Disinvestment

Overview of disinvestment experiences and challenges in selected countries

Project report

Ludwig Boltzmann Institut
Health Technology Assessment

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Project team

Project leader: Dr. Anna Nachtnebel, MSc

Project team: Jone Gerdvilaite, BA

Additional contribution

Systematic literature search: Tarquin Mittermayr, BA

Internal review: PD DR. Claudia Wild

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Ludwig Boltzmann Institute of Health Technology Assessment (LBI-HTA)
Garnisongasse 7/20, A-1090 Vienna
http://hta.lbg.ac.at/

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List of abbreviations

AHTA – Adelaide Health Technology Assessment

AU - Australia

CA - Canada

CADTH - Canadian Agency for Drugs and Technology in Health

CRD – Centre for Reviews and Dissemination

DoH – Department of Health (England)

DoHA – Department of Health and Ageing (Australia)

ES - Spain

GuNFT - Guideline for Not Funding existing health Technologies

HTA - Health Technology Assessment

IHE – Institute of Health Economics

MBS – Medicare Benefits Schedule (Australia)

MSAC – Medical Services Advisory Committee (Australia)

MTA – Multiple Technology Appraisal

NHS – National Health Service

NICE - National Institute for Health and Clinical Excellence

PBAC – Pharmaceuticals Benefit Advisory Committee (Australia)

PBMA – Program Budgeting and Marginal Analysis

PBS - Pharmaceuticals Benefit Scheme (Australia)

PCT – Primary Care Trust

R&D – Research & Development

STA – Single Technology Appraisal

Summary

Background

One of the main activities of Health Technology Assessment (HTA) is the evaluation of new and emerging healthcare technologies. Disinvestment as a concept emerged from existing HTA activities and refers to the evaluation of technologies in their last stage of technology lifecycle. Many technologies currently in use have never been assessed; therefore disinvestment has started gaining attention as a policy approach for more efficient use of healthcare resources.

new concept

Methods

A systematic literature review was conducted in four databases to identify articles published in English. In addition to websites of HTA agencies, Google, Google Scholar and grey literature were used to retrieve relevant information. 283 records were identified after deduplication overall. After screening and eligibility assessment 31 records were included. Selection criteria were policy perspectives with a focus on disinvesting in obsolete or potentially obsolete technologies.

systematic review

283 screened

31 included

Research question

This report investigates internationally used concepts of disinvestment, existing frameworks and guidelines for identification, assessment and dissemination of results of disinvestment recommendations. Four countries (England, Spain, Australia and Canada) are analyzed as specific examples of disinvestment related research and practices.

disinvestment as policy

Australia, Canada, Spain, England

Results

An overview of disinvestment activities in England, Spain, Australia and Canada shows that disinvestment policies are at the developing/piloting phase. Only Spain has a formal methodological framework – the Guideline for Not Funding existing health technologies. The National Institute for Health and Clinical Excellence in England is recognized as already issuing mandatory disinvestment advice, however this might change after a new legislation will be passed (Health and Social Care Bill 2011). Active discussion towards implementation of disinvestment policy was found in Canada and Australia, but actual projects are still in the piloting phase at regional level.

different approaches

pilot projects

Six generalized challenges are recognized from the experiences of these four countries. Main problems for a slow disinvestment process were identified as lack of resources and published evidence, lack of methodological framework, multiple interests and potential duplication of disinvestment efforts.

6 generalized challenges

1 Introduction

1.1 Background

One of the main activities of Health Technology Assessment (HTA), often also referred to as "forth hurdle", is the assessment of new and emerging health technologies prior to reimbursement decisions. In order to assess the potential impact of a new health technology on the health care system regarding the consequences for patients and for health professionals, many efforts concentrated on the design and development of methods and standards for the assessment of safety, effectiveness and cost-effectiveness of those new and emerging health technologies.

technological life cycle

However, every health technology passes through different levels of development throughout its lifetime (see figure 1-1) and eventually reaches the „obsolete technology" state. In addition, since the majority of health technologies already in use have never been assessed before, there is a growing interest in the detection and evaluation of obsolete technologies (1, 2) and only little evidence exists of the impact health systems are experiencing due to the usage of obsolete health technologies.

obsolescence

disinvestment – complex process

However, "disinvesting" in already diffused technologies is not a mechanical cancellation of health technologies which prove to be ineffective, but a set of various factors have to be taken into account. Reviewing health services already in use could cause fears and dissatisfaction among patients and health professionals, as it might be seen as a reduction of the benefit packages. From HTA agencies' perspectives, disinvestment can be seen as the possibility to broaden the scope of HTA activities by offering insight into effectiveness, cost effectiveness and impact on healthcare budget of health technologies which are in use already. From the health care system's view, identification of obsolete technologies offers advantages in terms of increased efficiency or safety.

fears and chances

research gap

An increase in research activities on disinvestment is noticeable since 2006. However, because almost no comprehensive systematic literature review on international disinvestment practices published until now, a research gap exists concerning methods for the implementation of disinvestment activities. This report thus aims to present a summary of experiences in setting up disinvestment agendas in four selected countries, to give an overview of accompanying challenges and to further stimulate discussion about the topic.

