Evidence Generation and Successful Knowledge Translation in Public Health

Report of a conference

Held at Brussels for the European Agency for Health and Consumers
14 November 2013

In brief

Knowledge translation is of increasing importance for health and public policy.

This report summarises discussions and presentations at a meeting organised by the European Agency for Health and Consumers.

Knowledge translation refers to three joined fields – bringing together information and evidence gained through research; knowledge production through contextualisation and transfer; and knowledge uptake and use.

There is a continuing need to identify areas where public health evidence is lacking, and for public authorities in science and health to promote knowledge translation through research and demonstration programmes, evidence synthesis and evaluation of dissemination and scale-up.

The European Commission – through directorates of Health, Research and Regional Policy – and EU Member States can make important contributions. Further debate and support is needed to promote knowledge translation in public health for European citizens.

Rapporteur
Professor Mark McCarthy
University College London, UK
November 2013
Executive Summary

Knowledge translation is of increasing importance for health and public policy.

Knowledge translation refers to three joined fields – bringing together information and evidence gained through research; knowledge production through contextualisation and transfer; and knowledge uptake and use.

Structures

The European Agency for Health and Consumers (EAHC) is an executive agency implementing the Health Programme of the European Commission’s Directorate for Research and Consumers (DG SANCO). EAHC implements the Health Programme through issuing calls for projects and tenders, holding evaluations, contracting for implementation, assessing the final reports, and making payments.

DG SANCO has a wide range of policy responsibilities, including animal and vegetable health, but the Health Programme focuses on human health. The Health Programme topics are chosen collectively by EU Member States. Projects and tenders are usually developed with inter-country collaboration.

EAHC, therefore, undertakes knowledge translation through its own work. But the broader processes of health knowledge translation across Europe are still fragmented and poorly recognised.

The meeting reported here was held by EAHC to initiate reflection on, and strengthening of, knowledge translation in public health, and to promote collaboration through partnerships for the health of European citizens.

Literature

A brief review of literature on knowledge translation for public health was made for the meeting. Much has been published on knowledge translation for clinical medicine, but less for public health. Yet the ideas linking research evidence, contextualisation of knowledge and implementation are essentially similar.

International work on knowledge translation has been led from Canada. While English is the most common language for research publication, the context and uptake of knowledge for health are very language-dependent. With its many languages, Europe needs to ‘translate knowledge translation’. There is much existing
knowledge that, if implemented across Europe, could have major impacts on health improvement\(^1\).

**Meeting**

*Evidence Generation and Successful Knowledge Translation in Public Health* was held in Brussels in November 2013 as a day pre-meeting of the annual European Public Health Conference, with financial support of the EAHC. Sixteen speakers presented expert knowledge of their fields of practice at European and national levels. The Conference participants also contributed in discussion.

A range of topics arose from the presentations. The words ‘knowledge translation’ were used to reflect the full process from evidence through knowledge into practice – but there are also other terms in the literature (and in other languages). Knowledge translation in public health uses the diverse nature of evidence available at population level, rather than the narrower evidence hierarchy of patient randomised trials. Observational evidence gains strength when assessed through the Bradford Hill criteria of causality\(^2\).

While research can be undertaken across many fields, it is important to ‘ask the right questions to get the best answer’. Evidence is lacking for many areas of practice and policy, and appropriate research needs to be commissioned. Research syntheses, built on these individual studies, can show both the opportunities and limits of evidence-based knowledge.

Public health research is supported by national research programmes (with both public and philanthropic funding) and by the European Commission’s Framework Research Programme (currently ‘Horizon 2020’). Equally, DG SANCO’s Health Programme supports cross-country collaborations that complement national demonstration, development and scale-up of effective and efficient health practices and policy.

**Recommendations**

Knowledge Translation – with the different languages and cultures across Europe – is important for public health and should have more support and attention.

The development public health evidence, through research and demonstration, should have greater financial support and improved coordination between science and health, at both national and regional levels.

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There should be continued evaluation and assessment of the uptake and impact of national research and demonstration programmes.

The European Agency for Health and Consumers should support the development of Knowledge Translation across Europe through further joint meetings between researchers, practitioners and policy-makers.

Evidence Generation and Successful Knowledge Translation in Public Health

Report of the meeting.

This Report is set out first with knowledge and discussion points developed through the Seminar, followed by summaries of the presentations, and finally a brief preparatory literature review.

Concepts:

Words

Knowledge translation is of increasing interest for medicine, and for public policy.

The words preferred in the seminar, ‘knowledge translation’, recognises that ‘raw’ research cannot simply be ‘transferred’ directly to policy-makers and practitioners, but requires synthesis and interpretation. WHO also used the terms ‘evidence-informed policy-making’ and the ‘science policy interface’.

Knowledge translation refers to three joined fields – bringing together information and evidence gained through research; knowledge production through contextualisation and transfer; and knowledge uptake and use.

