CANADIAN PUBLIC HEALTH ASSOCIATION
ASSOCIATION CANADIENNE DE SANTÉ PUBLIQUE

CANVAX

The Voice of Public Health
La voix de la santé publique

Research into action: How immunization research influences public health policy decisions in Canada

This webinar is collaboration and presented by:
The Canadian Association for Immunization Research, Evaluation & Education (CAIRE)

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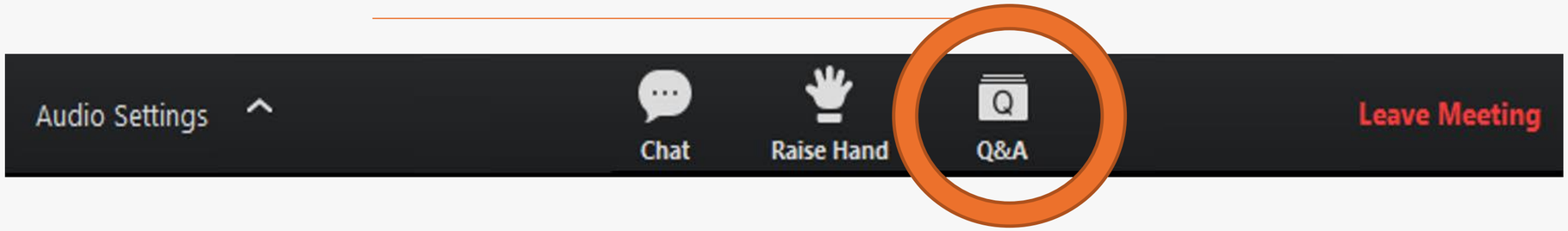
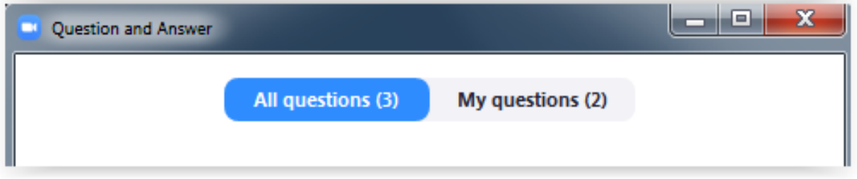
Canadian Association for Immunization Research, Evaluation & Education

HOUSEKEEPING



Use the Q&A feature to ask the presenter(s) a question



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QUICK NOTES

1. This webinar is being recorded. A recording of our webinar will be made available on CANVax.ca and on CPHA's YouTube channel. Slides will be available.

2. Please take our post-webinar survey.

3. Register with CANVax and subscribe to our newsletter.

MODERATOR

Dr. Manish Sadarangani

- Director, Vaccine Evaluation Center, BC Children's Hospital Research Institute
- Associate Professor, Division of Infectious Diseases, Department of Pediatrics, University of British Columbia

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CAIRE is a professional organization with a mission to **enhance immunization research and program evaluation** through **education** and **collaboration** among **multidisciplinary experts** in Canada and internationally.

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UPCOMING WEBINARS

Building community partnerships in immunization research

June 6 @ 1-2pm EDT | **CanCOVID**

Dr. Sarai Racey, *University of British Columbia*

Dr. Wendy Pringle, *BC Children's Hospital Research Institute*

Jacky Leung, *Wellness and Active Communities, S.U.C.C.E.S.S.*

Improving information about vaccination in pregnancy

June 9 @ 12-1pm EDT | **CCfV/CIRN**

Dr. Terra Manca, *Dalhousie University*

SPEAKER

Dr. Deshayne Fell

- Associate Professor in the School of Epidemiology and Public Health at the University of Ottawa
- Scientist in the Children's Hospital of Eastern Ontario Research Institute

SPEAKER

Dr. John Frank

- Professor (now Emeritus) at the University of Toronto's Dalla Lana School of Public Health
- Personal Chair in Public Health Research and Policy in the Usher Institute at the University of Edinburgh and Director of Knowledge Exchange and Research Impact from 2017 to 2021

National-level immunization policy-making and recommendations in Canada

CANVax-CAIRE Webinar
May 24, 2022

Deshayne Fell, PhD
Associate Professor, School of Epidemiology & Public Health, University of Ottawa
Scientist, Children's Hospital of Eastern Ontario Research Institute
Adjunct Scientist, ICES

Conflicts and disclosures

Conflicts:

- I have no conflicts to declare

Disclosures:

- Received travel support and research grants from WHO
- Member of Vaccine Safety Working Group, Influenza Working Group, and COVID-19 Vaccine Working Group (Pregnancy) of Canada’s National Advisory Committee on Immunization (NACI)

Outline

1. Overview of NITAGs
2. NACIs structure/scope
3. National Immunization Strategy objectives
4. Framework for vaccine policy making
    - Pre-2019
    - 2019 and beyond
5. Process for NACI workplan

National Immunization Technical Advisory Groups

- According to WHO, NITAGs are “multidisciplinary groups of national experts responsible for providing independent, evidence-informed advice to policy makers and programme managers on policy issues related to immunization and vaccines”
- NITAGs are an important component of national immunization systems
- Advisory role, not an implementation role

https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/national-advisory-committees-on-immunization

- A NITAG is both a technical resource and a deliberative body to empower the national authorities and policy makers to make evidence-based decisions
- Such a resource is particularly important in view of the complex and vast bodies of evidence and the global interdependence and integration of health systems