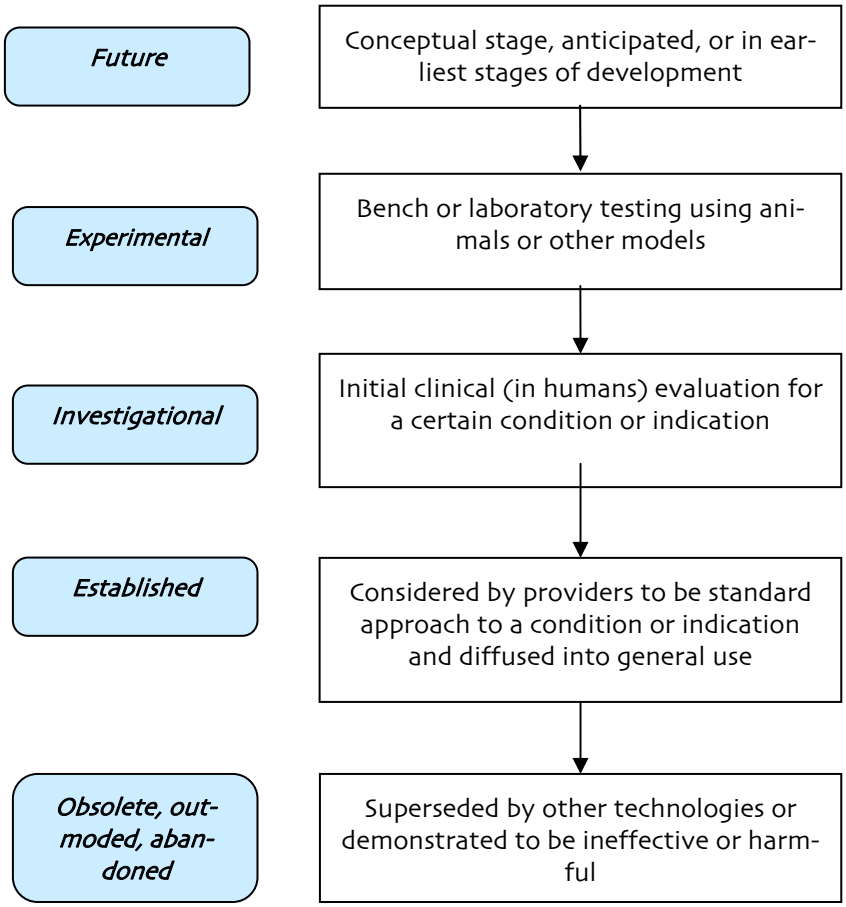

Figure 1-1. Stages of technological life cycle

Source: Adapted from Goodman (3).

1.2 Definitions

1.2.1 Disinvestment

new concept

synonyms

Disinvestment is a relatively new concept and the majority of related literature dates from 2006. Many synonymous definitions such as "withdrawing from a service and redeploying resources", "decommissioning", "delisting", "resource release", "defunding" are used to refer to disinvestment and even the term "disinvestment" is not used homogenously. Even though no internationally accepted terminology was found, the most widely applied definition is the one provided by Elshaug et al. (4):

most used definition

"disinvestment is the process of (partially or completely) withdrawing health resources from any existing health care practices, procedures, technologies, or pharmaceuticals that are deemed to deliver little or no health gain for their cost and thus are not efficient health resource allocation".

Australian and Canadian researchers emphasized the distinction between rationing and disinvestment. Rationing is *"withholding beneficial interventions for cost reason*", while disinvestment focuses *„on reducing ineffective or inappropriately applied practices, thus improving care and reducing waste without the need to withhold effective care through rationing approaches"* (5).

rationing vs. disinvestment

Furthermore differentiation is made between "explicit" and "implicit" disinvestment , which other authors sometimes refer to as "active" and "passive" disinvestment (2, 6):

explicit vs. implicit disinvestment

„Explicit disinvestment refers to the process of taking resources from one service in order to use them for other purposes (i.e. reallocation of resources). Implicit disinvestment is described as replacement and updating of practice and it occurs when a technology or intervention is superseded and therefore falls out of use".

1.2.2 Obsolete technologies

The general meaning of obsolescence refers to the point in the health technology lifecycle when (7):

"newer products or technologies supersede the old and when the costs of maintenance or repair outpace the benefits of the replacement technology"

A more specific definition of obsolete health technologies is (8):

definition

"any health technology in use for one or more indications, whose clinical benefit, safety or cost-effectiveness has been significantly superseded by other available alternatives".

Differentiation is also made between "potentially obsolete" and "obsolete" technologies (8):

obsolete vs. potentially obsolete technologies

"A potentially obsolete technology is one which is indicated as being possibly obsolete after the process of detection, while an obsolete technology is one which is shown to be obsolete following the issue of a report based on a systematic review".

2 Methods

2.1 Objective

review of existing approaches to disinvestment

The aim of this report was to provide a comprehensive overview of existing disinvestment approaches of selected countries in order to identify common challenges which might hamper introduction of disinvestment activities in other settings and to derive recommendations for the successful implementation of disinvestment strategies.

research questions:

The main intent of this report was to investigate existing practices of disinvestment activities to answer the following questions:

framework

- Is there an explicit framework for disinvestment activities?

identification & prioritization of technologies

- What are the criteria for identification and prioritization of technologies for disinvestment?

result dissemination

- How are disinvestment results disseminated among decision makers?

challenges

- What are the challenges faced in the selected countries during the disinvestment processes?

The country specific information was analyzed to answer the first three questions whereas the last question aimed to generalize the overall information in order to develop a non-country specific set of challenges and policy suggestions.

2.2 Literature search

systematic literature search

A systematic literature search was conducted in April 2011 to identify the relevant literature (the detailed search strategy can be found in the appendix 7.1). Following databases were searched:

- Ovid Medline
- EMBASE
- Centre for Review and Dissemination databases
- Cochrane Library

The searches were restricted to articles published in English from 1949 – April 2011. 390 records were identified.

web searches

The bibliographies of identified key articles were hand searched for any other relevant articles. As the majority of the literature came from only a few countries (England, Spain, Australia and Canada), with disinvestment systems already in place, the analysis of possible approaches were restricted to information available on the websites of HTA institutions of those countries:

websites of HTA organizations hand searched

- National Institute for Health and Clinical Excellence – NICE (England)
- Basque Office for Health Technology Assessment – OSTEBA (Spain)
- Galician Agency for Health Technology Assessment – Avalia-T (Spain)
- Canadian Agency for Drugs and Technologies in Health – CADTH (Canada)
- Medical Services Advisory Committee – MSAC (Australia)
- Pharmaceutical Benefits Advisory Committee – PBAC (Australia)
- Adelaide Health Technology Assessment – AHTA (Australia)

grey literature

In addition, web searches, using Google and Google Scholar search engines were conducted to identify grey literature such as conference abstracts, posters, slide sets and press releases. Literature identification from sources other than databases led to additional 45 records.

