



Research evaluation: metrics for scholarly impact and narratives for societal impact

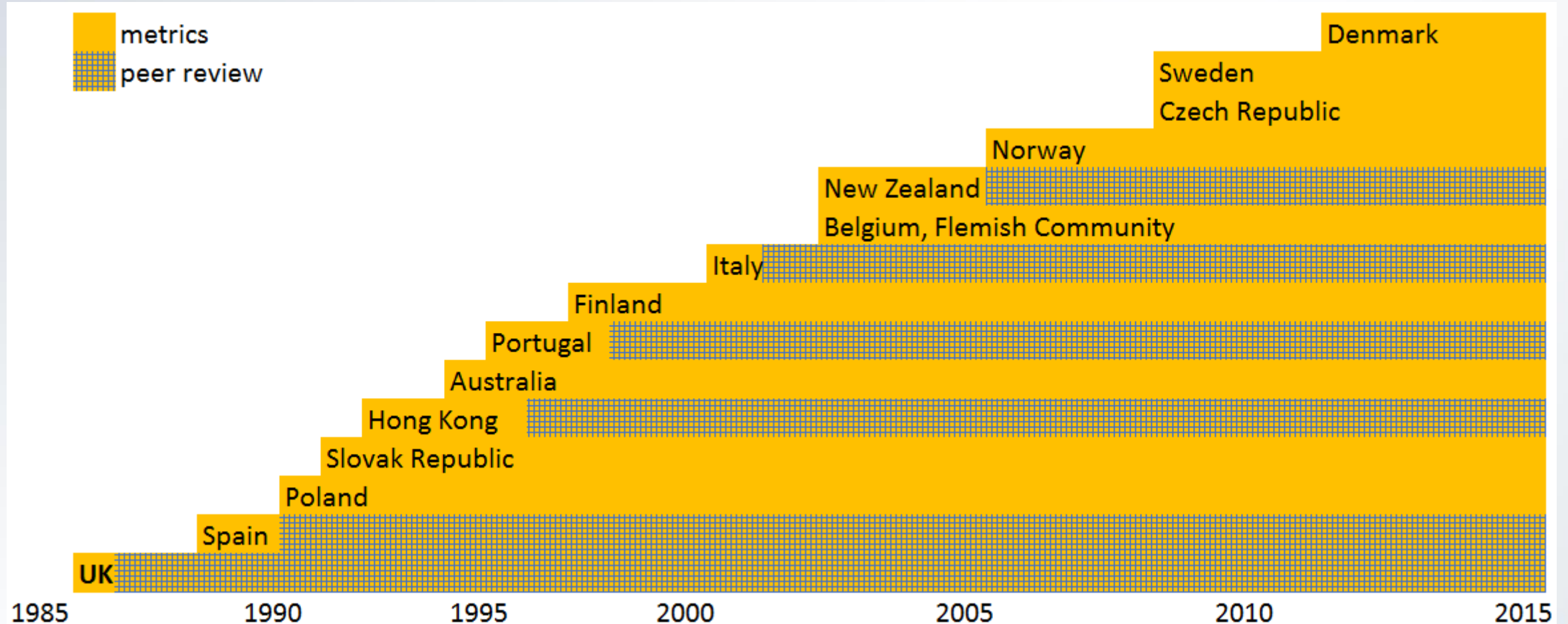