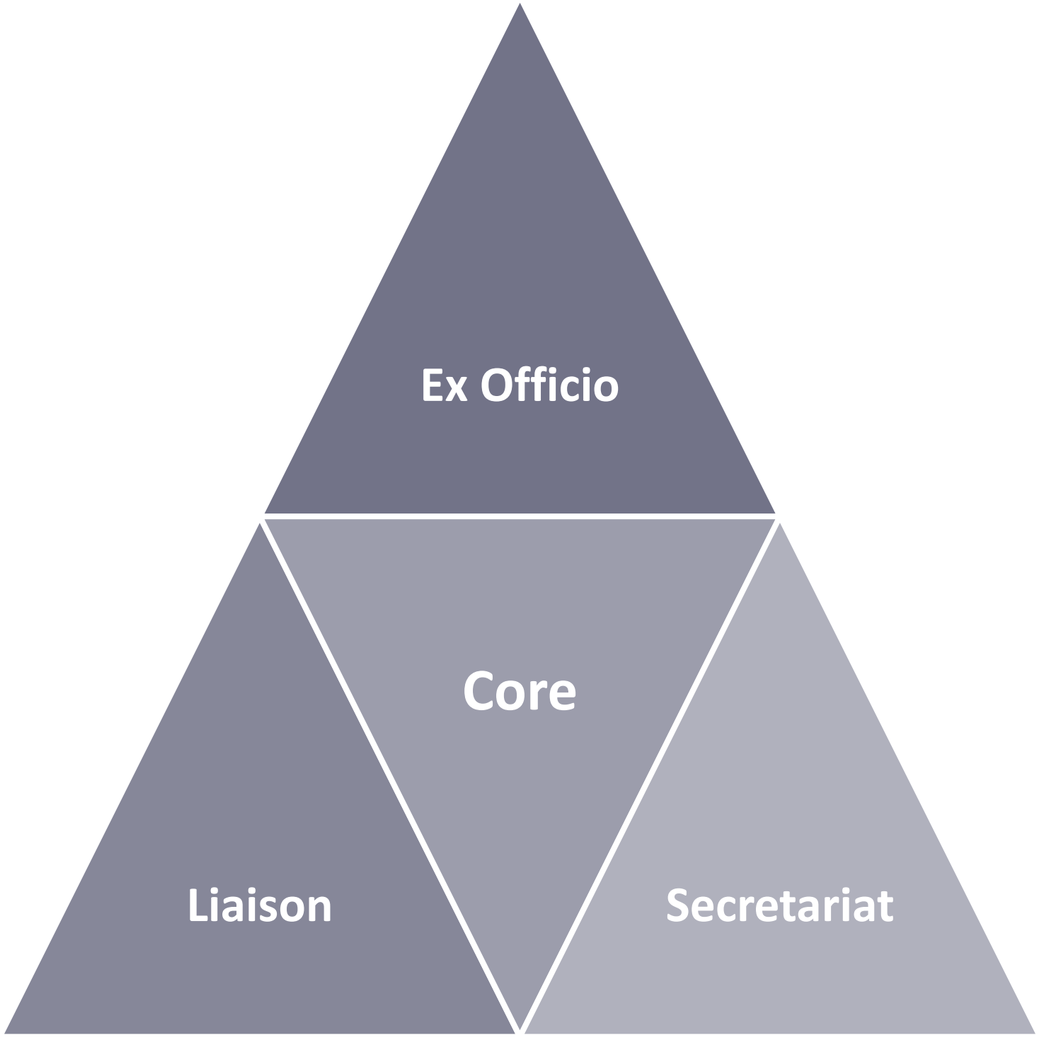
Duclos, Vaccine 2010

National Immunization Technical Advisory Groups

	Regulator Review	NITAG Vaccine Advice
Purpose	Authorize specific indications for use that are expected to be safe, immunogenic, efficacious, and of suitable quality for individuals	Recommend vaccination strategies to promote health, prevent and control infectious diseases, and prepare for or respond to public health emergencies
Focus	Individual use of product	Use of product for public programs and population health
Data reviewed	Clinical trial data submitted by manufacturers, and post-marketing monitoring	All relevant/available evidence for specific vaccines and similar vaccine formulations in the context of public health considerations, including existing vaccine programs and schedules, disease burden and distribution, and outbreak management
Authority	Minister of Health / Federal Government	

NACI history and structure

- Established in 1964 by the Government of Canada (Health Canada)
- Purpose is to provide public health advice relating to vaccines used for the prevention of disease and certain prophylactic agents for humans
- Meets all requirements and performance indicators set by WHO for NITAGs
- Operates as an external advisory body (EAB) to PHAC (reporting to the Vice President of PHAC Infectious Disease Infection Prevention and Control Branch)



NACI scope

- Scope has traditionally included recommendations based on safety, efficacy, immunogenicity, effectiveness and burden of illness
  - Since June 2016, NACI mandate is being gradually expanded to include programmatic factors, such as program feasibility and cost-effectiveness, and other factors such as equity and acceptability

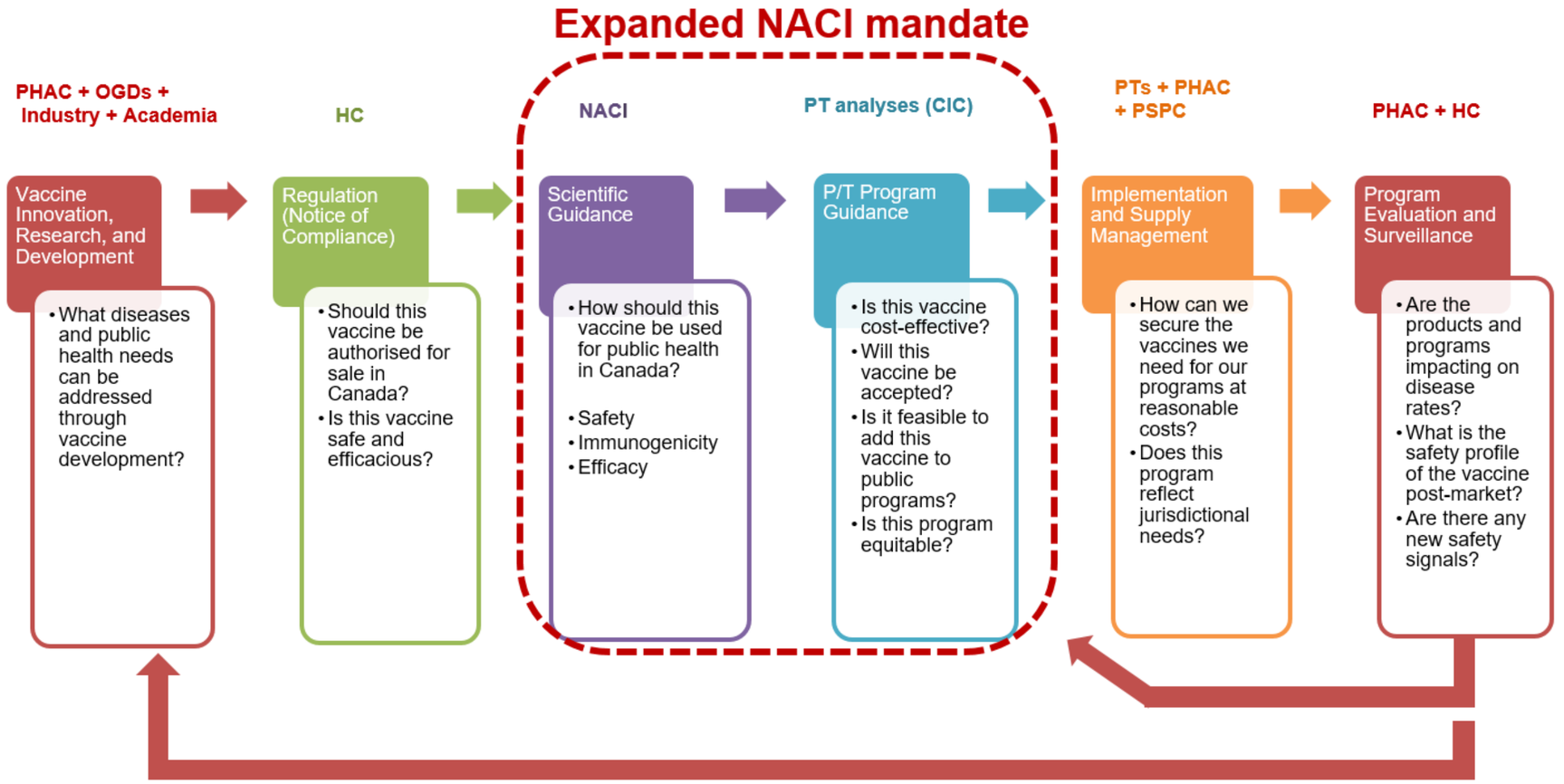
- P/Ts have discretion whether or not to accept NACI advice
  - Some P/Ts complete complementary analyses