2.2.1 Literature selection

focus on disinvestment/obsolete technologies

Selection criteria were articles on methodology focusing on disinvesting in obsolete or potentially obsolete technologies in general or providing an overview on one of the four selected countries.

283 records

The systematic search identified 283 records after deduplication. In total, 31 papers were included. A considerable part of the information in this report came from the grey literature – slide sets, conference abstracts, posters. Information from national HTA agencies websites were used for specific disinvestment related information and for background information on country specific HTA activities (see Annex 7.2).

31 included web searches and grey literature

Information from other countries than England, Spain, Australia and Canada were identified in the form of slides or pilot project description, but not included in further analysis due to fragmented information available.

fragmented information from other countries

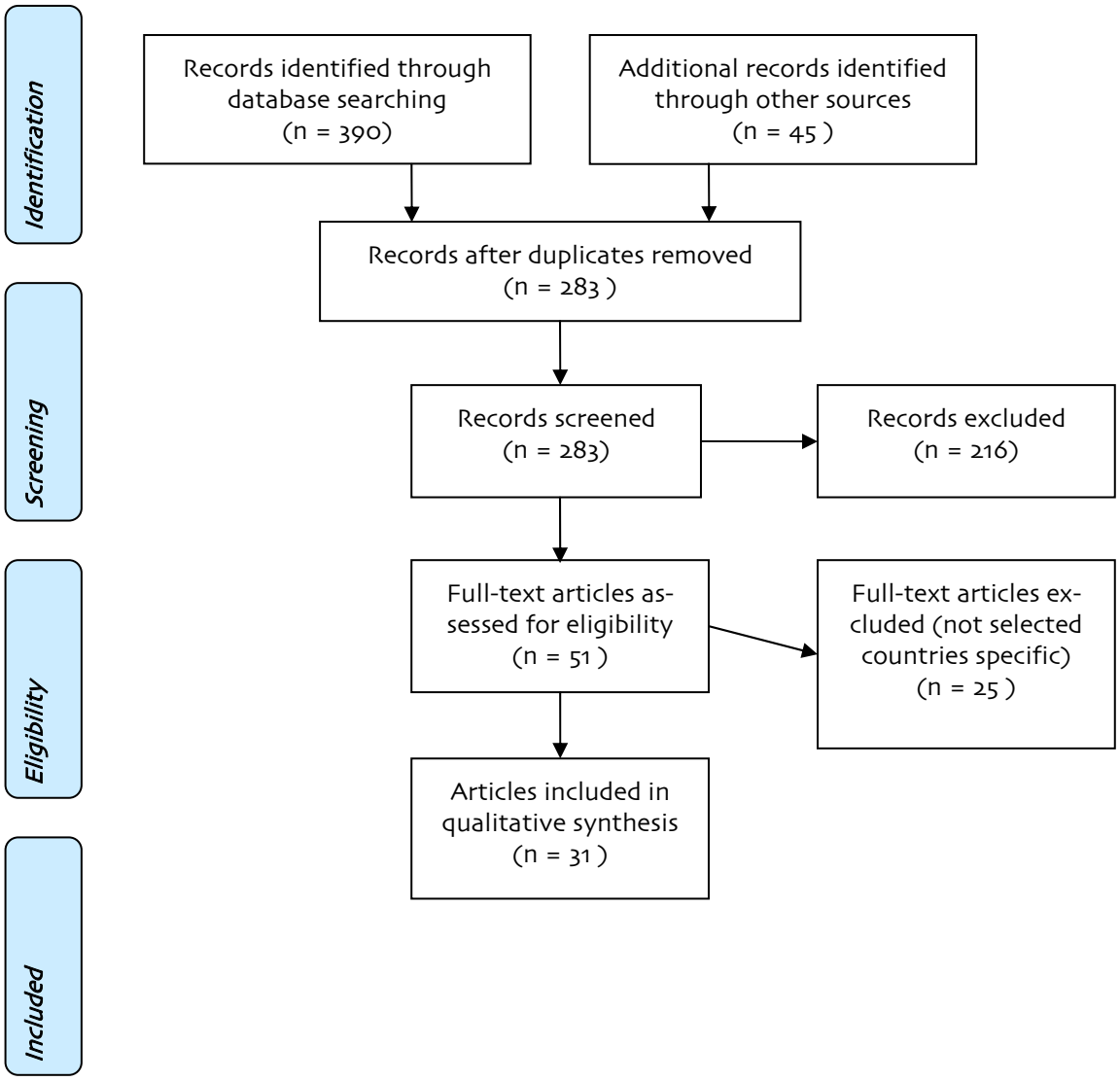

Figure 2.3.1-1: Flow diagram of studies selection.

2.3 Concept of disinvestment used in this report

terminology not used distinctively

focus on "active disinvestment"

A common terminology was not found in the papers analyzed and the most often used terms "disinvestment" and "obsolete technology" are not used distinctively. In this report, the term "disinvestment" is used focusing on "active disinvestment". The term "obsolete technology" is used in all encompassing comprehensive meaning (including the term "potentially obsolete"), referring to any health technology, drug or intervention at their last stage of technology lifecycle.

2.4 Limitations

in English

An inclusion of literature published in English only might be a limitation. However as no key articles in languages other than English were identified and due to the availability of HTA websites in English, it is unlikely that any key information on the research topic has been missed.

