Jerusalem, the first international symposium on HTA in collaboration with ISTAHC, the Israeli Ministry of Health and the Gertner Institute. Publication of a book [9] based on issues related to presentations given in the symposium followed thereafter. Several years later, in 1998, in conjunction with a reform in the structure and tasks of the Ministry of Health, and partly as a result of a National Health Insurance Law enacted in Israel in 1995, ICTAHC was launched at the Gertner Institute. The center was defined as an independent research center, reflecting the expanded role granted to HTA in the country. At the same time, in order to allow the implementation of HTA results, the Ministry of Health founded the Medical Technology and Infrastructure Administration as an integral organ of its medical division. The Administration was authorized to formulate policies, set standards and regulate the adoption of medical technologies at the national level. Specifically, the Administration was appointed responsible for periodical update of the National List of Health Services (NLHS), while the mechanism to support this process was developed by ICTAHC through meticulous research [1]. During this course of action, ICTAHC expanded, the number of personnel increased, and the center became a focal point within the health system milieu. The timeline of events leading to the evolution of ICTAHC is presented in Figure 1.

Given the variety of impacts addressed and the range of methods that may be used in an assessment, multiple types of experts are needed in HTA. Accordingly, the ICTAHC has become a multidisciplinary center, with research staff representing the fields of medicine, nursing, pharmacy, epidemiology, and life sciences. Also on the staff are other professionals, such as an economic and legal advisor, sociologist, medical specialists in a broad range of fields, and research associates. Last, but not least, acknowledging that HTA is first of all about gathering information, the center's personnel includes a dedicated information specialist.

The activities of ICTAHC, today in particular, are performed in collaboration with the Ministry of Health, the Israeli Medical Association, the professional medical scientific unions, the health management organizations, the National Councils on Health, and various medical and academic centers.

Mission statement and role

The ICTAHC aims to serve as a national center for HTA in collaboration with all stakeholders and entities in the health care system. Its aims are:

- To act as a national center for management of health care technology
- To serve as a research center for technology assessment in health care
- To assist the Ministry of Health, public and private organizations in developing systematic processes for the adoption of new technologies
- To identify and propose health priorities at a national level
- To serve as an educational center for students and policy makers within academic settings and health care institutions
- To maintain working relations with overseas counterparts while adapting information to Israel's cultural, social and ethical values as well as its economic environment.

As part of the above-mentioned objectives, ICTAHC maintains a strong connection to the Ministry of Health, especially in light

INAHTA = International Network of Agencies for Health Technology Assessment
HTAi = Health Technology Assessment International
NLHS = National List of Health Services

* www.inahta.org. Accessed on 9 January 2008
** www.htai.org. Accessed on 9 January 2008