National Immunization Strategy (NIS) Objectives 2016-2021

- NIS, established in 2003 by F/P/T Deputy Ministers of Health, provides a framework for effective inter-jurisdictional collaboration that improves the relevance, effectiveness, and efficiency of immunization programing across Canada

- **Objectives 2016-2021:**
  1. Canada has evidence-based goals for vaccine preventable disease rates and immunization coverage
  2. Canada is better able to identify under and un-immunized populations and has an enhanced understanding of the determinants of vaccine acceptance and uptake
  3. Canadians have timely and equitable access to immunization
  4. Canada has the evidence needed to develop and implement evidence-based interventions, to improve immunization coverage rates
  5. Canadians have the information and tools needed to make evidence-based decisions on immunization
  6. Canada understands the key barriers to, and best practices in, improving immunization coverage and invests in addressing them

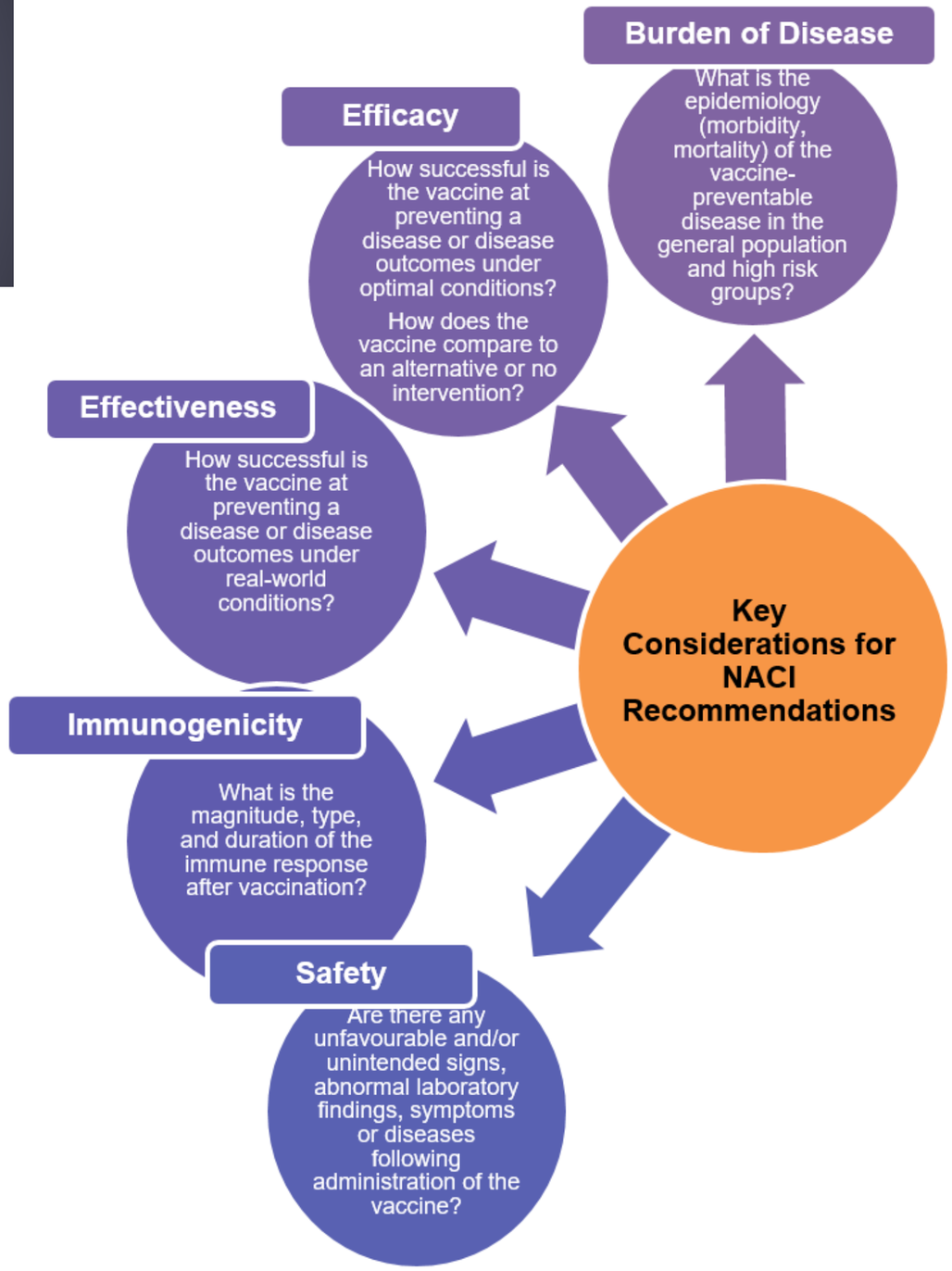
Expansion of NACI's mandate (2016-2019 and beyond)