3 International experiences of disinvestment

This chapter describes the disinvestment experiences of HTA institutions from England, Canada, Spain and Australia (NICE, CADTH, MSAC, PBAC, AHTA, OSTEBA and Avalia-T). General information of the HTA agencies can be found in the Annex 7.2.

experiences in CA, AU, ES, England

Initiatives for disinvestment were also identified in Scotland, Italy, France and Denmark, but due to minimal and fragmented information provided and no broad scale disinvestment projects identified, these initiatives were excluded from a comprehensive analysis.

initiatives in other countries

The methods of the selected institutions were analyzed focusing on the following aspects:

focus on:

- Processes for the identification of obsolete technologies
- Assessment of technologies at the end of their lifecycle
- Strategies for the dissemination and uptake of the disinvestment decisions.

identification

assessment

dissemination

3.1 Overview of disinvestment activities in selected countries

3.1.1 England

The disinvestment agenda first emerged in 2005, as part of the healthcare system reform. In 2006, the Department of Health/DoH gave NICE an official mandate to develop a framework for the identification and assessment of ineffective interventions (5). Critique followed two years later, when the House of Commons Health Committee noticed that no evaluations of older therapies had taken place, and that disinvestment activities had not been enforced. The Committee suggested to conduct more Multiple Technology Assessments (MTAs are reports that examine whole disease areas or classes of drugs (9)) in order "to reveal existing treatments which provide poor value for money (10)". The Research & Development (R&D) team of NICE responded in 2009 claiming to have produced "at least four key NICE 'disinvestment' recommendations on average each month (11)".

NICE has official mandate

disinvestment not fully enforced

more MTAs recommended

4 disinvestment recommendations a month

In addition, several Primary Care Trusts (PCTs (12) - public authorities in England responsible for planning, securing, funding and coordinating all of the NHS services in a defined geographical area) have initiated local disinvestment activities (13).

local initiatives of PCTs

On a national level, however, and despite the official mandate, NICE has not published a comprehensive framework for disinvestment till now.

no comprehensive framework published

3.1.2 Spain

In 2006, a national law opened up the possibility to exclude any health technology which "lacks efficiency, effectiveness, efficacy or has an unfavourable risk-benefit ratio" (14). This law supported a regional legislation of the

legal support for disinvestment

Basque country issued in 2004 which stated that managers of Basque Health Service (BHS) "should inform the BHS director about those technologies that are no longer being used" (14). However the Basque law did not provide definitions or more specific criteria of the technologies which ought to be reported.

Osteba and Avalia-T: project

Starting in 2007, two regional HTA agencies (OSTEBA and Avalia-T) initiated a project "The identification, prioritisation and evaluation of potentially obsolete health technologies" (2, 15). Avalia-T, the Galician HTA agency, published an initial version of methodological guidelines for identification, prioritization and assessment of obsolete health technologies, and developed PriTec, a publicly available web-based tool for the prioritization of potentially obsolete health technologies. In 2010, the report on the development of GuNFT, the "Guideline for Not Funding existing health Technologies in health care systems", was published. It is the first and only comprehensive guideline for technological disinvestment in healthcare till now. Disinvestment activities in Spain related to GuNFT include (16):

GuNFT

PriTec tool

introduce GuNFT in hospitals

pilot project ES-England

- a program for the introduction of GuNFT in the BHS hospitals
- an agreement between HTA agencies to implement a disinvestment process in the Spanish Health System
- a pilot project to test GuNFT in Spain and UK hospitals (North West region, Manchester)

results not available yet

Mid-term review and final internal evaluation is planned to be conducted in Basque and Galician regions, however no evidence of the evaluations taking place or results have been found.

3.1.3 Australia

DoHA review

In 2009, the Department of Health and Ageing conducted an extensive review of any ongoing HTA activities in Australia and made a formal proposal for a "Review process with capacity to recommend disinvestment (1)". In the same year, funds were allocated by the government to Medicare (national health program which covers only services listed on the Medicare Benefits Schedule (MBS)) for the development of the "Quality Framework", an evidence based framework to identify health technologies already listed in MBS for further evaluation (17).

MBS quality framework

discussions

Despite the availability of various publications, conferences and seminars, no comprehensive framework has been published yet.

3.1.4 Canada

"Oversight Committee" proposed

First "delisting" activities were initiated at a regional level in Canada already in the 1990s, but were, due to lobbying activities of medical groups, unsuccessful (5). In 2009, an approach was proposed for disinvestment of obsolete technologies in a discussion working paper (7) by the Canadian Agency for Drugs and Technology in Health (CADTH): the "Oversight Committee" should be established as a coordinating oversight body or as a part of existing HTA entity for managing standard approaches to disinvestment at national level.

Another project at the provincial level addressed the budget deficit of the Vancouver Coastal Health Authority. This project was undertaken to investigate options for resource re-allocation. As a result, recommendations for disinvesting in 44 health technologies were made (1). No national level disinvestment plan exists.

local project: 44 recommendations to disinvest

no national plan

3.2 Identification and prioritization of obsolete technologies

3.2.1 England

No formal criteria set according to which NICE selects technologies for disinvestment are available. Recommendations fromCochrane reviews of technologies for which there is little or no evidence of benefit are used since 2006 for identifying relevant topics for disinvestment (18). However, no specifications of this process were found.

no specific criteria

use Cochrane

Supported by the results of the Audit Commission and as part of NICE's initiative on disinvestment, characteristics for identifying and prioritizing the list of appraisal topics for disinvestment are suggested (13, 18, 19):

suggested characteristics:

- a significant overall budget impact
- existence of currently underused effective alternative technologies with demonstrated cost-effectiveness
- impact on patient safety
- possible impact on vulnerable groups
- benefit and risk balance is close

budget impact

existing alternatives

improved safety

impact on vulnerable groups

benefit/risk

Prime candidates for disinvestment considered by some authors are thus cosmetic procedures, "me too" drugs (duplicates within same drug class with only minor differences) and "evergreens" (drugs with soon-to-elapse patents), as well as branded products with generic alternatives (18).