Gathering knowledge

Many large health organisations are engaging in knowledge translation

- Knowledge is gained from selected experts and stakeholders, independent and transparent, often through committees.
- Knowledge may be drawn externally or created internally
- Knowledge requires interpretation through experience/judgement of the context.
- Knowledge needs to be regularly updated.
- Self-assessment of practice is valuable

Principles for Knowledge Translation

- Involve all stakeholders
- Motivate users
- Use the best available scientific knowledge
- Ensure competence, independence and transparency of scientific advice
- Relevant “better regulation” principles should be taken into account

There was also recognition of the active role of ‘knowledge broker’. What makes a knowledge broker?
- Translation (beyond transfer, the way we present it)
- Trust, mindful of the context.
- Tailoring evidence to respond to questions that policy-makers have
- Timeliness, for the few moments when policy-makers are accessible.

**Strength of evidence.**

- Different approaches to ‘evidence’ are needed for different contexts. In clinical studies, randomisation is possible with many ‘units’ (patients), while in ‘rare’ diseases observational studies may be all that is possible.
- In epidemiology, there can also be many individuals in the study but interventions lacking.
- Health Technology Assessment may have more interest in product consistency and range of applications. Public health interventions should be compared at different sites and measuring process and outcomes.

A table of the differences between studies was provided by WHO:

<table>
<thead>
<tr>
<th>Rich evidence</th>
<th>Low/no evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roles: experts and stakeholders</strong></td>
<td>“Community of peers”</td>
</tr>
<tr>
<td><strong>Rigourous methodology</strong></td>
<td>Operating deliberately in imperfection</td>
</tr>
<tr>
<td><strong>Formulate and test hypotheses</strong></td>
<td>Scenarios and counterfactuals</td>
</tr>
<tr>
<td><strong>High specificity, low sensitivity</strong></td>
<td>Low specificity, high sensitivity</td>
</tr>
<tr>
<td><strong>Assessment as a product (e.g., can be peer reviewed and published)</strong></td>
<td>Assessment as a process (e.g., measured by policy achievement)</td>
</tr>
<tr>
<td><strong>Demand for more data and broader evidence base</strong></td>
<td>Not necessarily so: emphasis on action</td>
</tr>
<tr>
<td><strong>Utilitarian ethics (incl. Distributional justice)</strong></td>
<td>Deontological ethics (procedural justice)</td>
</tr>
</tbody>
</table>

[WHO European Office for Environment & Health slide]

*Knowledge generation is not the only factor for policy-development.*
- Intervention is not the responsibility of the scientists.
- Advice depends on what evidence is available
Research is only one input: other constraints to decision-making include political pressures and alternative perspectives.

Science/knowledge is more likely to be translated into policy when there is a regulatory obligation; however, informal non-binding advice can have equal impacts.

Social preferences should be expressed through democratic processes.

In the knowledge – policy process:

‘Asking the right question to get the best answer’. Where the views of scientists and of the public are different (eg ethical or commercial aspects), divergence can be reduced by controls and standards for science commissioning

Knowledge translation is assisted when there is a legal requirement to consult.

Sometimes research should start with policy questions

There may be a problem of trust between policy-makers and researchers.

Challenge:

Does evidence-informed policy give the best for outcomes? We don’t know…

And evidence may not have just a single, instrumental, use – it can also be used in conceptual ways, helping to think innovatively and laterally

Across Europe more understanding of national and subnational models is needed

Knowledge translation across European countries is less visible. Sometimes the countries have difference approaches, related to their national systems and cultures: eg, in Germany, emphasis is on evidence for the needs of the health insurance payments system.

In both Germany and France, discussion stays within the national health system, perhaps “under the radar” of EU collaboration. But the fact that the process is not described does not mean it does not exist. For example, many German clinical guidelines have been produced, but by learned societies affiliated to professional associations rather than through public agencies.

National practice:

Working with national competent authorities – transform an opinion of risk into a decision.

European experience can provide elements for national parliaments.

Ensuring compliance - the same energies should be put into system and organisations issues.

Should EU countries all be working independently?

Collaboration in health technology assessment has taken years to develop, so it won’t be easy:

But collaboration – ‘progressive iteration’ – is a process that we need to follow.
• Current EU health policy is based on what works – e.g. harm reduction, targeted groups – which was not included in the first policy document for political sensitivity.
• EU funding mechanisms, such as the DG SANCO Joint Actions, can take collaboration forward.

Seminar contributions: European Organisations and Knowledge Translation

The Expert Introduction placed knowledge translation within the wider knowledge cycle. This includes strategies, structures and programmes, at national and regional levels, for generating knowledge through research (recognising that knowledge also comes from a wide range of sources), and assessing impacts of knowledge translation into innovation and practice. EUPHA (European Public Health Association), in the collaborative project PHIRE\(^3\) (Public Health Innovation and Research in Europe), collected information and measures across 30 European countries, and encouraged improved coordination for public health knowledge systems between national ministries and EU levels (DG Research, DG SANCO).