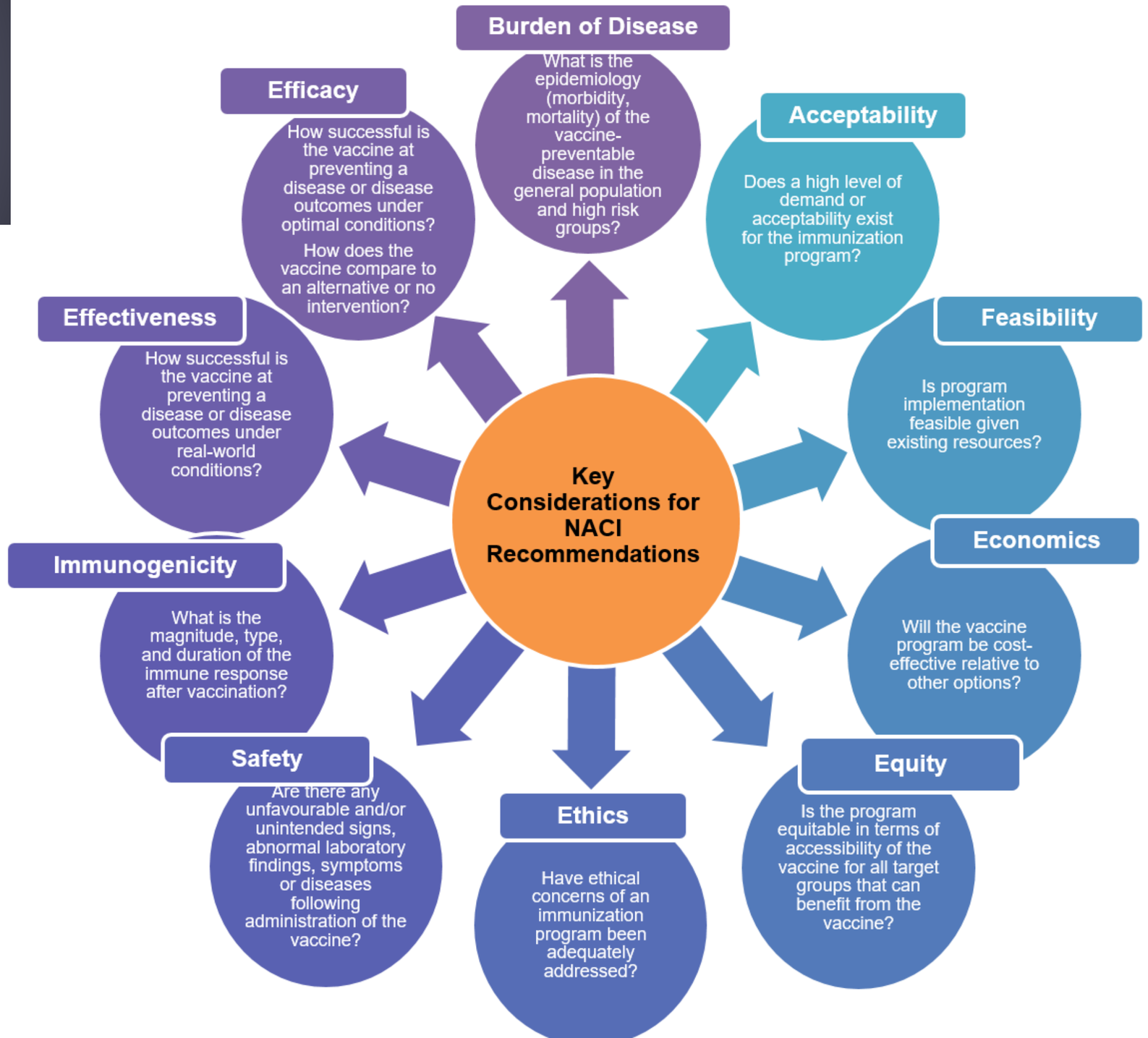
The mandate expansion follows extensive FPT consultations in support of the National Immunization Strategy

Framework for vaccine policy making

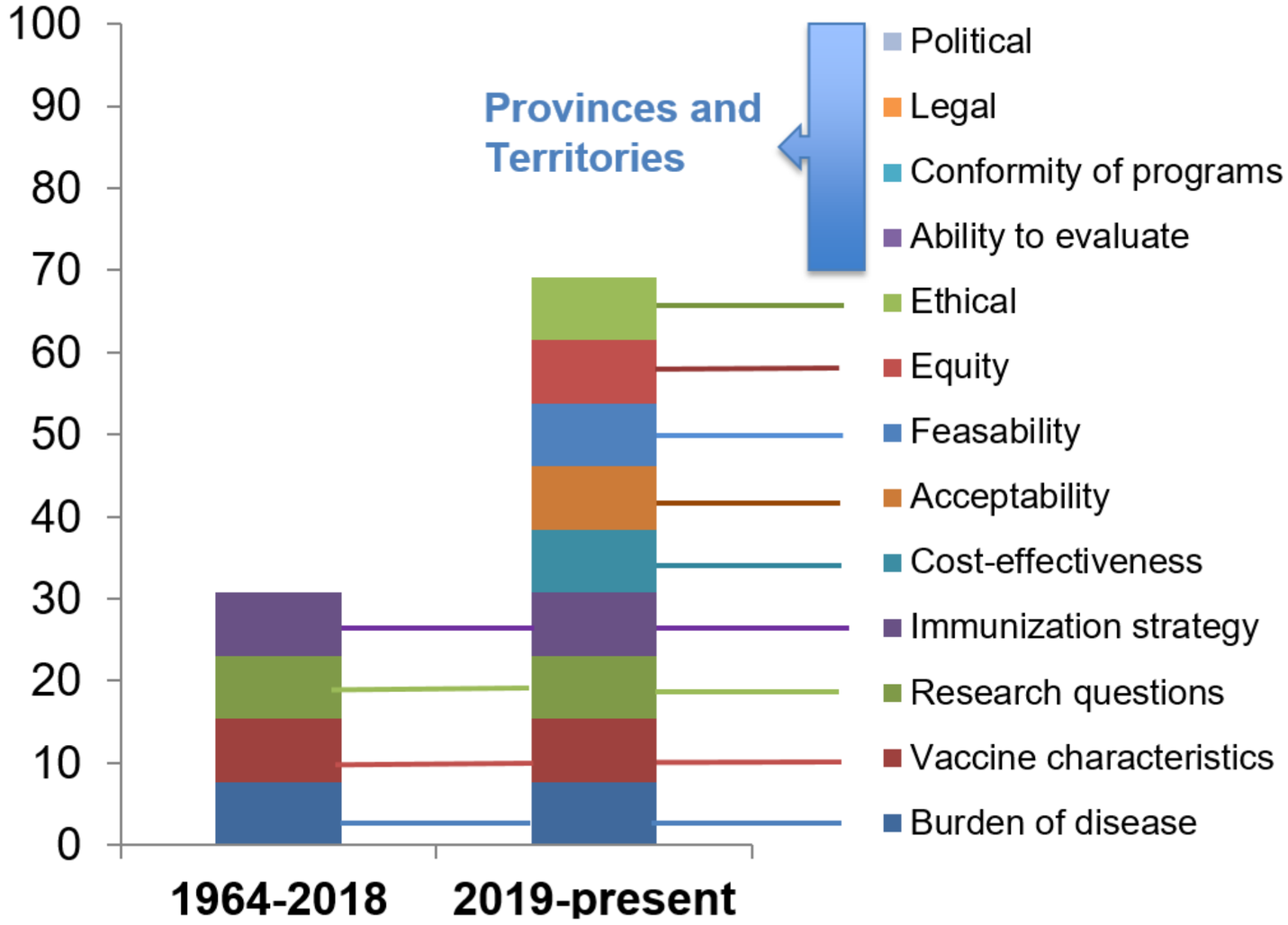
Pre-2019


Burden of Disease
What is the epidemiology (morbidity, mortality) of the vaccine-preventable disease in the general population and high risk groups?
Efficacy
How successful is the vaccine at preventing a disease or disease outcomes under optimal conditions?
How does the vaccine compare to an alternative or no intervention?
Effectiveness
How successful is the vaccine at preventing a disease or disease outcomes under real-world conditions?
Key Considerations for NACI Recommendations
Immunogenicity
What is the magnitude, type, and duration of the immune response after vaccination?
Safety
Are there any unfavourable and/or unintended signs, abnormal laboratory findings, symptoms or diseases following administration of the vaccine?