candidates: cosmetic procedures, "me too" drugs, evergreens

3.2.2 Spain

Specialists' networks and high quality systematic reviews are suggested to be the most efficient way to detect potentially obsolete technologies among provided healthcare services. Avalia-T suggests four specific approaches and sources for the identification of obsolete technologies in Spain (8):

systematic reviews, specialists' networks

4 approaches:

- Direct consultation of medical literature (e.g. Medline database)
- Consultation of new and emerging technology databases
- Consultation of systematic reviews published in the literature or by HTA agencies
- Consultation with institutions responsible for updating portfolios of the National Health System, hospitals or regional services.

medical databases

new/emerging technology databases

systematic reviews by HTA agencies

institutions updating service portfolio

PriTec: comparison of technologies

generates a report

criteria:

population/end users

risk/benefit

costs/other

The PriTec tool was developed to help prioritizing health technologies for disinvestment. It allows the comparison of up to 50 technologies and generates a prioritisation report to be used for assessment purposes (2). The prioritization criteria according to PriTec are grouped into three categories (20, 21):

- Population/end-users: frequency of disease, burden of disease, frequency of the use of the obsolete technology, patients' preferences
- Risk/benefit: efficacy, effectiveness, reliability, adverse effects
- Costs, organisation and other implications.

No published data are available to assess the effectiveness or impact of the PriTec tool (2).

3.2.3 Australia

MSAC and PBAC can disinvest

The Medical Services Advisory Committee (MSAC) and Pharmaceuticals Benefit Advisory Committee (PBAC) have the capacity to disinvest in health technologies in Australia by recommending withdrawal of reimbursement, but explicit criteria for identification and prioritisation of obsolete technologies was found just in PBAC, which is responsible for the centralized review of new drugs and has explicit criteria for removing drugs from the PBS (17):

PBAC – criteria for removal of drugs

- availability of more/equally effective but less toxic drugs
- evidence of unsatisfactory effectiveness emerges
- toxicity/abuse potential of the drug outweighs therapeutic value
- drugs is misused or no longer available
- drug is no longer deemed cost effective in comparison to other therapies.

comprehensive criteria proposed

Elshaug et al., leading researchers on disinvestment in Australia, propose a comprehensive set of criteria to be used for identification and prioritisation of disinvestment candidates. These suggestions are adapted from criteria and sources which are used by Australia and Canada for HTA and horizon scanning processes (22):

Criteria:

new evidence

geographic variations

provider variations

variations in volume

technology development

public opinion

used outside indications

- New evidence on safety, effectiveness and/or cost effectiveness.
- Geographic variations in care (demographic adjustments and the location of centres of excellence can suggest differences in clinical opinion about the value of the interventions)
- Provider variations in care, where the choice of intervention varies for the same class of disease or condition
- Temporal variations in volume between time points (e.g. 2, 3 or 5 years), of a substantial percentage (e.g. 30%, 50% or 80%)
- Technology development: when an intervention has evolved substantially from the initial intervention that was originally assessed or funded, then the initial intervention should be reviewed
- Public interest or controversy
- Leakage: technology use outside the evidence-based indications.

- Legacy items: long-established technologies that have never had their cost effectiveness assessed — legacy items
- Usage conflicts with clinical practice guidelines, clinical college position statements or Cochrane Review recommendations. — conflict with guidelines

Sources and processes:

- Consultation with all stakeholders in healthcare provision — consulting stakeholders
- Nomination process, where individuals, associations and colleges could nominate interventions and justify their choice — nomination
- Assessing new intervention and displacing old: when a new intervention is presented for regulatory assessment, and is considered a potential replacement for an established comparator for that indication, then that comparator for that patient indication should automatically be considered and assessed for disinvestment. — assess new, displace old

After identification of candidates for disinvestment Elshaug et al. suggests to prioritize the candidates for a detailed review using following criteria (22): — prioritization criteria

- Costs of service — cost
- Potential impact (likely health impact, cost effects and access by patient subgroups) — potential impact
- Cost effective alternatives — available alternatives
- Burden of disease — burden of disease
- Availability of sufficient evidence — sufficient evidence
- Scope for time limited funding (with "pay for evidence" or "only in research" provisions) — limited funding
- Futility (interventions that patient have poor adherence to due to pain or side effects; treatments with high relapse rates) — futility

Even though other countries refer to these suggestions, there is no evidence that these comprehensive criteria were formally recognized elsewhere.

3.2.4 Canada

CADTH does not have a formal process of identifying obsolete health technologies. The "Oversight Committee" model proposed by Joshi et al. (7). would be responsible for the development and implementation of identification and priority-setting processes for technologies considered to be potentially obsolete. Proposed triggers to initiate inquiring about a potentially obsolete technology are (7): — CADTH: no formal process — triggers for assessment

- Obsolescence forecasting of health technologies (horizon scanning, focusing on identifying candidates for disinvestment via the alternatives provided) — obsolescence forecasting
- Reassessment of related or adjacent technologies activated by assessment or adoption of new health technologies — related technologies
- Provincial or regional requests/decisions based on experience — provincial/regional requests
- New evidence on safety, efficacy, cost-effectiveness — new evidence

timed mechanism

- Timed mechanism (an agreement that in the e.g. 5 years after approval/introduction of a new health technology, a review would be conducted)

No evidence was found whether the "Oversight Committee" model was actually implemented.

3.3 Assessment of obsolete technologies

3.3.1 England

STA – methodology for disinvestment

NICE's methods for assessing candidates for *dis*investment are the same as for *in*vestment. In 2006, it was stated that the methodology for assessing obsolete technologies will be based upon the Single Technology Appraisal (STA) process (23) which is

"Specifically designed to appraise a single product, device or other technology, with a single indication. It enables NICE to produce guidance soon after the technology is introduced."