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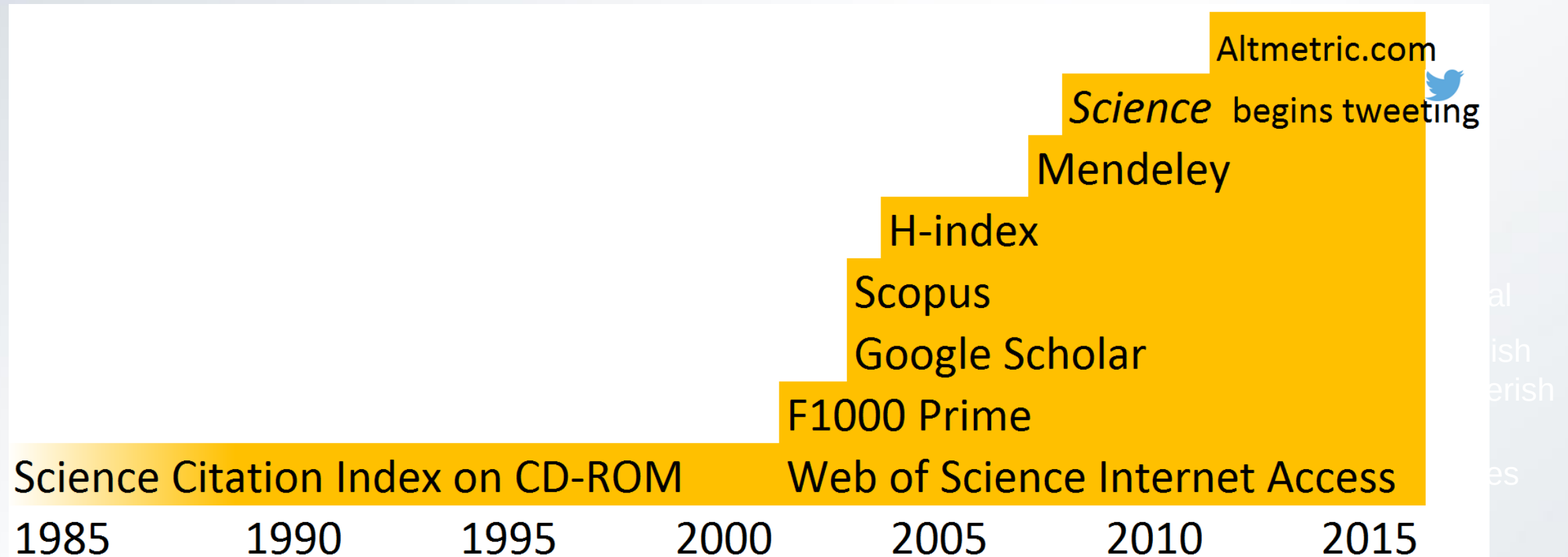