European Commission DG SANCO is a knowledge-based organisation with a large, diverse portfolio across consumer affairs, public health and food safety. Knowledge for policy work is gained through ways including policy impact assessments, public consultations and using secondary data (eg from Eurostat). In comparison with other policy areas, EU policy for health depends less on formal laws and more on consensus-building – including cross-policy work with other Commission directorates. DG SANCO produces reports and communications, maintains open-access data, and stimulates national collaborations through Joint Actions. This enables the Commission to prepare for the future – including identifying gaps in knowledge.

The Institute for Quality and Efficiency in Health Care is an independent agency commissioned by the German Federal Government to provide guidance on what treatments should be included within health insurance, based on efficacy evidence. The review had a focus on pharmaceuticals, and therefore the hierarchy of randomised controlled trials, but also described health technology agencies in other European countries, which have broader perspectives, and are linked in a European network to share knowledge.

From a UK study, City University proposed that health evidence is continuously interpreted and constructed by health professionals. Health staff have shared cognitive models of what constitutes acceptable and credible evidence in decisions. While health policies assume that health professionals acquire knowledge about innovative technologies ‘top-down’ through centralised and educational sources, ‘horizontal’ local processes, professional networks and micro-system considerations also play a significant role in adoption and implementation. External pressures, such as performance targets, media scrutiny, patient expectations and fear are incentives to identifying evidence on innovations. Lack of awareness of existing research, lack of knowledge on how to translate information into current practice, and lack of time and relevant skills, were also reported.

The EU-wide review of 2009 influenza pandemic was led by Public Health England with EU funding. It originated as planning exercise to assess systems of preparedness, but review was undertaken within a real epidemic in 2009. There was considerable reporting of the pandemic on the media, and a survey of national activities and policies was undertaken between member states. Results showed that, following the first review of 2004, half of all countries had an existing strategy for pandemic preparedness, while a quarter had nothing. There was benefit in sharing knowledge on issues such as interoperability, case-definitions, standards, EU legislation. National workshops and cross-border meetings were useful, but mutual aid difficult during the high crisis, and some MS couldn’t keep up with the work. Experience enabled move to more efficient policies, for example using clinical rather than laboratory diagnoses (for speed), contact tracing was too labour intensive. Agreements on levels of travel and transport restrictions, without closing borders. Little evidence of the value of antivirals, even though these were of considerable cost to member states. The Early Warning Reporting System was valued. Double reporting – having to report to EC and to WHO – was reduced. Containment and mitigation choices and advice to the public varied by member states. Influenza advice leaflet was widely used. Communication methods were improved, including communicating with professionals and with public minorities.

European Medicines Agency is responsible for evaluation and supervision of medicines for human and veterinary use. There are six guiding principles: Independence, Transparency (all materials published); Predictability (using legal bases). Inclusiveness; and Efficiency of operation. There is an active approach to generating data, grading it, output methods including opinions, guidelines, publications. EMA also has links with other organisations are co-partners for knowledge transfer, and in areas including information, knowledge exchange and social media.

European Commission DG SANCO eHealth and Health Technology Assessment Unit draws on expert advice for legislation or EU policy coordination. There is a clear process: relevant issues are identified ‘in the perspective of both natural and socio-
economic sciences'; options are characterised for efficacy and impacts; then there is prioritisation, and finally evaluation. There have been three committees (SCENIHR, SCHER, SCCS) with their main focus respectively on equipment, chemicals and cosmetics. Precautionary considerations may play a role in risk management (according to EU principles and criteria). There is also a newly-established Expert Panel on Effective Ways of Investing in Health.

**European Observatory on Health Systems and Policies** is a knowledge-broker. It sees itself as innovative through its way of working, and products. International comparisons provide a link between researchers and policy-makers, and offer use of evidence for policy recommendations. The observatory contributes sound methodologies, summarised information and language-accessible dissemination. Also networks for passive knowledge.

**AIDS Action Europe** has 400 civil society organisation members across 45 European countries. In a field where there are many initiatives but also political constraints, it has created a database of ‘grey’ literature and good practices that is not otherwise readily available – eg about street work with people using drugs, sex workers, training methodologies were of use for sharing. This provided an important resource for developing appropriate and effective services, especially in EU new member states facing the AIDS epidemic. The clearing house also supports advocacy on HIV/AIDS, with policies and activities developed with stakeholders including civil society, and moving to monitoring and implementation. Also now communicating through wider social media, tailoring information according to users. But there are challenges ahead. Some Members ask: What’s in it for us? Input of good practices from NGOs is now less common, new media are being used for communication. There a need to develop new models of knowledge translation as the services and organisations change.

**WHO European Centre for Environment and Health.** The mandate is to support member states to develop and adopt healthy policies based on evidence, effective, mindful of all society’s needs but with health as first priority. Work is within WHO’s current Health 2020 framework, with pillars including ‘supportive environments’ and ‘life course approach’. The 5-yearly Ministerial Environment and Health conferences bring together science and policy-makers. There is a range of environmental issues to be addressed, which may operate at levels from the specific agent or risk factor up to system and global approaches. These different levels of impact usually require different types of evidence, and also different methods of integrating science – for example, comparing risk assessment of a substance with health impact assessment of a programme.