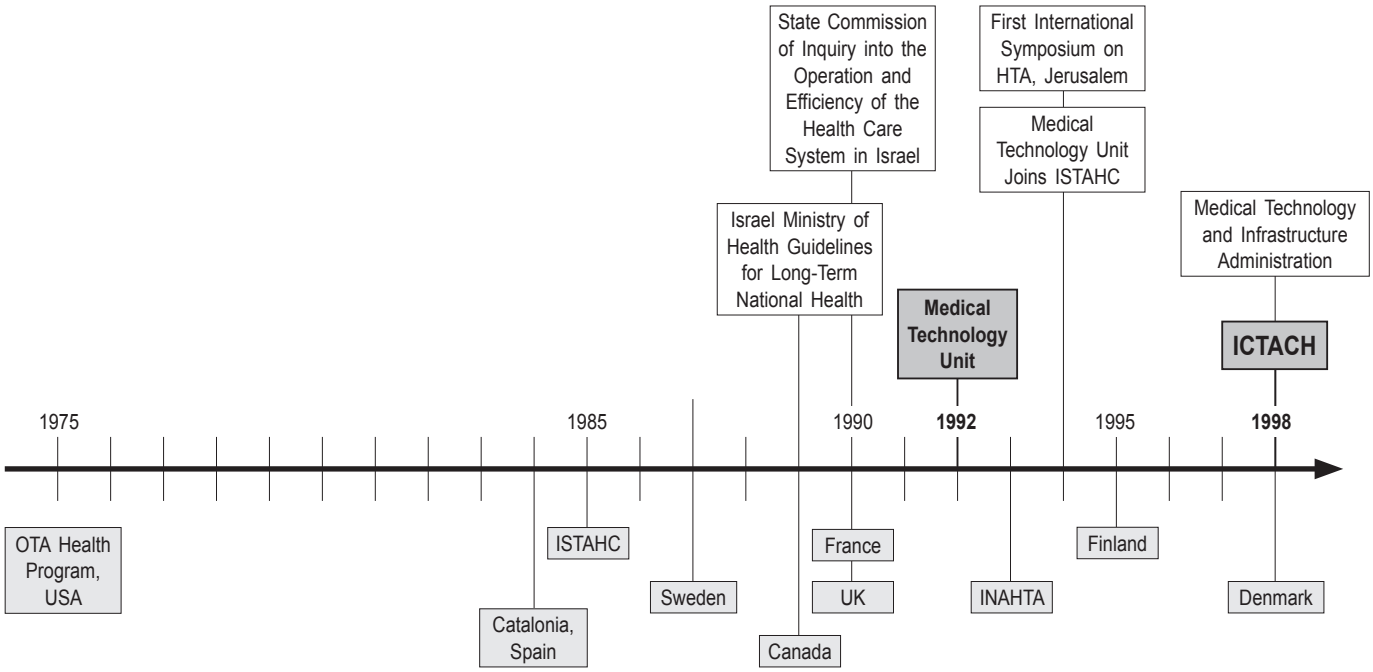

Figure 1. Timeline of events leading to the evolution of ICTAHC and selected countries that formed HTA centers (2;8;10;11;16;23)

of the role of HTA as an essential bridge between research and practice. This connection is expressed in ongoing reciprocal relations, which include collaboration in joint projects, appraisals and other activities relating to specific policy issues. International connections through membership in INAHTA (International Network of Agencies for Health Technology Assessment) and continuous interaction with HTA colleagues throughout the world provide an important and firm basis for building knowledge and enhancing impact.

Research area

Acknowledging that methodology is central in the field of HTA, evaluation, reevaluation and improvement of the different means, the techniques and approaches used in HTA entail continuous learning, insight and revision and are still considered a major task of the center. In general, the center has four main research areas:

- Formulation of policy for health technology management
- Identification and early assessment of new and evolving health technologies
- Creation of a national platform for full economic evaluation of health technologies
- Utilization patterns of health technologies.

Following is a brief description of selected studies performed by ICTAHC over the years, all of which had a notable impact on technology-related policy issues:

Development of an explicit model for priority setting of medical technologies to be included in the National List of Health Services)

The goal of this study was to formulate a process for the adoption of medical technologies based on the Israeli National Health Insurance Law and to establish a mechanism to update the NLHS. The suggested model relied on two main components: assessment of technologies and decision making, both of which constitute the core elements embodying the structure of the NLHS [13]. This model is acknowledged as the official national scheme since its introduction in 1998 with the first structured NLHS update [1].

Evaluation of the process of adoption of new medical technologies by the Israeli National Health Insurance Law

This study evaluated the first four years of the national process for the inclusion of medical technologies into the NLHS. Each year, approximately 400 new health technologies are being prioritized, of which about 50 are fully assessed. The study findings indicated that the basic principles of the process were maintained and evolved over time. Also, the findings had spotted specific improvements that were called for, e.g., in the economics and epidemiological data. The process was generally accepted, with the Ministry of Health presiding as the official body that would manage and lead it. Moreover, in light of an analysis of similar activities in other countries, the process in Israel was highly appreciated by politicians, physicians and the public, and considered by many health policy analysts in Israel and abroad to be unique and a breakthrough on an international scale [14.15]. Therefore, this mechanism is currently utilized at a national level.

Consensus conference on prevention, diagnosis, and treatment of osteoporosis

Due to the high incidence of osteoporosis and high prevalence of osteoporotic fractures in the elderly population in Israel, ICTAHC, in association with the Ministry of Health and the Israel Medical Association, held a consensus conference that aimed to identify

the scope of the problem, to analyze medical and economic aspects of the disease, and to recommend a comprehensive national policy regarding prevention, diagnosis and treatment of osteoporosis [16,17]. The recommendations proposed by this conference [17] were adopted "as is" by the Ministry of Health and were immediately implemented as clinical guidelines with the provision of public funding for, what was then, new therapies in osteoporosis (aledronate and raloxifene).

Consensus conference on the treatment and rehabilitation of hip fracture

The increased incidence of hip fractures in Israel has augmented the economic burden and enlarged the workload in orthopedic and rehabilitation wards. This resulted in a need for evaluation of the required measures of improvement and resources for adequate treatment and rehabilitation. The consensus conference resulted in elucidation of updated clinical guidelines [18], which consequently led to a change in the reimbursement methodology – from 'per hospitalization days' to 'diagnosis-related group' [19], and ultimately led to a significant reduction in waiting time for surgery and in length of hospital stay [20].

Utilization patterns of imaging services (CT and MRI) in Israel

This study established a national database on the utilization patterns of computed tomography and magnetic resonance imaging and the scope of such examinations in Israel. These data will be updated on an ongoing basis. In light of the high level of accessibility and availability of these imaging devices in Israel, the research findings corroborated the claim that is the basis for the Certificate of Need (CON) regulations, namely, that the number of devices available for use influences the scope of utilization [21]. As a result of this study, it was advised that the enacted CON regulations continue for CT and MRI devices in Israel while examining the existing changes in current clinical practice.