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National University Research Evaluation Schemes Proliferate



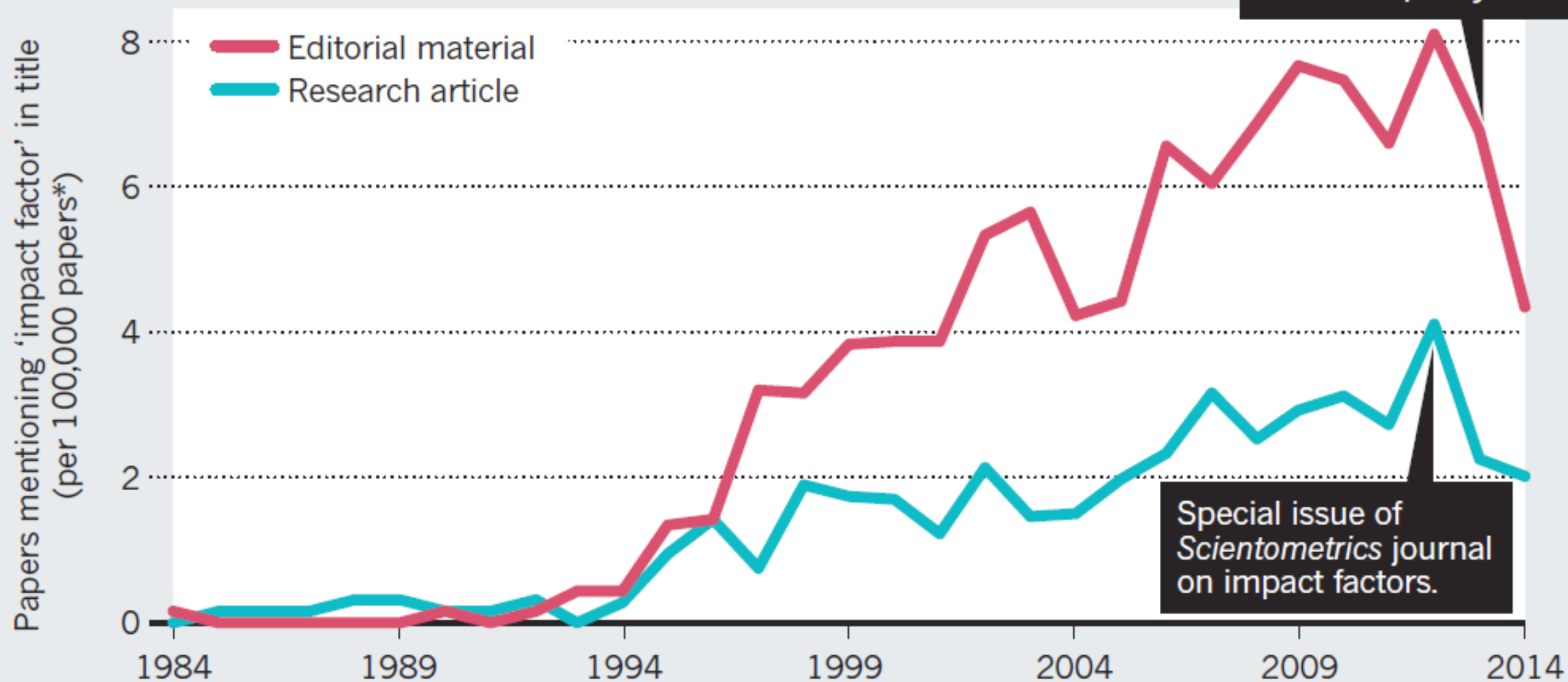
Metrics Options Proliferate



IMPACT-FACTOR OBSESSION

Soaring interest in one crude measure — the average citation counts of items published in a journal in the past two years — illustrates the crisis in research evaluation.

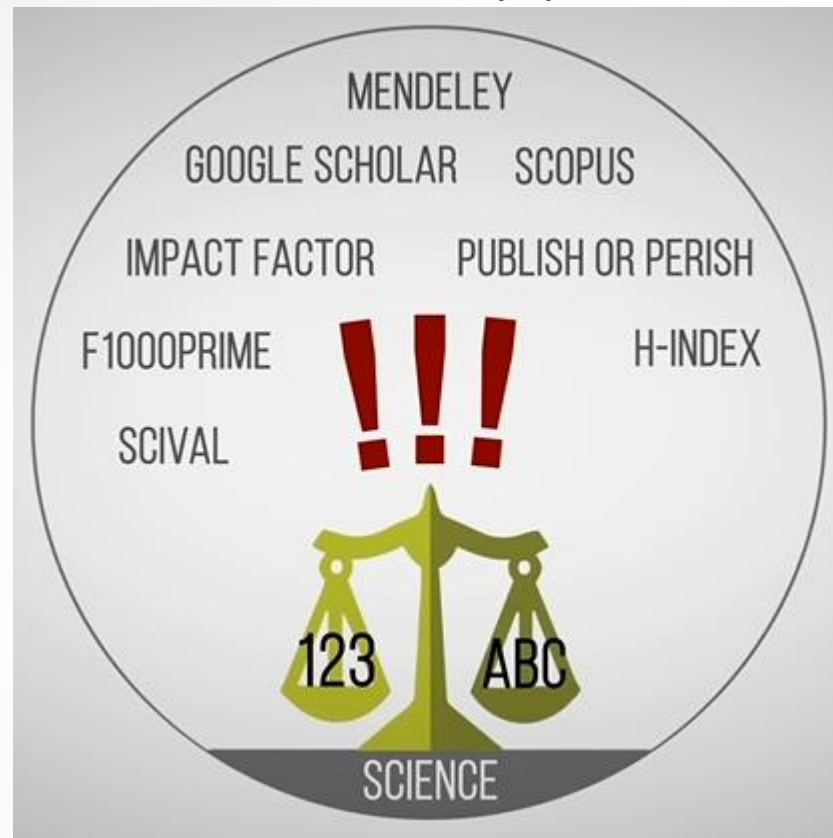
1 ARTICLES MENTIONING 'IMPACT FACTOR' IN TITLE