MTAs recommended

In 2009, the recommendation was made by the House of Commons Health Committee to NICE to conduct more MTAs instead of STAs for the detection of disinvestment candidates (10). However, it remains unknown whether these recommended changes were actually implemented and no details on disinvestment-specific methods used by NICE were found. Standard HTA methods used for STAs and MTAs are used for investment, as well as disinvestment assessments.

3.3.2 Spain

systematic reviews essential

No specific methodology, besides standard HTA methods, for assessing obsolete technologies were found in Spain. GuNFT stressed the importance of conducting systematic reviews. Additionally, Avalia-T proposed the standard structure of obsolete health technology reports to be used and emphasized the importance of systematic reviews as well. According to a suggested structure for obsolete HTA reports, the following parts should be covered (8):

standard structure for disinvestment report

- Information on potentially obsolete technology (name, type, year of adoption, indications)
- Contextualization of technology (incidence/prevalence of disease, numbers of patients estimated, diffusion and implementation of technology, infrastructure necessary)
- Results of efficacy, effectiveness, safety, cost and organization
- Level of scientific evidence
- Conclusions and recommendations

Reports on disinvestment with standardised structure would facilitate transferability of disinvestment research.

3.3.3 Australia

No disinvestment specific methodology in use was found in Australia. The number of reviews of existing technologies is limited – as of January 2010, only 3% of items in Medicare Benefits Schedule were reviewed via standard HTA procedures focusing on safety, effectiveness and cost-effectiveness (17, 24).

only 3% in MBS reviewed

3.3.4 Canada

A methodological framework for disinvestment assessments published either by CADTH or regional agencies was not found. Program Budgeting and Marginal Analysis (PBMA) was identified as a commonly used method for multi-criteria decision analysis for disinvestment like activities. PBMA is a tool for priority setting while applying cost effectiveness principles through the analysis of the relationship between marginal costs and marginal benefits (25). The Vancouver Coastal Health Authority also used PBMA in their resource allocation analysis.

PBMA

The "Oversight Committee" model suggested assessments for disinvestment to be performed in the same ways as standard HTA, with additional emphasis on a contextual analysis, determining effects of a new technology on a treatment regimen and stakeholders. Best practice protocols, based on clinical consensus and expert opinion should be the potential result of this reassessment process. The classification of reassessed technologies would lead to a database of technologies labelled as "appropriately used" or "misused", "overused" and "obsolete" (7).

contextual analysis

3.4 Dissemination of disinvestment recommendations

3.4.1 England

NICE has recognized the need to integrate disinvestment recommendations into guidance development. Products of NICE to specifically disseminate disinvestment recommendations include (23, 26, 27):

integrate disinvestment into guidance development

- Recommendation reminders are published monthly and highlight selective "do not do" recommendations from NICE's clinical guidelines. They aim to remind clinicians and NHS managers of already existing advice from NICE which can result in possible savings. There were 45 recommendation reminders published between 2000 and 2006.

recommendation reminders

- Commissioners' guides are topic specific, web based resources, focusing on areas where investment and disinvestment is required. It includes practical advice for NHS commissioners on methods to commission routine services and provides data for local decision making. 37 Commissioners' guides have been published since 2006.

commissioners´ guides

- "Do Not Do" database is a tool supporting disinvestment activities and contains clinical practices that should be refrained from or should not be used routinely. These practices were constantly identi-

"Do Not Do" database

fied during the process of standard guidance development. The database comprises recommendations from NICE's cancer service guidance, clinical guidelines, interventional procedures and technology appraisal guidelines. 650 "Do Not Do" recommendations were published between 2007 and 2011.

3.4.2 Spain

no specific strategy

Even though no existing strategies for dissemination of disinvestment results were found at the national level, informing patients and health professionals were identified as key factors to facilitate the acceptance of individual disinvestment recommendations. Therefore GuNFT suggests that an implementation strategy should be developed as the last stage of the disinvestment process where health authorities, local hospitals, patients and health professionals are notified on decision to disinvest in specific technologies. Monitoring and evaluation of the implementation of GuNFT are expected to be conducted in Basque and Galician regions, but no results of evaluation are available at the moment.

monitoring of GuNFT

no results yet

3.4.3 Australia

no strategy

No specific strategy for dissemination of disinvestment results and communicating them to the public, health professionals and other decision makers in Australia was detected. Concerning delisting of drugs, both PBAC and MSAC have the right to recommend withdrawal of reimbursement. Cases have been noted of companies themselves withdrawing superseded drugs from the market (24).

companies withdraw technologies themselves

3.4.4 Canada

dissemination strategy in all HTA reports

No specific method for the dissemination of disinvestment results was found in any HTA agency/group in Canada. The future dissemination activities in Canada could use well established pathways of standard HTA results dissemination. For communication of HTA results to stakeholders and the public, CADTH identifies partners and develops dissemination strategies already during the report writing stage (28). Standard methods of research results distribution was found in CADTH and regional HTA agencies: published reports, articles in scientific journals, conference presentations, web-based tools, workshops, press releases, etc. The Canadian Institute of Health Economics (IHE) was identified additionally using specific dissemination tools as "ambassador programme for knowledge transfer" and "Consensus Development Conferences" (29, 30).