Science in relation to **Policy for Climate Change** was addressed as an area of risk and uncertainty. The way IPCC works demonstrates interesting methodology.
First, a scoping exercise; then government selects experts; there are several checkpoints for stakeholders, and consultation; and a final publication. The information can be readily taken-up and linked at the policy level for individual countries. The process interaction of assessments and policy has operated since 1990, with growing understanding of issues, and cooperative agreements for actions. Most striking is the sheer size of involvement of scientists, civil society and policy-makers world-wide in this shared endeavour.

**European Commission Directorate for Research and Innovation.** Recognising that in many areas of health there is often a lack of strong evidence of aetiology and for practice, we need ways and means to organise evidence to increase its strength and ensure the production of new evidence, based on excellence in research assessed through peer review. The coming EU Research Programme Horizon 2020 Health Challenge includes recommendations for multidisciplinary research teams, to assess impact, economic and policy aspects, and concern for factors outside of health system – including food, environment and transport.

**BRIDGE** study, jointly between EU and CANADA, suggested criteria for an effective information product: Does it cover a relevant issue in detail? Does it include knowledge from synthesized, assessed evidence and tacit knowledge? Does it explicitly target policymakers and stakeholders? Is there decision-relevant information, in a format that makes the evidence easy to absorb? Is it supported through online briefings? There are different ways of presentation: a study summary; findings from systematic review; thematic review; evidence brief; policy dialogue report. Understanding of the problem may be improved through: stakeholder mapping; pre-circulated information; on-line discussion, training workshop; personalised briefings; policy dialogues – researchers and policy-makers in the same room. Examples of innovative practice reporting health knowledge in Europe included providing strategic counsel to health policymakers and promoting public debate about health; facilitating integration of European health policies and programmes; supporting evidence-based quality-improvement initiatives in the health system; purveying health-care policy ideas and analysis; and enhancing evidence-based policymaking in health systems across Europe.

**Belgian Healthcare Knowledge Centre (KCE),** a national centre combining guidelines; health technology assessment; and health services research, has also developed impact reports for its own performance. In 2010 was a study of perceptions of stakeholders and users, and case studies on outcomes. There were 77 reports that had been presented to the Belgian Parliament, and information also available from interviews and an archive of press articles. Various levels of impact were measured. About 50% of published reviews have direct impact, while 30% are on-going. Health technology assessments have relatively shorter implementation (related to pharmaceutical licensing), while the health services research recommendations take much longer for implementation.
**World Health Organisation (HQ),** through the 58th World Health Assembly in 2005, gave a message to member states to establish knowledge transfer for public health and health related systems. The 63rd World Health Assembly confirmed WHO’s strategy for Research for Health, which included translating the solutions or evidence into policy, practice and products, and evaluating the effectiveness of solutions. Although some countries say that they don’t have the resources for this, it has observed that ‘if you are a poor country, you need more evidence than if you are a rich one’. The Evidence Informed Policy Network (EVIPNet.) promotes systematic use of evidence in policy making and partnerships; and support tools have been developed ⁴, working in association with McMaster, Norway. EVIPNet building blocks include country policy dialogues, support structures, capacity development, research synthesis and policy briefs, and monitoring and evaluation. The process provides options – policy-maker make the final decision. EVIPNet is now being extended to Europe - learning from other parts of the world, 15 European countries had been at workshop in Smyrna, and follow-up events are planned.

**Spain - perspective of a member state.** Evidence is being used systematically in development of new national initiatives. In the strategy for addressing chronic diseases, knowledge-based approaches include: supporting patient self-care, developing alternatives to hospitalization, care-pathway planning, multidisciplinary approach and strengthening the role of nurses as trainers. The strategy for health promotion and disease prevention is based on understanding health across the life cycle, and being developed in association with the Carlos III Institute. Work on e-Health and communication technology for digital clinical records and electronic prescribing is based on inter-operability, including EU collaboration (epSOS).

**Discussion contributions**

“RICHE was asked to create a roadmap of child health research by the European Commission. We found that respondents wanted implementation research. We don’t know how to make it happen: getting implementation research out there?”

“What is to be done to promote knowledge translation? Are there any national or European calls for knowledge translation research? Can a grant include these issues?”

“One thing that helped us start was the obligation that the minister ‘should respond to Parliament on consequences of recommendations of [KCE]’. She must give reasons for not doing anything. But danger is that [KCE becomes too powerful … we are not

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decision-makers, and I was attracted by the concept of options and scenarios – giving us the necessary distance.”

“Most research starts from researchers ‘beyond what is known’. Proposals often demonstrate through knowledge synthesis that much is known, but not enough on implementation research.”

“Health Technology Assessment has some track record in this field. In UK, NICE has rebranded itself from engaging only specialists into engagement of all citizens on issues for investigation and knowledge synthesis. We need to develop marketing and media channels, and to offer this to the politicians.”