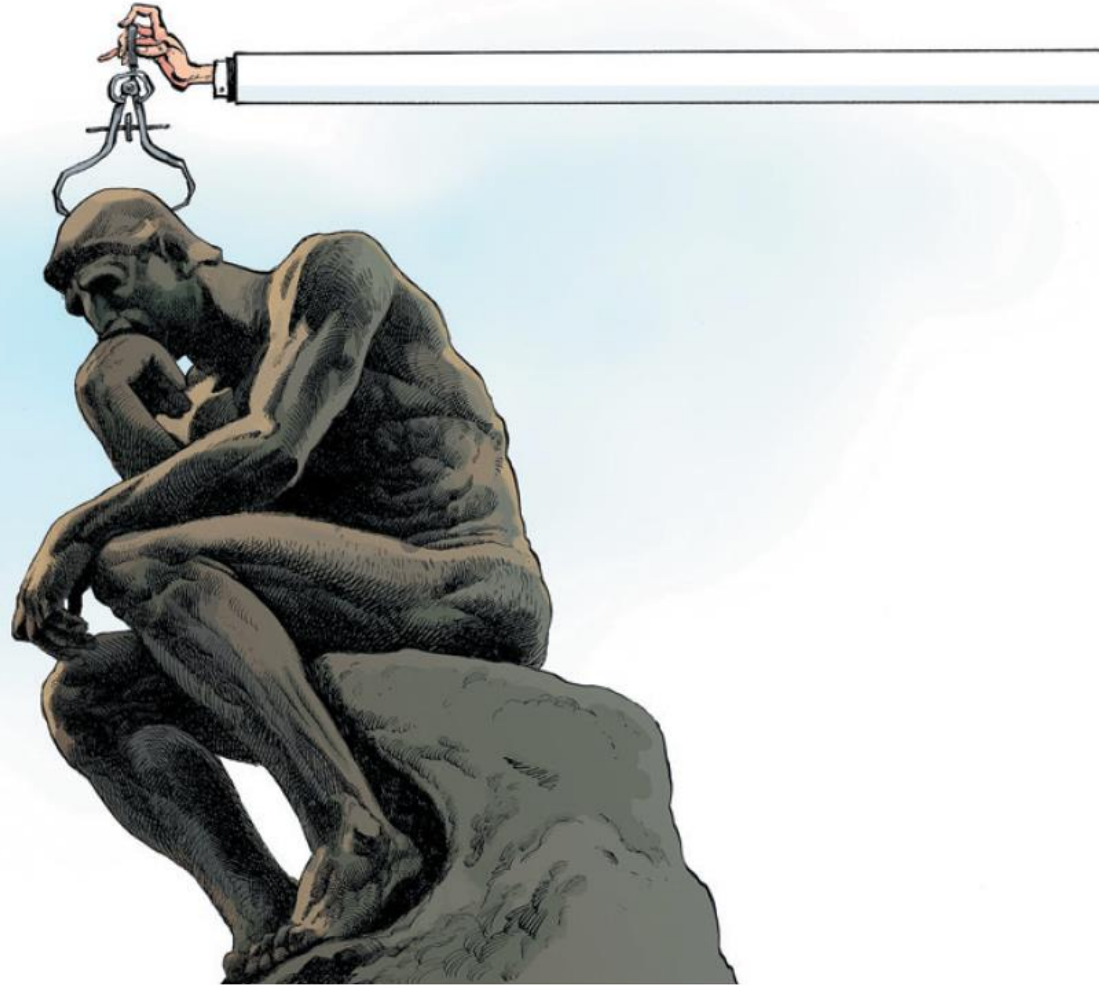
Metrics overload

- # papers
 - Reduced for co-authorship
- # citations
- Average citations/paper
 - Reduced for co-authorship
- # papers in top 1%
 - 10% ...
- H-index
 - G index
 - M index
 - Wu index
 -37 + variants
- Impact factor