2019 and beyond

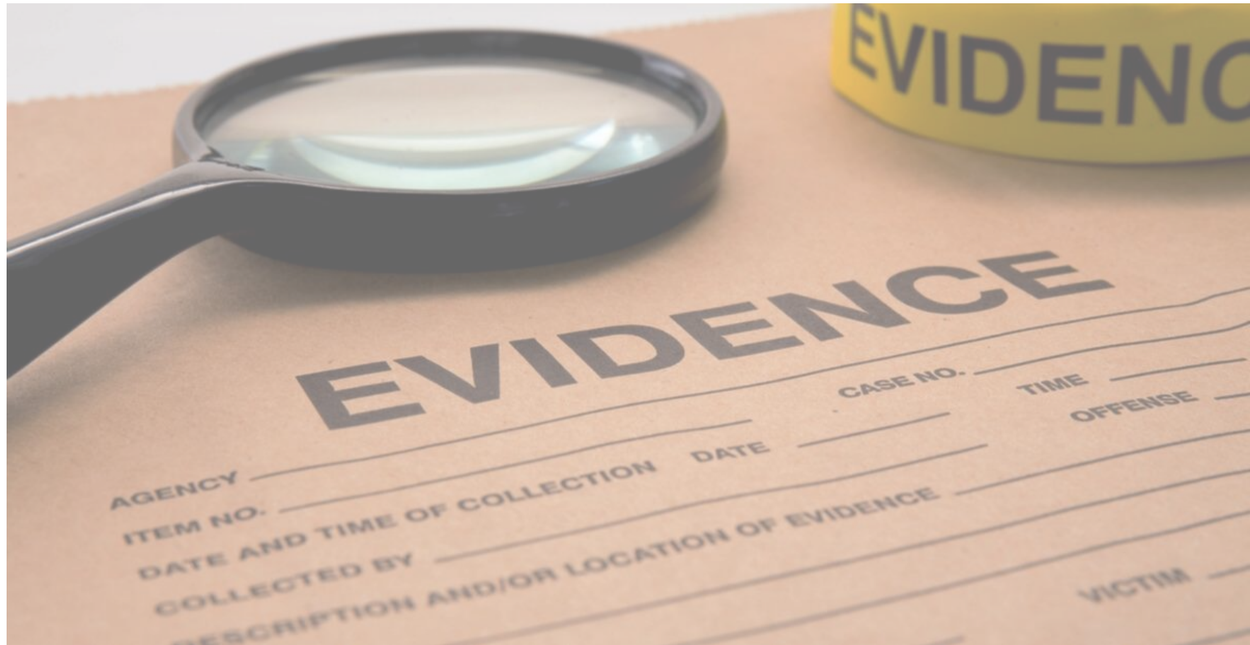


Scope of expanded NACI considerations



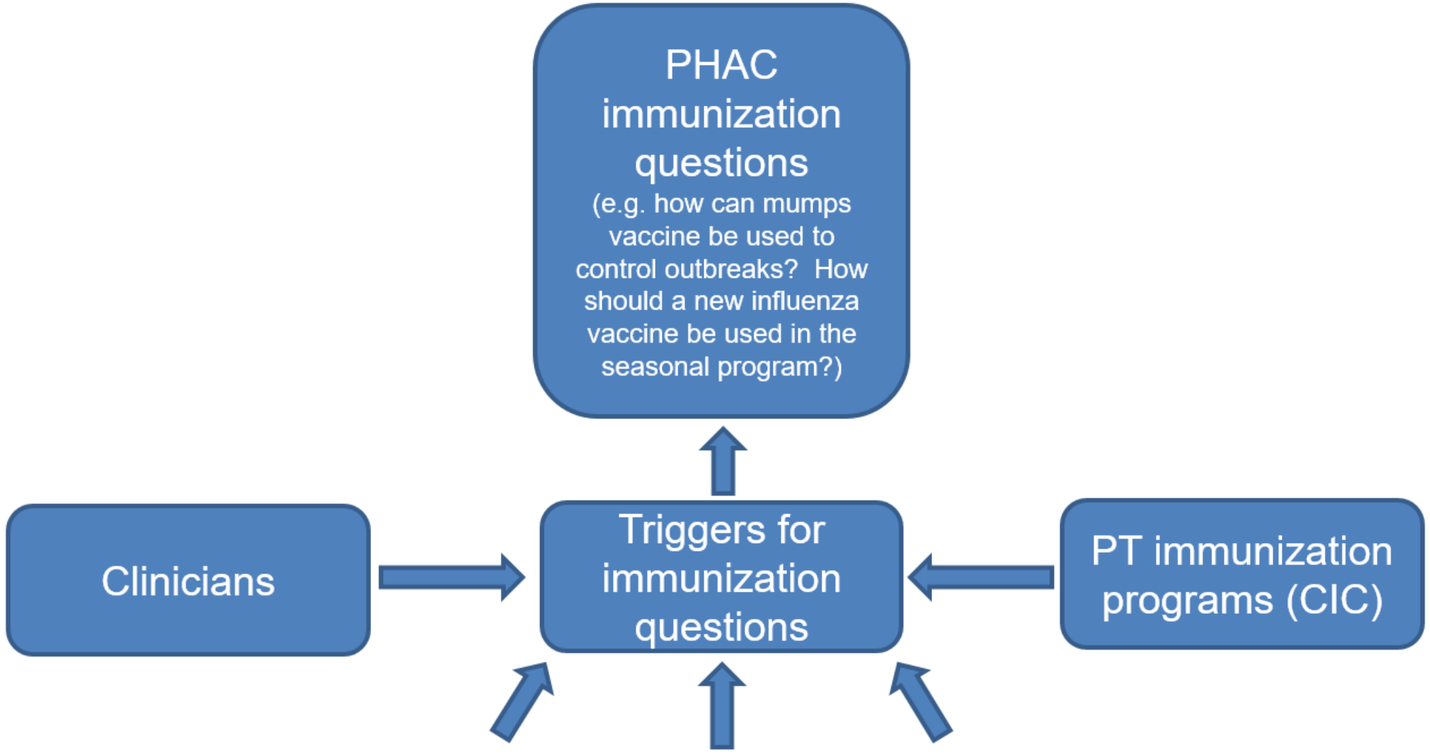
Overarching principle: Evidence

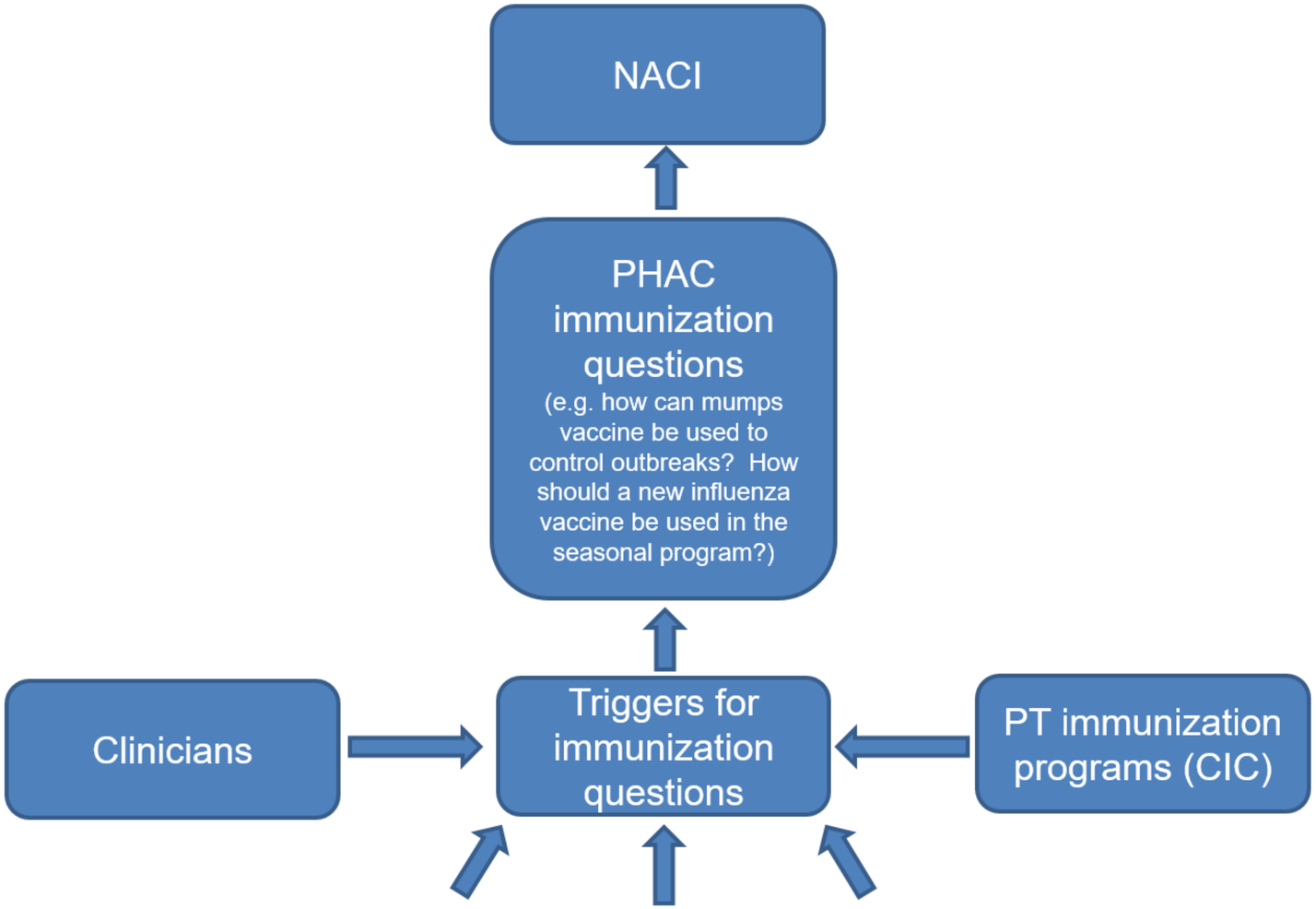
- Many National Immunization Technical Advisory Groups (NITAGs) have adopted an evidence-to-recommendation/decision framework:
  - In 2010, ACIP adopted the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach
  - In 2018, GRADE was extended into a more comprehensive evidence-to-recommendation (EtR) framework
- Other NITAGs and WHO's SAGE have since adopted similar EtR frameworks



Lee et al. MMWR 2018;67:1271-2.