**Concluding remarks**
*Jacques Remacle, EAHC.*

An easy conclusion to be made is that the subject is complex: a one-day workshop was not enough to address all the dimensions of knowledge translation for health policy and practice. There is no “one-size-fits-all” solution. Many factors and methodologies need to be taken into account, and these will vary from one policy file/area to another.

The workshop gave many hints and suggestions, yet drawing conclusions is quite difficult. An overall report of the workshop will be prepared and disseminated in due course. Our speakers will be asked to authorise having their presentations posted onto the EAHC website (ec.europa.eu/eahc/) along with the report.

These are the points that attracted my attention:

- Evidence should be sound, should be timely, should bear in mind that at the end it must be for the benefit of the health of citizens.
- Trust and independence in generating the evidence is crucial.
- Different types of evidence can be used at different stages of the policy development.
- Evidence-informed policymaking requires using the best available existing data and knowledge from research. If important evidence is lacking, it is necessary to generate additional evidence. It is not recommended to start developing policy based on a partial set of evidence.
- Members States are interested in how/why a policy decision was taken in another EU MS. Therefore, the EU can play a role in trying to network policy makers at the EU level to share their knowledge broking experience.
- The process of transfer/integration of evidence into policy will be different for different topics of public health. In the field of HTA, the road to decision is bet-
ter defined and is included in a legal framework. This is not the case for other areas of public health. Indeed, in the absence of legal framework, other methodologies are needed.

- Acceptance of the evidence-based approach has a cultural dimension which should not be ignored. EU actions through their multidisciplinary and multinational dimensions can address these cultural differences – and can also help addressing global problems.

- For efficient knowledge translation, it is important to have policy-makers involved as early as possible in defining the problem to be addressed, its dimension, and the policy goals to be reached. They should agree on the evidence to be gathered, and in particular the evidence needed to have a clear understanding of the policy landscape. The Public Health Programme developed by DG SANCO is helping, via the joint action funding mechanism, to establish a policy-dialogue process between scientists and policy markers in different areas of public health policy. Within these joint actions, European and national policy makers meets regularly with top scientists in the field to implement a clear set of actions and deliverables that are aiming to achieve progress into important EU health policy areas.

- If you anticipate some resistance from certain groups of important stakeholders, it is advisable to involve them from the beginning. If they are not part of the action, they will never change their mind.

- The “absolute evidence” does not exist. Someone will always find that some evidence is missing.

- The grounds / evidence for taking a decision will be different from the perspective of a politician compared with the perspective of a GP (as well as from the perspective of patients). Therefore, to achieve successful transfer of knowledge into policy, it remains important to have a thorough analysis of the different ways of interpretation of the evidence. It is important to consider that different target groups will be asking different approaches in communication and will be using different languages. The policy brief should take this into account.

- Evidence is one parameter for a politician to take a policy decision, but competes with many other factors in the policy-making process. Therefore, when fostering knowledge translation, it is important to understand all the parameters politicians are using to take their decision, e.g. financial implications (to satisfy the questions of the Minister of Finance); job creation or loss (to satisfy the questions of the Minister of Employment); parliamentary agenda (election agenda); is there a sufficient majority to achieve a political agreement?.

- The highest level of transfer takes place when there is a legal willingness to establish a regulation. The gradient goes down with decreasing interest in putting legislation in place.
Scientific opinions are not binding, but could become important depending on what scandal will appear in the news.

The way the question is asked is important when consulting a scientific body for their opinion. The wrong question can lead to valueless advice. The experts providing advice must be totally independent.

Reports should always be short (summaries, policy brief, evidence brief); use language understandable by policy makers (avoiding terms that are too technical); if possible, should be translated into the language used by the national policy maker (Observatory policy brief). Communication to vulnerable groups should be adapted (e.g. immigrants).

Civil society plays an important role. Some NGOs collect documents, interpret them, and provide a clearing house – but it is a challenge to find the resources to maintain and develop them, taking into account new communication technologies. Their size, translation in several languages, and the overall number of documents, each need to be carefully considered. Indeed, too much information may kill the information.

Impact/use of social media should be investigated. Media/politician are using social media and therefore methodologies should be developed to give more visibility to important evidence.

Important to have a tool to see whether the message given to the public (GP or patient) is perceived by the targeted group. Lack or miss-interpretation of a message may have serious consequences in the case of a crisis (e.g. in H1N1 crisis)

Knowledge is global, but its application may be local. We need additional steps in interpretation to transform a successful application of global knowledge at the local level.

If you are a poor country, you may need more evidence for taking a decision than if in a rich country.

There are three fundamental steps in evidence-informed policymaking: problem clarification (understanding, gravity size, dimension); framing options based on the best evidence available; and strategies for implementation.

Mechanisms used for systematic reviews should closely follow the development of the policy processes and impact.