- Downloads
 - Mendeley usage
- Tweets
 - Percentile of tweeted papers



- Country
- City, region
- Hospital, university
- Department
- Group
- Individual
- Journal
- Paper



Diana Hicks, Paul Wouters, Ludo
Waltman, Sarah de Rijke,
Ismael Rafols

Nature,
April 23, 2015, 520:429-431,
doi:10.1038/520429a

The Leiden Manifesto for research metrics

video at leidenmanifesto.org

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The diagram is enclosed in a large circle. At the top is the number '(2)' above the word 'RESEARCH'. Below 'RESEARCH' are two boxes: a blue one on the left with a graduation cap icon and the text 'ADVANCING FRONTIERS OF ACADEMIC KNOWLEDGE', and a green one on the right with a checkmark icon and the text 'DELIVERING SOLUTIONS TO SOCIETAL PROBLEMS'. Arrows from both boxes point down to a black box labeled 'EVALUATION'. Below 'EVALUATION' is the text 'NO SINGLE EVALUATION MODEL APPLIES TO ALL CONTEXTS', with 'ALL' in red.

04:30 HD

The Leiden Manifesto for Research Metrics

from Diana Hicks 1 year ago | more

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The 10 Principles

1. Quantitative evaluation should support qualitative, expert assessment
2. Measure performance against the research missions of the institution, group or researcher
3. Protect Excellence in locally relevant research
4. Keep data collection and analytical processes open, transparent and simple
5. Allow those evaluated to verify data and analysis
6. Account for variation by field in publication and citation practices
7. Base assessment of individual researchers on a qualitative judgement of their portfolio
8. Avoid misplaced concreteness and false precision
9. Recognize the systemic effects of assessment and indicators
10. Scrutinize indicators regularly and update them

Volunteers translated into 15 languages



Chinese



Persian



Finnish



Spanish



Catalan



Swedish



French



Traditional
Chinese



Slovak



Brazilian
Portuguese



Russian



Korean



Basque



German



Japan

Societal impact – UK REF impact case studies

The research of **154** UK universities was assessed

They made **1,911** submissions including:

- **52,061** academic staff
- **191,150** research outputs
- **6,975** impact case studies

36 expert sub-panels reviewed
the submissions, overseen
by **four** main panels:



898 academic members **259** research users

REF societal impact assessment

- **Goals:** to support a dynamic and internationally competitive UK research sector that makes a major contribution to economic prosperity, national wellbeing and the expansion and dissemination of knowledge.
 - Help in allocating 2 billion GBP per year of research funding to UK universities from 2015 going forward.
- **Definition:** ‘Impact’ is any effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia

Narratives by the numbers

- 4 pages,
- 1,350 words (500 for the research, 750 for the impact, rest for ref's)
- describing impacts that had occurred between 2008 and 2013,
- from research conducted in the prior 20 years,
- 1 case study for every 10 staff
- Narrative had to be evidenced

Panels were very satisfied with the evidence they reviewed

- High levels of reach and significance, diversity, range and breadth, extremely high quality, strong evidence of productive engagement with publics, users and policy makers, evidence of a rich and sophisticated research ecology in which institutional missions vary and are each able to demonstrate the highest levels of excellence
- Taken together, these points clearly indicate the need to continue funding the research environment at a level that enables high quality research to be undertaken, and converted into meaningful impact
- The panels consider it important to acknowledge that research can lead to unanticipated impacts

Worries

- 20 year window was too short for classics, physics, mathematics
- Impacts based on broader expertise, reputation, many decades of work, could not be submitted. Had to tie to a specific paper.
- Long time periods between research and impact with many intermediate actors were hard to evidence convincingly. Short and direct was easier.
- Difficult to get verification evidence from overseas
- Over-claiming or duplication rather than jointly developing inter-institutional case studies.