Process for NACI workplan


PHAC immunization questions
(e.g. how can mumps vaccine be used to control outbreaks? How should a new influenza vaccine be used in the seasonal program?)
Clinicians
Triggers for immunization questions
PT immunization programs (CIC)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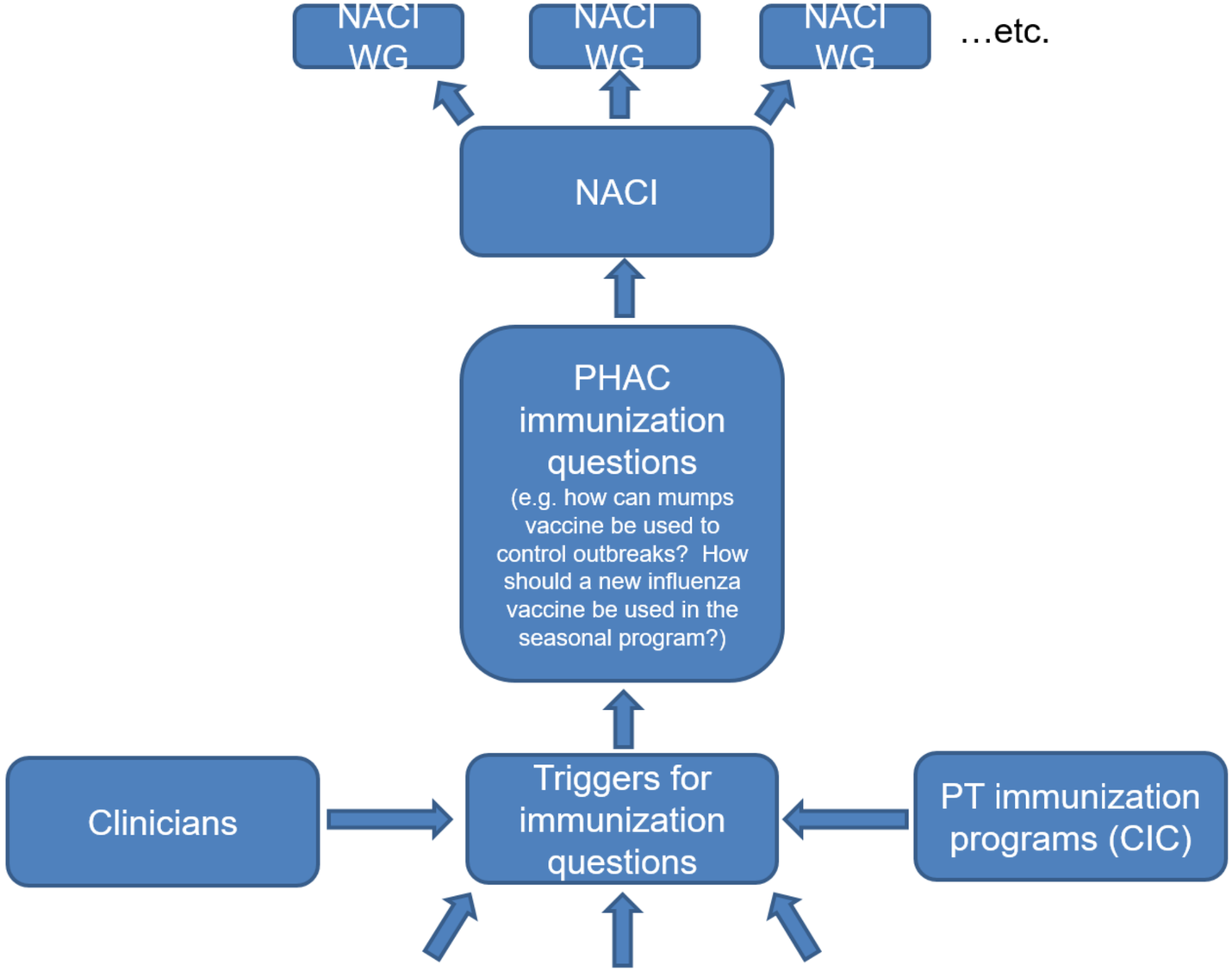
NACI WG
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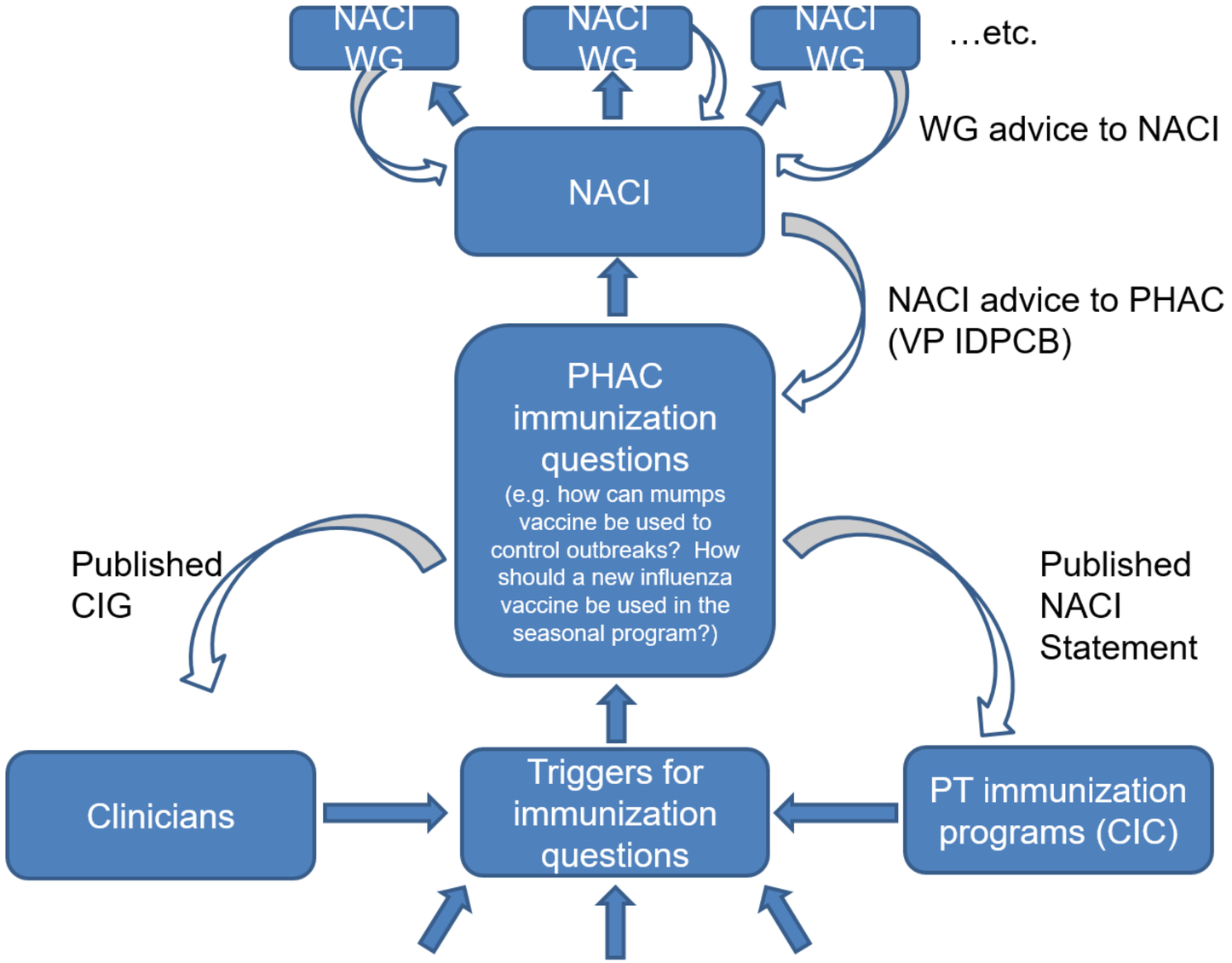
NACI WG
NACI WG
NACI WG
…etc.
WG advice to NACI
NACI
NACI advice to PHAC (VP IDPCB)
PHAC immunization questions
(e.g. how can mumps vaccine be used to control outbreaks? How should a new influenza vaccine be used in the seasonal program?)
Published CIG
Published NACI Statement