3.5 Overview

Table3.5-1: Overview of disinvestment processes in selected countries

	England and Wales	Spain	Australia	Canada
HTA agencies	NICE	Osteba Avalia-T	MSAC PBAC	CADTH
Competence level	national	regional	national	national
Published disinvestment framework	No	GuNFT guideline	No	No
Identification & prioritization	Criteria proposed	PriTec tool	Criteria proposed	Criteria proposed
Criteria	Budget impact Existing alternatives Improved patient safety Not for vulnerable populations Small benefit Close risk/benefit ratio	Efficacy Effectiveness Reliability Adverse effects Costs Frequency of disease Burden of disease Patients' preferences Frequency of the usage	Evidence on safety Effectiveness/cost effectiveness Geographic /provider/volume variations Technology development Public opinion Available alternatives Legacy items Conflict with guidelines Costs Burden of disease Futility Availability of evidence PBAC criteria for drug removal: Toxicity Unsatisfactory effectiveness Misuse Cost effectiveness	Forecasted obsolescence Assessment of related technologies Provincial/regional requests Evidence on safety Efficacy Cost effectiveness
Assessment methodology	Standard HTA methods	Standard HTA methods	Standard HTA methods	Standard HTA methods PBMA
Dissemination of results	Recommendation reminders Commissioners' guides "Do Not Do" database	n.a.	n.a.	n.a.
Disinvested technologies	n.a.	n.a.	n.a.	n.a.

Source: compiled by author.

4 Conclusion: Challenges

generalized challenges

Disinvestment is rather a new concept in HTA and its introduction can pose serious challenges. Even though these challenges are influenced by contextual circumstances and might thus vary strongly between countries, several hindrances occurred repeatedly in all four countries. It can therefore be expected that any other country, starting disinvestment policies, would face similar challenges. Possible strategies to overcome those problems should thus be identified early, ideally during the preparation stage of any disinvestment activity.

4.1 Terminology

variability in definitions

In absence of any formal definition of "disinvestment", there is a wide variability in terms used to describe disinvestment activities (e.g. low clinical value, limited clinical value, inefficient, ineffective and relatively ineffective, obsolete and potentially obsolete). It leads to impediments in literature and information searches as well. Furthermore no indications were found that explicit criteria exist at the national level in any of the four countries, which would determine obsolete or potentially obsolete technologies. The perception of the obsolescence of a technology depends on the circumstances of each country, and differentiation is expected between definitions, thus implying complications in the transferability of disinvestment recommendations.

4.2 Resources

additional costs

lack of resources

lack of expertise

Lack of dedicated resources to build and support disinvestment mechanisms is one of the most common challenges identified in all four countries analyzed. All steps of disinvestment activities – identification and prioritisation of obsolete technologies, actual assessment and dissemination of results – create additional costs stressing the budgets of HTA agencies (5). Moreover, professionals with the sufficient expertise and the necessary skills to initiate disinvestment projects, and to identify and assess obsolete technologies are scarce.

4.3 Framework

formal guideline only in ES

There is a lack of reliable valid methods to identify, prioritise and assess obsolete technologies and to disseminate the results of disinvestment recommendations. Discussions about disinvestment activities had been taking place in all four countries, but only Spain has published a specific guideline for disinvestment in healthcare.

difficult to identify candidates for disinvestment

The issue of identifying potential candidates for disinvestment was repeatedly addressed, bearing the danger of an intransparent and random selection of treatments, interventions and services. Even though criteria for identification and prioritisation of health technologies for disinvestment are provided in all countries, but none of them are, besides GuNFT, incorporated in formal guidelines.

methodology used – not evaluated

Standard HTA methods for disinvestment activities were found in all organizations analyzed. However, there are no large scale disinvestment projects conducted yet, therefore the evaluation of the methodology is impossible at this stage – future evidence will define whether standard HTA methodology for disinvestment is sufficient, needs adaption or new methods should be formulated.

lack of dissemination strategies

Dissemination of disinvestment recommendations is regarded crucial in all countries investigated, however no specific strategies for disinvestment results' enforcement were found. Moreover, the lack of data available about disinvested technologies and monetary gains from these disinvestments makes it impossible to compare the effectiveness of countries' approaches to national disinvestment agendas' implementation.

Hence, it is not clear whether any of the approaches of Australia, Spain, Canada and England can be regarded as best practice model for other countries.

4.4 Availability of evidence

lack of evidence on harm/cost effectiveness

As the majority of technologies used in clinical practice in all of the four countries has never been assessed before, comprehensive evidence on possible harm and cost effectiveness of health technologies are often lacking (31).

4.5 Duplication of efforts

duplicated efforts

duplicated local initiatives

waste of resources

Duplication of efforts in disinvestment may occur, especially when no comprehensive national framework is in place. In England, for example, some PCTs have started initiating their own evaluations of clinical effectiveness, disinvesting at the local level, because the national strategy for disinvestment proceeded slowly (13). The challenge of the duplication efforts and results can be aggravated in countries with decentralized structures (e.g. decentralized healthcare service delivery and/or decentralized HTA) and fail to achieve the goal of effective use of scarce health care resources.

4.6 Local priorities and multiple interests

local conditions

postcode rationing

Local priorities can become a challenge while implementing national disinvestment plans. Some authors claim that local conditions can determine the rationale for keeping a service in one area, while eliminating it in another [10], potentially causing "postcode" rationing, which, in the end, leads to differences in coverage and treatment access for patients.

different interests

Influences of clinicians and consumers, patients' preferences, supplier-induced demand and political interests were also identified as possible challenges. Inclusion of health professionals in disinvestment decision making was proposed as one strategy to overcome these diverging interests and as a means for the successful implementation of disinvestment projects. However, previous studies show, that health professionals are reluctant to ration health care services (32) and disinvestment might be perceived as a rationing instrument, which will restrict clinical autonomy and reduce patient choice (4).

reluctance to ration care

might be associated with reduced care

Furthermore, other groups, such as the public and the media, might have difficulties accepting the need for disinvestment in healthcare, because the term "disinvestment" may suggest reduced investment and denial of access to some services. Therefore, disinvestment might mainly be associated with cost reduction strategies, rather than with a coordinated policy to maximise the returns of investment in health care (33). Also, disinvestment decisions can be controversial and raise ethical questions if vulnerable groups such as children, disabled or retirees are affected. Disinvestment in those services could raise public critique and could slow down disinvestment implementation processes. Despite acknowledging this fact, none of the four countries has specific strategies for disinvestment regarding technologies which provide benefits for vulnerable groups.