To write a strong case study:

- provide a coherent and convincing narrative
- identify the issue addressed by the research
- link, with evidence, the research and subsequent impact
- define beneficiaries
- provide credible evidence to support the reach and significance of the claimed impact
- distinguish between the process of disseminating the research and the resulting impact

Accelerating diagnosis of childhood brain cancer with public awareness campaign

- University of Nottingham Children's Brain Tumour Research Centre
- Public concern over delay in diagnosis
- Developed guidelines
- Planned a dissemination strategy
- Goal: reduce multiple referrals by highlighting symptom clusters

The screenshot shows the HEADSMART website with the following content:

- Header:** HEADSMART be brain tumour aware. Social media links for Facebook, Twitter, and a 'Donate now' button.
- Navigation:** Home, About HeadSmart, Personal stories, How Can I help?, HeadSmart materials.
- Introductory Text:** HeadSmart is a project that aims to enhance the awareness of symptoms of brain tumours in children and young people. This website is intended for the public and for health professionals, to help us all work together to improve diagnosis of childhood brain tumours in the UK. In the panels below click on the symptom to find out more.
- Age Groups and Symptom Clusters:**
 - Under 5 Preschool:** Brain tumours happen... Symptoms include: Persistent / recurrent vomiting, Abnormal balance / walking / co-ordination, Abnormal eye movements, Behaviour change, particularly lethargy, Fits or seizures (not with a fever), Abnormal head position such as wry neck, head tilt or stiff neck.
 - 5 - 11 Children:** Brain tumours happen... Symptoms include: Persistent / recurrent vomiting, Persistent / recurrent headache, Abnormal balance / walking / co-ordination, Abnormal eye movements, Blurred or double vision, Behaviour change, Fits or seizures, Abnormal head position such as wry neck, head tilt or stiff neck.
 - 12 - 18 Young People:** Brain tumours happen... Symptoms include: Persistent / recurrent vomiting, Persistent / recurrent headache, Abnormal eye movements, Blurred or double vision, Abnormal balance / walking / co-ordination, Behaviour change, Fits or seizures, Delayed or arrested puberty.
- Additional symptoms to be aware of:** Reduced consciousness, Diabetes insipidus (excessive drinking and urination), Abnormal growth.
- Footer:** Three buttons for 'Additional information for healthcare professionals', 'Additional information for parents and carers', and 'Additional information for teens and young people'.

Establishing Impact

- Awareness: Survey data
 - 11% of population aware
 - 73% of paediatricians aware
 - Diagnostic confidence rose from 32% to 54%
- Awareness: information metrics
 - Cards distributed
 - Websites visits
 - Facebook likes
 - Twitter followers
- Clinical guidelines
 - Publication
 - Endorsement by professional bodies
 - NHS evidence accreditation
- Clinical outcomes
 - Nationally, time from symptom onset to brain tumour diagnosis reduced from 14.4 weeks to 6.9 weeks

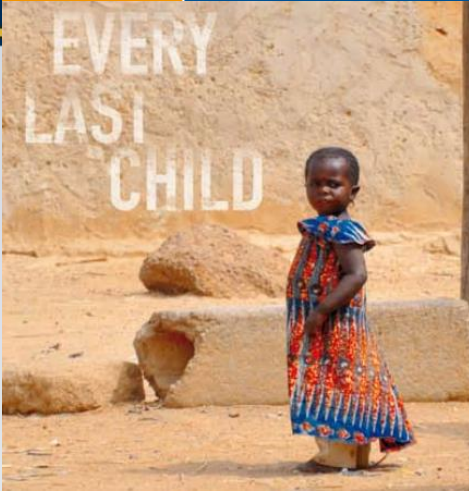
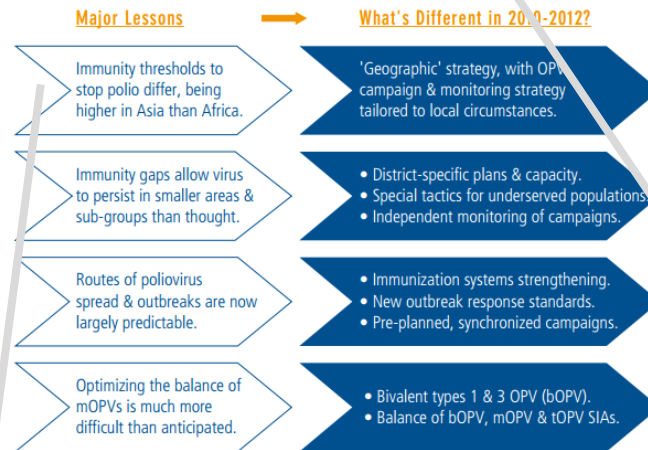