Clinicians
Triggers for immunization questions
PT immunization programs (CIC)

Acknowledgements

Dr. Matthew Tunis
Executive Secretary, NACI Secretariat
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Public Health Agency of Canada, Government of Canada

Influencing Public Health & Health Systems Decision-Makers with Research

John Frank MD, CCFP, MSc, FRCPC, FCAHS, FFPH, FRSE, LLD
Chair, PH Research & Policy (now Professorial Fellow);
Director, Knowledge Exchange and Research Impact (2018-21),
University of Edinburgh;
Professor Emeritus, Dalla Lana School of Public Health,
University of Toronto (1983-present)

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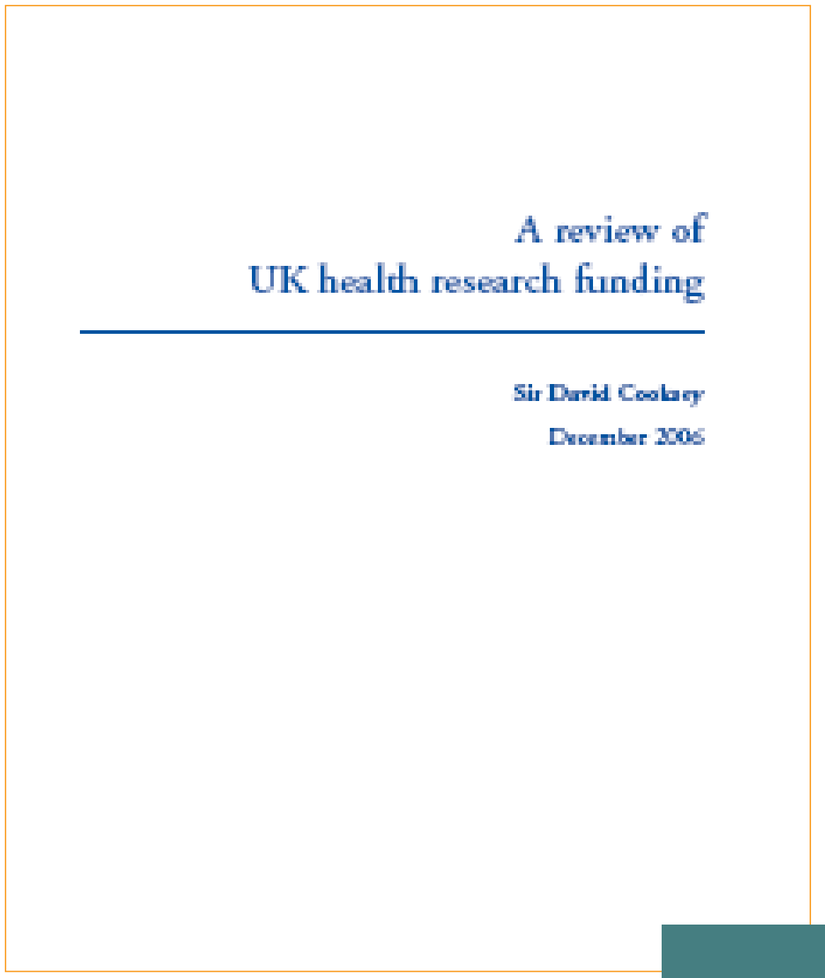
OUTLINE