effects on vulnerable groups

5 Recommendations

complex process

The process of introducing disinvestment activities in healthcare systems is complex and subject to regional as well as national circumstances. Despite these differences similarities were found among institutions investigated. There exists resemblance in criteria proposed for identification and prioritisation of candidates for disinvestment – new evidence on effectiveness, efficiency, cost effectiveness, safety, and available alternatives. Furthermore, the analysis shows the homogeneity in the methodology used/proposed to be used while assessing potentially obsolete technologies – all institutions rely on standard HTA methods.

similarities in criteria for identification and assessment methodology

no comprehensive national frameworks

No comprehensive national disinvestment framework at national level was found. Moreover, available evidence of implementation of disinvestment recommendations is extremely fragmented or not to be found at all in the countries analyzed.

common challenges

Nonetheless, several challenges were identified in all four countries as, for example, the methodology of identification, prioritization and assessment of obsolete technologies needs further refinement and strategic plans for disinvestment agendas need to be developed for the incorporation into ongoing HTA activities. The very last challenge remaining is the assessment of the actual impact of disinvesting as realistic estimations of possible savings due to disinvestment seem to be speculative, because a formal method for quantifying savings and benefits from disinvestment has not been proposed and no actual evaluation has been taken place yet.

recommendations:

Based on the challenges identified, some recommendations can be made which facilitate the implementation of disinvestment activities.

transparent framework

- Firstly, transparent disinvestment framework should be developed through a process involving health professionals, national and regional health authorities, patient groups, insurances and strong commitment is required from all stakeholders.

commitment

- Also, decision-makers as well as stakeholders need to be aware, that disinvestment requires a long term strategy, since results are not easy to be quantify from the very early on-set.

ongoing projects

- Testing proposed disinvestment strategies in pilot projects before introducing comprehensive national disinvestment policy would also be beneficial, as early identification of barriers would provide information for better preparation of large scale future disinvestment projects. Some of the identified disinvestment activities can be seen as pilot projects (e.g. GuNFT implementation in Basque region, PCTs local disinvestment activities in England, Vancouver Health Authority project in Canada) and detailed results of their experiences will be crucial for expanding disinvestment activities at national level.

additional resources

- Disinvestment requires increase in resources and capacities used, therefore additional funding should be assigned for institutions conducting disinvestment activities in parallel to standard HTA, or streamed towards establishment of new institutions specifically designated to research in disinvestment and obsolete technologies.

international collaboration

- In addition, international collaboration in disinvestment could benefit the participants greatly. Exchange of research information as well as access to different databases of interventions which are deemed to

be ineffective would reduce the workload for all agencies, requiring only the adaption to local settings.

best practice cannot be determined

Despite the general factors facilitating the implementation of disinvestment strategies, in the absence of evaluations of any of these disinvestment initiatives, it is difficult to assess the effectiveness of the different approaches and to determine a best practice model yet.

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7 Appendices

7.1 Search strategies

Search strategy for Medline

Date: 15 April 2011

Database: Ovid MEDLINE

1. disinvestment*.mp.
2. Obsolete technology.mp.
3. Obsolete technologies.mp.
4. (Obsolescence adj3 (technolog* or intervention*)).mp. [mp=protocol supplementary concept, rare disease supplementary concept, title, original title, abstract, name of substance word, subject heading word, unique identifier]
5. ineffective intervention*.mp.
6. ineffective technology.mp.
7. ineffective technologies.mp.
8. 1 or 2 or 3 or 4 or 5 or 6 or 7

Search strategy for Embase

Date: 18 April 2011

Database: EMBASE

1. disinvest*
2. 'obsolete technology'
3. 'obsolete technologies'
4. obsolescence NEAR/2 (technolog* OR intervention*)
5. 'ineffective intervention'
6. 'ineffective interventions'
7. 'ineffective technology'
8. 'ineffective technologies'
9. #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9

Search strategy for CRD

Date: 19 April 2011

Database: Centre for Reviews and Dissemination database

1. (disinvestment*) OR (Obsolete NEAR technolog*) OR (Obsolescence) OR (ineffective NEAR intervention*) OR (ineffective NEAR technolog*)

Search strategy for Cochrane Collaboration

Date: 18 April 2011

Database: Cochrane Library

1. disinvestment*
2. Obsolete technolog*
3. Obsolescence
4. "ineffective intervention"
5. "ineffective interventions"
6. ineffective NEAR technolog*
7. (#1 OR #2 OR #3 OR #4 OR #5 OR #6)

7.2 Overview of HTA in selected countries

Table 8.2-1. Overview of HTA and disinvestment in Canada, Australia, Spain and England.

	England	Spain	Australia	Canada
Healthcare decision making	Centralized	Decentralized	Centralized	Decentralized
HTA institution(s)	NICE	OSTEBA Avalia-T	MSAC PBAC AHTA	CADTH
Characteristics of HTA institution(s)	Assessing just technologies which have "major health implications, budget impact or contraversary over effectiveness". Recommendations are required to be implemented by PCTs within 3 months. Appraisal via MTA or STA.	Regional HTA agencies responsible for producing information on the efficacy, effectiveness, safety and efficiency of new health technologies. Recommendations of regional agencies are not national standard	MSAC: provides advice to DoHA that relate to the health technologies listed on MBS. PBAC makes advice to DoHA on which drugs that should be made available through the PBS.	Regional HTA authorities guide regional HTA processes. CADTH is responsible for supplying assessments to federal, provincial or territorial healthcare policymakers.
Recommendation status	Binding	Non binding	Non binding	Non binding