Figure 1 – Major Lessons Learnt



2.2 Geographic approaches

The differential progress by country towards polio eradication globally has long suggested that the population immunity thresholds at which WPV transmission stops can differ substantially between geographic areas, with implications for programme strategy, planning, and prioritization^{10, 11}. By late-2008, understanding of the efficacy of the different OPVs (trivalent OPV and monovalent OPVs) in different settings had improved to the point where the GPEI could quantify these thresholds¹². Most

Research by Professor Grassly and colleagues at Imperial College on the epidemiology of poliovirus and the efficacy of new vaccines has played a critical role in the thinking and strategy of the Global Polio Eradication Initiative (GPEI). This research has supported the introduction of new vaccines, guided the timing and location of vaccination campaigns and influenced polio 'endgame' policy. This is documented in the *GPEI Strategic Plan 2010-2012*, where Imperial research informed **2 of the 4 'major lessons'** concerning poliovirus epidemiology described in the executive summary that led to changes in the programme.

10 New strategies for the elimination of polio from India. Grassly NC et al. Science. 2006 Nov 17; 314(5802):1150-3.

11 Effectiveness of immunization against paralytic poliomyelitis in Nigeria. Jenkins HE et al. N Engl J Med. 2008 Oct 16;359(16):1666-74.

University of Essex, Department of Philosophy

- Essex Autonomy Project (EAP) a 27-month, £337,315 AHRC grant funded engagement
- Beneficence - the primary aim of medicine is to benefit patients;
- Doctors and other care-providers must therefore act in the best interests of care-recipients.
- However, as soon as one moves beyond this intuitive and universally agreed principle, problems arise.
- In 2005, in the UK, a Court of Protection to adjudicate disputes over best interests decisions taken on behalf of care-recipients was established.
- The EAP studied the philosophical, ethical, and legal problems that arise in the cases brought before the Court of Protection.

Questions surfaced

- 1 To what extent can or should the assessment of the best interest of P (the care-recipient) take into account the interests of others (e.g. P's family, care-providers, etc.)?
- 2 When and under what circumstances does best interests decision-making amount to an objectionably paternalistic intervention in the autonomy rights of P?
- 3 Is best interests decision-making ever permissible, or is it always an inadmissible restriction of P's autonomy?

Results

Two critical results that have emerged in this research concern

- (a) the importance of overcoming 'zero-sum' models of the relationship between paternalistic intervention and respect for autonomy
- (b) the error in defining 'best interests' in narrowly individualistic terms that preclude consideration of the interests of others.

The research developed both:

- legal and an ethical argument in support of these two negative points
- proposes alternative framings of the concept of best interests that avoid them

Rollout of the results, engagement with the people and institutions concerned

Engagement:

- public policy roundtables – EAP & Public Guardian
 - July 2011
 - January 2012
- Community Care Conference, November 2012;
- working seminar at the Royal College of Psychiatrists, April 2013;
- public debate with a KCL Professor of Law and Judge Gordon Ashton of the Court of Protection, March 2013
- Office of the Public Guardian
- Law Commission
- Court of Appeal
- Department of Health
- Ministry of Justice
- Official Solicitor
- Court of Protection
- British Medical Association
- Royal College of Medicine
- Royal College of Psychiatry
- Amnesty International Ireland
- Mental Health Foundation