We had many interesting talks today and I would like to thank all our speakers for their contributions to the workshop, and for their time and availability.
## Programme / Agenda

### Session A

**Getting the evidence through: from the polity to the health system and front-line adoption**

**Chairs**
- **Jacques Remacle**, EAHC, Health Unit
- **Natasha Azzopardi Muscat**, EUPHA (Section lead Policy and Practice)

**Mark McCarthy**, University College London
- Introduction: Learning from PHIRE (Public Health Innovation and Research in Europe)

**Tapani Piha**, DG SANCO D3
- Knowledge in the polity: Getting the ‘right’ science into the policy debate

**Alric Ruether**, IQWIG
- Knowledge and the role of "expert policy advice centres": experience from the Institute for Quality and Efficiency in Health Care (IQWIG)

**Yiannis Kyratsis** - City University London.
- Adoption of knowledge in the frontline: lessons learnt from observing knowledge and innovation uptake in practice

### Session B

**Current practices to promote use of knowledge at the European level: strengths and weaknesses**

**Chairs**
- **Stefan Schreck**, DG SANCO C2
- **Ulysses Panisset** (WHO - EVIPNET)

- The role of Regulatory Agencies in evidence generation and knowledge transfer: the role of the EMA.

**Takis Daskaleros**, DG SANCO D3
- Expert advice for legislation or as support in EU policy coordination: the scientific committees and the expert panels on effective ways of investing in health

**Willy Palm**, European Observatory on Health Systems & Policies
- The contribution of the European Observatory to an evidence-informed policy process: knowledge translation, communication and uptake
| **Session C** | **Martine de Schutter**, AIDS Action Europe Knowledge sharing at the EU level: the perspective of civil society – knowledge based advocacy in the area of HIV/AIDS |
| **Navigating un-charted waters: how can science and policy adapt to an age of rapid innovation and rising uncertainty** |
| **Chairs** | **Gillian Dacey**, Public Health England |
| **Barbara Kerstiens**, DG RTD | Lessons learnt from the H1N1 pandemic - a case study on multiple levels of uncertainty and risk |
| **Giovanni Nicoletti**, PHP Committee, Italian Ministry of Health | **Marco Martuzzi**, WHO – Environment Office |
|  | Evidence for policy: experiences and challenges in the environmental health domain |
|  | **Jonathan Lynn**, IPCC Secretariat (courtesy of) |
|  | The Intergovernmental Panel of experts on Climate change (IPCC): a novel approach to risk identification and communication |
|  | **Barbara Kerstiens**, DG RTD |
|  | Challenges in knowledge production |

| **Fourth Session** | **Recommendations for concrete actions/ roundtable** |
| **Chairs** | **Kaelan Moat**, Health Systems Evidence, McMaster University |
| **Natasha Azzopardi Muscat**, EUPHA (Section lead Policy and Practice) | Mapping knowledge transfer models, types of knowledge use, the role of science in the policy process. |
|  | **Raf Mertens**, KCE |
|  | Evaluating the impact of the evidence: experience from the KCE |
|  | **Ulysses Panisset**, WHO - EVIPNET |
|  | Methods and tools for successful Knowledge Translation |
|  | **Inmaculada Navarro**, Ministry of Health, Social Services and Equality, Spain |
|  | Knowledge sharing at the EU level: the perspective of the Member States |
Evidence Generation and Successful Knowledge Transfer in Public Health – Conference Support Paper

1 Introduction

1.1 Why this workshop organized by EAHC?

“Part of our work consists of ensuring that evidence and knowledge produced or furthered by the Health Programme is taken up by end users (MS, other stakeholders etc.) Additionally, many projects funded by the Public Health Programme have delivered quality results that could have significant impact at the policy level. However, despite the relative importance of the outputs, the implementation of these into policies with Member States remains rather low. We need to understand the reasons why and to find better approaches to achieve this goal.”

1.2 Definitions

1.2.1 Wikipedia: Knowledge translation (KT) is the umbrella term for all of the activities involved in moving research from the laboratory, the research journal, and the academic conference into the hands of people and organizations who can put it to practical use. The term is most often used relative to the health professions, including medicine, nursing, pharmaceuticals, and public health.

1.2.2 Canadian Institutes for Health Research (CIHR) says “Knowledge translation … includes synthesis, dissemination, exchange and application of knowledge…”

CIHR defines KT as the exchange, synthesis, and ethically-sound application of knowledge—within a complex set of interactions among researchers and users—to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system (CIHR, 2004).

1.2.3 In 2006, Graham, et al documented 29 different terms used by 33 different health research funding agencies in their publications, including knowledge transfer, knowledge mobilization, knowledge exchange, implementation, and translational research.

1.3 Models

1.3.1 “Knowledge Translation is a relatively new term that is used to describe a relatively old problem - the underutilization of evidence-based research in systems of...”

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5 Preliminary communication from P Martin, EAHC, in setting up the event.
6 https://en.wikipedia.org/wiki/Knowledge_Translation
care. Underutilization of evidence-based research is often described as a gap between 'what is known' and 'what is currently done' in practice settings.⁸

Of the several reviewed by Sudssawad⁸, the model below by the Canadian Institute for Health Research was the presented as being not too complex, while identifying several points on the knowledge translation process:

Much further material is available⁹ from the Canadian Institutes for Health Research.