Generating Israeli generic health-related quality of life tariffs

In order to provide a platform for an economic evaluation of cost-utility analysis, this work established health-state profiles and matched values (tariffs) representing the specific preferences of the Israeli population. The tariffs obtained through this work (Abadi-Korek et al., in process) were presented for use by any interested party, as well as by the Israeli Public National Advisory Committee, which prioritizes the technologies recommended for inclusion in the NLHS.

Establishing a professional and academic infrastructure for short, medium and long-term forecast of new medical technologies

In recent years, early identification of promising technologies is emerging as a major activity of many health care organizations globally. With the purpose of creating a systematic mechanism for early identification of potentially effective technologies, this study reviewed international forecasting models, analyzed futuring methods, and established a model adapted to Israel to be performed on the national level [22]. Several other projects that are currently underway are listed in Table 1.

HMO = health management organization

Challenges in HTA addressed by ICTAHC and projections for the future

During the years of its existence in Israel, HTA has expanded in terms of both people involved and importance, and has widened its scope. Additional bodies began performing HTA, mostly the result of exposure to the field and also a result of the local needs. Among these organizations are the Ministry of Health, the HMOs, the Israel Medical Association, health insurance companies, academic centers, health institutions, and the pharmaceutical and medical device industry. However, although all are engaged in HTA, it has never become the main goal of any one of them, but rather serves as a means for each to reach their individual goals. For instance, the extensive exposure to the field of HTA has introduced private health insurance companies to a systematic methodology allowing comprehensive deliberation over claims, and today many of these companies ask for the expertise of technology assessors.

Thus, HTA in Israel has been fueled by industry, private and public organizations, but also by global trends, all pushing towards more open procedures, transparency and accountability in the decision-making process regarding technology policy. This situation is not unique to Israel, and in various other countries HTA has followed a diffusion curve and now reaches key points in the health care system [5,8,23].

Throughout the years, the ICTAHC has established its advisory contribution to decisions through the comprehensive work of a minimal core of professional staff, and it remains the most influential HTA body in the country. Furthermore, no other organizations dedicated to HTA have evolved in the country.

In terms of budget, the ICTAHC has financed throughout the past decade between four and six full-time positions. The resources available to ICTAHC for conducting its various projects are mainly academic and government-funded research grants. Beyond reliance on these funds for its performance, ICTAHC strives to enlarge its financial resources to support the enhance-

Table 1. Selected HTA projects currently underway headed by the ICTAHC

Title	Expected year of completion
International comparison of publicly funded health technologies	2008
Utilization patterns of over-the-counter medications	2008
Health-related quality of life in selected chronic diseases	2008
Disagreement between clinicians an patients regarding quality of life in chronic diseases	2009
Clinical scenarios for utilities	2009
Forecasting health technology management in diabetes	2009
Analysis of availability and accessibility of pediatric MRI in Israel	2009
Economic efficiency of oncology therapies in Israel	2009
Reimbursement policy for drugs for rare diseases	2010
Evaluating diffusion patterns and creating techno-epidemiological models for technologies to be adopted in the national list of health services	2010

ment of its activities and status in the local and international health care landscape.

Facing forward, the ICTAHC has mapped a variety of issues for research and future implementation. In general, ICTAHC continues to struggle with the formulation of a method and mechanism that will facilitate appropriate prioritization of health technologies and distribution of resources. This process embodies a wide range of perspectives that are an integrative part of the HTA approach – from the selection of cost-effective interventions to greater efficiency and more effective services. In addition, the ICTAHC, taking a broad point of view, is deliberating suitable means to manage the inherent tensions that arise when HTA directly influences decisions regarding health technology adoption by both the medical community and by the publicly funded health services.

Some specific issues that ICTAHC has pointed out for the future include: substantiating health-state tariffs and quality-adjusted life years as an explicit supportive tool for prioritization of medical technologies, comparing various health benefit schemes, improving forecasting methodologies, and advancing activities related to evolving technology-related trends.

Concluding remarks

HTA originated in Israel and continues to develop as a centralized function conducted under the auspices of research, developing into an active multidisciplinary center. Throughout the expansion of the ICTAHC, health technology assessment was performed in affiliation with several local and international bodies, while providing direct and indirect support at the national level. Today, mainly as a result of ICTAHC's vigorous dissemination of the principles, methodology and tools for HTA, this discipline is increasingly a decentralized activity conducted by various organizations in the public and private sectors that make technology-related policy decisions. Yet, the decentralization of HTA activity has not been a result of a reduction in the level of centralized activity. Instead, it stems from an expansion in the activities of ICTAHC, which is reflected in the pivotal position the Center assumed and maintains within the local health care system throughout the years.

In summary, during its first decade ICTAHC has provided a comprehensive environment within which different researchers fruitfully work towards reaching the goal of HTA, leading to a prominent impact on technology-related issues and serving as a central axis in research and education in the field in Israel.

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