Best Interests Decision Making



In the protection of vulnerable persons, the law calls upon individuals and institutions to act in the best interests of a person who has been found incapable of making decisions for themselves. Legal provisions for best-interests decision-making are established in the Mental Capacity Act 2005 and are regularly adjudicated by the Court of

Protection. The Office of the Public Guardian has legal responsibility for supervising deputies and investigating complaints about individuals who are tasked with making best-interest decisions; it also plays a critical role in raising awareness of MCA provisions among frontline professionals and members of the general public. Both in the adjudication of legal cases and in the provision of administrative justice, fundamental questions arise about how to understand and apply the best-interest standard. For frontline professionals the practicalities of implementing best-interest decisions can be complex and require careful consideration. This module aims to clarify what it means to act in the best-interests of a vulnerable person and review the legal and ethical challenges associated with making decisions on behalf of someone else.

Module Objectives

At the end of the module, participants will be able to:

- Define best-interest decision-making and how this contrasts with safest-option assessments
- Identify the factors that impact on best-interest decision-making
- Understand the key aspects of mental capacity legislation concerning best-interest decision-making
- Identify strategies for unravelling the ethical challenges of best-interest decision-making
- Summarise the impact of recent land-mark case-law and its relevance to the legal and ethical challenges of best-interest decision making.

Discussion Questions

Autonomy: Philosophical Perspectives



While autonomy is a cherished value in liberal societies, respecting it presents a number of practical

challenges; how does holding competent adults responsible for their sometimes foolish choices fit with protecting their capacity to make autonomous decisions? Why should we allow patients to refuse treatment for any reasons, when we deny consenting adults the right ... Read more »

Best Interests Decision Making



In the protection of vulnerable persons, the law calls upon individuals and institutions to act in the best interests of a person who has been found incapable of making decisions for themselves. Legal provisions for best-interests decision-making are established in the Mental Capacity Act 2005 and are regularly adjudicated by the Court of Protection. The ... Read more »

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Briefing papers

Vulnerable Adults and the Inherent Jurisdiction of the High Court

Added September 7, 2011 in Briefings, EAP Research | Share

Authored by: Antal Szerletics | Download



Before the implementation of the MCA, the means for the High Court to intervene in the life of a mentally incapacitated adult was founded upon the Court's inherent jurisdiction. The inherent jurisdiction is a doctrine of the English common law that a superior court has the jurisdiction to hear any matter that comes before it, unless a statute or rule limits that authority or grants exclusive jurisdiction to some other court or tribunal.

Mental Capacity Act 2005 and Mental Health Act 1983

Added August 8, 2011 in Briefings, EAP Research | Share

Authored by: Vivienne Ashley | Download



The Mental Capacity Act 2005 aims to provide a legal framework within which carers and care workers may judge an individual's capacity to make certain decisions where it is doubtful. In contrast, the Mental Health Act 1983 is concerned with minimising the undesirable effects of mental disorder by maximising patient safety and well-being and by protecting other people from harm.

International Legal Comparison (MHA/MCA)

Added May 12, 2011 in Briefings, EAP Research | Share

Authored by: Antal Szerletics | Download



The following charts intend to provide an overview of the valid mental health

ECG heart attack diagnosing software accounting for age, gender and race

- Clinical guidelines
 - 2, “leading global” authorities
- Products
 - 5 manufacturers use it
 - 40,000 devices sold
 - FDA approval
- Clinical studies
 - Standardizes ECG interpretation
 - 12 trials
- Clinical outcomes
 - London Ambulance Service
 - 740 devices bought
 - 1.5 million calls annually
 - Increased survival following cardiac arrest from 12% to 32%
 - Conceivably related to rapid and reliable interpretation of ECGs

Summary

- Scholarly impact
 - Proliferation of metrics
 - Metrics overload
 - Principled use is key
- Societal impact
 - Narratives are the state of the art in establishing societal impact
 - Evidenced, structured, well written
 - Used by universities on their websites to tell their story