1.3.2 McMaster Evidence Review and Synthesis Centre (Canada) has provided¹⁰ a database with 133 summaries. In its Evaluation, “the registry is valued and useful, but would benefit from a more intuitive indexing system and refinements to the summaries. User stories and promotional activities help expand the uptake of knowledge translation methods.”

1.3.3 KT: three areas¹¹
- Evidence generation (necessary first step)
- Knowledge production and knowledge transfer (contextualisation of the evidence)
- Knowledge uptake and use (implementation/execution issues)

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⁸ http://www.ncddr.org/kt/products/ktintro/index.html
2 Evidence generation (necessary first step)

2.1 How is evidence created (ie what generates research)?

European countries have long histories of research in academic settings (academies, institutes, universities). There is a move now to ‘big science’, with more money going for:

(a) programmatic links between researchers. Some countries are now building linkages between research teams within countries.

(b) linkage between countries, eg in funded single projects of the EU Framework Research programmes, and in collaboration between countries through the (DG Research) Joint Programming and (DG SANCO) Joint Actions.

(c) Some national Ministries of Health have research programmes that are directed towards specific challenges or knowledge gaps.

(d) Links should be developed between country programmes and European-funded priorities; and European funders (DG SANCO, DG Research) and national funders could provide analyses of the state of ‘current research’ in countries (and globally) to anchor their programme calls.

A larger proportion of research should be targeted towards creating ‘evidence’.

2.2 There is important debate on the different approaches to commissioning research. This is indicated in the European research programmes. EU research originated as facilitation between countries (‘Concerted Actions’), followed by full funding for Coordination between countries. In both of these, the Commission set the research topic and researchers responded with a proposal (‘responsive’ research). However, since the 2007-2013 programme, and more so in the 2014-2020 programme, the European Research Council is funding individual researchers presenting their own proposals. This is currently called ‘frontier’ research (although applied research is also focused towards knowledge frontiers).

2.3 Issues:

Researchers want (money) to do the research they think is important – they do not believe research funders can set agendas and they want (their) peers to choose the “best”. They also want to fund on the ‘track record’ of a research team.

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Public funders, prodded by public and political concerns, would like research to develop knowledge for direct use, and believe this can be done by setting call thematic areas.

At a grand scale, the Human Genome was a thematic call, but there was also convergence between researchers and funders. In more applied areas of health sciences, where there needs to be social as well as biological research, biosciences have given less support to thematic calls.

In the EU Research Horizon 2020 programme, the contrast is made between the European Research Council which funds investigator-led research and the Grand Challenges which are responsive research. Similar differences exist for some countries in funding by research councils and ministries of health.

2.4 Study of health research funding agencies in Australia, Canada, France, Netherlands, Scandinavia, United Kingdom, and United States\(^\text{13}\) about their support and promotion of KT. Results showed a lack of clarity between agencies as to what is meant by KT, how it is operationalized, their degree of engagement in this process, and to push results to audiences. A greater emphasis on evaluation is needed.

2.5 There are tools to support evidence-informed health policymaking\(^\text{14}\). Topics include, for example, using research evidence to clarify problems, assessing the applicability of the findings of a systematic review about the effects of options selected to address problems, organising and using policy dialogues to support evidence-informed policymaking, planning policy monitoring and evaluation – and more general guidance.

2.6 Example of a research department integrated with users. FUSE is a collaboration of 4 universities in north-east UK, which work directly with the public and with voluntary organisations, the health system, and local and regional government. "Fuse pursues an integrated programme of multi-method research on the development and translation of evidence for public health into policy and practice."


\(^{15}\) http://www.fuse.ac.uk/durham
3. Knowledge production and knowledge transfer (contextualisation of the evidence)

3.1 A systematic review 346 potential publications of knowledge translation strategies identified just 5 which met all relevance criteria (four randomized controlled trials and one interrupted time series analysis). Simple or single KT strategies could be as effective as complex, multifaceted ones. Passive knowledge translation was less effective, eg access to registries of pre-processed research evidence or print materials. Knowledge brokering had effect only on those organizations that at baseline placed little value on evidence-informed decision making.

3.2 Two types of Knowledge Translation at CIHR:

a. End of Grant KT - the typical dissemination and communication activities undertaken by most researchers, such as KT to their peers through conference presentations and publications in peer-reviewed journals, activities that tailor the message and medium to a specific audience, such as summary briefings to stakeholders, media engagement, or the use of knowledge brokers. The commercialization of scientific discoveries is another form of end of grant KT.

b. Integrated KT. Stakeholders are engaged in the entire research process, by collaborating to determine the research questions, deciding on the methodology, being involved in data collection and tools development, interpreting the findings, and helping disseminate the research results. This approach, also known by such terms as collaborative research, action-oriented research, and co-production of knowledge, should produce research findings that are more likely be relevant to and used by the end users.

3.3 National organisations such as IQWIG (Germany) and KCE (Belgium), presenting in this meeting, and Haute Autorité de Santé (HAS in France), and National Institute for Health and Care Excellence (NICE in UK), serve national authorities. Other national organisations, such as the UK Centre for Reviews and Dissemination, may provide synthesis reviews, and NICE even has a ‘do not do’ database.

3.4 NICE reviewed 4 countries’ experience in national centres for ‘comparative effectiveness research’ (Australia, France, Germany, UK). There is “interest in com-

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17 http://www.cihr-irsc.gc.ca/e/39033.html
18 http://www.york.ac.uk/inst/crd/about_us.htm
19 http://www.nice.org.uk/usingguidance/
parative effectiveness information by policymakers, academics, payers, consumers, manufacturers and the federal government”. It is a ‘demand-driven’ activity “providing information to support population-level coverage determinations, general reimbursement policies, and individual-level clinical management decisions”. “The focus is on producing the specific information needed to act on the highest-priority topics currently being discussed.” Three “elements of success” were identified: strong political endorsement; early discussion with stakeholders; and demonstrable commitment to quality and evidence-based best practices to gain professional approval.

3.5 The Health Council of the Netherlands places some reviews on the EC website Sinapse (http://europa.eu/sinapse).

3.6 Examples of cooperation to create Europe-wide knowledge
- European Science Advisory Network for Health (EUSanH)\(^{21}\) “started in 2006 and founded in 2011, is a network of National Science Advisory Bodies in Europe which are active in the field of health”.
- European Network for Health Technology Assessment \(^{22}\) with European Patients’ Academy on Therapeutic Innovation (EUPATI) is funded by the Innovative Medicines Initiative – ie EU DG Research (European Medicines Agency is partner);

3.7 The Cochrane Public Health Group\(^{23}\) produces reviews of the effects of population-level public health interventions. “We focus on interventions which aim to address the structural and social determinants of health, operating at the level of community, systems, policy, legislation and regulation”.

3.8 Effectiveness of the Cochrane “systematic review” approach for public health knowledge translation has been described\(^{15}\).

\(^{21}\) [http://www.eusanh.eu/](http://www.eusanh.eu/)
\(^{22}\) [http://www.eunethta.eu/](http://www.eunethta.eu/)
\(^{23}\) [http://ph.cochrane.org](http://ph.cochrane.org)
4. Knowledge uptake and use (implementation/execution issues)

4.1 A review of bibliographic databases, organisational websites, key informants and bibliographies of studies identified 15 qualitative studies, and three surveys, covering 1063 public health decision makers. Decision making processes varied widely between settings; they were viewed differently by respondents; and there was no reliable evidence on the extent of the use of research. Barriers included: decision makers’ perceptions of research evidence; the gulf between researchers and decision makers; the culture of decision making; competing influences on decision making; and practical constraints24.

4.2 A study on “what works to increase the use of research in population health policy and programmes” identified 106 papers, including descriptive studies of potential intervention strategies and intervention studies to evaluate the impact of the tested strategies. There is little evidence about which strategies increase the use of evidence in population health policy and programmes25.

4.3 Evaluation of uptake, from Ludwig Boltzmann Institute for Health Technology Assessment, Vienna, Austria26. “We applied qualitative and quantitative empirical research methods, such as interviewing, download analysis, questionnaire, retrospective routine data analysis, and media analysis…. HTA reports have increasingly been used for investment and reimbursement decisions, as well as for the preparation of negotiations. Economic impact was indicated by decreased expenditures due to HTA recommendations. HTA reports are primarily used by hospital management, (social) insurances, and the Austrian Ministry of Health. Nevertheless, there is still potential to increase the impact of HTA. “

4.4 Proposed evaluation of KT support programme27

Evaluation of Canadian Institutes of Health Research (CIHR) leadership and funding for KT science and practice, using an international environmental scan,

document/data reviews, in-depth interviews, targeted surveys, case studies, and an expert review panel. The study will investigate how efficiently and effectively the CIHR model of KT funding programs operates, what immediate outcomes these funding mechanisms have produced, and what impact these programs have had on the broader state of health research, health research uptake, and health improvement.

4.5 Stakeholder / user involvement.

An impact assessment of funding a program of six projects on respiratory diseases was based on 23 interviews. Participants indicated that changes in health services or clinical practice had resulted from research. The barriers and facilitators identified were mostly organizational (in research management, and clinical and healthcare practice), while some were related to the nature of the research, and to personal factors. The relationships between managers and research teams, and the mutual knowledge of their activity, were important28.

4.6 The ENTENTE project29 for Knowledge Transfer in health, supported by the European Commission Seventh Framework Programme and coordinated by Inserm-Transfert SA provides “the interaction between academia and industry and facilitate the development of academic health research results towards commercial products”. Here, therefore, Knowledge Transfer is about intellectual property and non-disclosure, serving private rather than public interests. It is funded from the call “HEALTH.2012.4.1-1: Network to encourage knowledge transfer activity in FP-funded health research (especially in academic and governmental organisations)”

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29 http://entente-health.eu/Overview