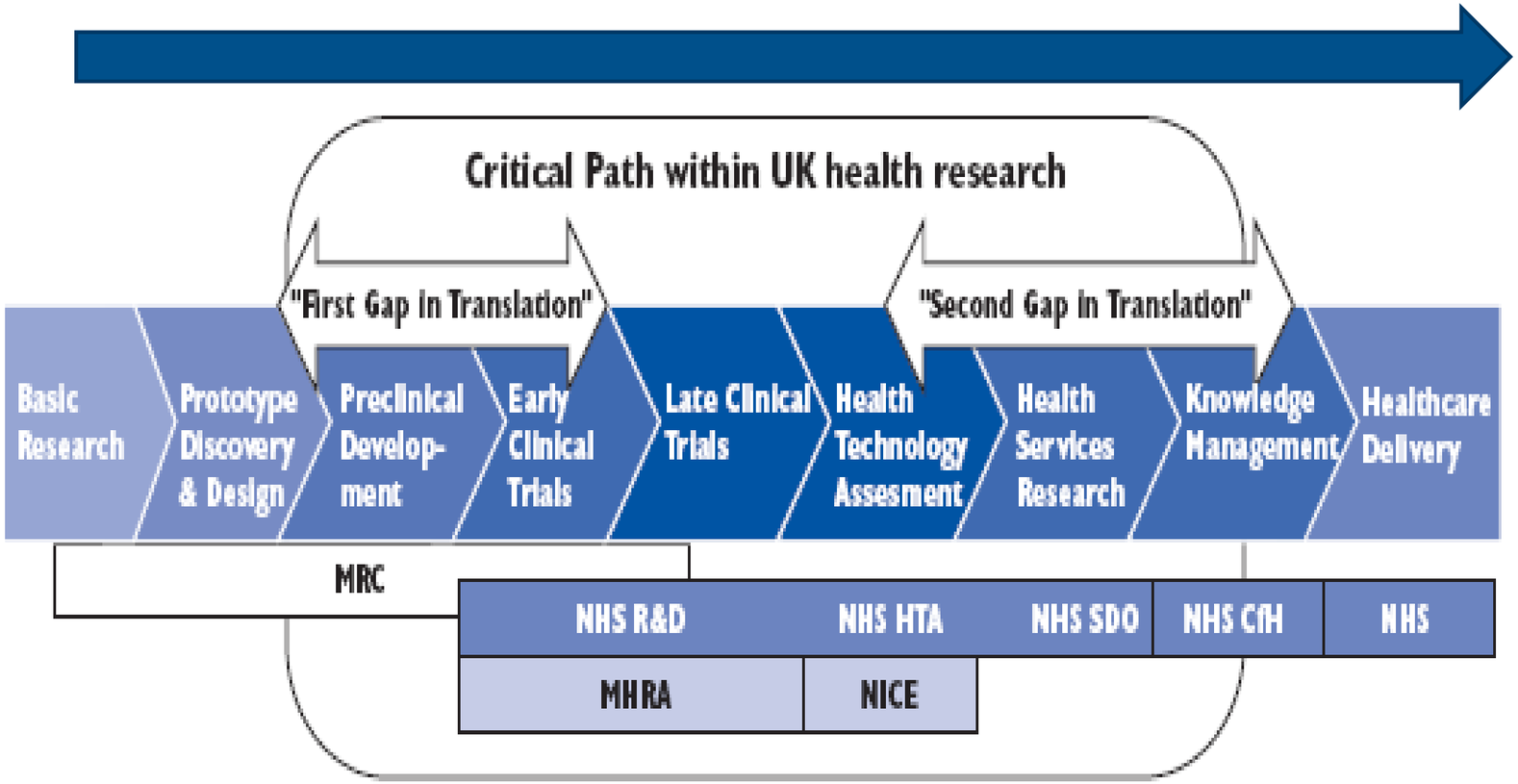
- **KNOWLEDGE TRANSFER AND EXCHANGE (KTE) IN PH&HS RESEARCH:** CONCEPTUAL FRAMEWORKS/IMPLICATIONS (slides courtesy of Dr Peter Craig, U. Glasgow)
- **BEST KTE PRACTICES** FOR PUBLIC HEALTH AND HEALTH SYSTEMS RESEARCH
- **SOME PERSONAL REFLECTIONS**
- **CURRENT BEST PRACTICE FOR DOCUMENTING RESEARCH IMPACT:**

Contrasting Models of KTE for Lab/Clinical, versus PH/HS Research



This **2009 landmark paper** challenged the inappropriate use, for PH&HS Research, of the **2006 Cooksey Report"** model of KTE commissioned by Research Councils UK – see right) which was based entirely on **"bench to bedside" KTE**.

The Cooksey Model (2006)



Pathway for the translation of ***basic and clinical research*** into ***clinical practice***

Does this apply to PH/HS Research?

PH/HS research is for **improving population health and reducing health inequalities at the societal level, and husbanding health resources -- but PH/HS interventions typically require diverse stakeholders' support beyond the health sector (**e.g. tackling the obesity pandemic) – so impacts will span these **diverse stakeholders**

PH interventions can entirely based in sectors other than health – e.g. speed limits and seat-belts; urban housing and regeneration

Basic sciences of public health (e.g. epidemiology/statistics, psychology, sociology, economics, some laboratory sciences) inform the *entire* ***KTE process*** (not just intervention development/evaluation)

PH evidence is often heterogeneous (methods and quality-criteria); this requires flexible and inclusive methods of synthesis

PH policies are rarely determined by evidence alone; **other factors typically matter**: total costs/who pays/who benefits -- interest-group politics; values; timing; public attitudes and beliefs, etc.

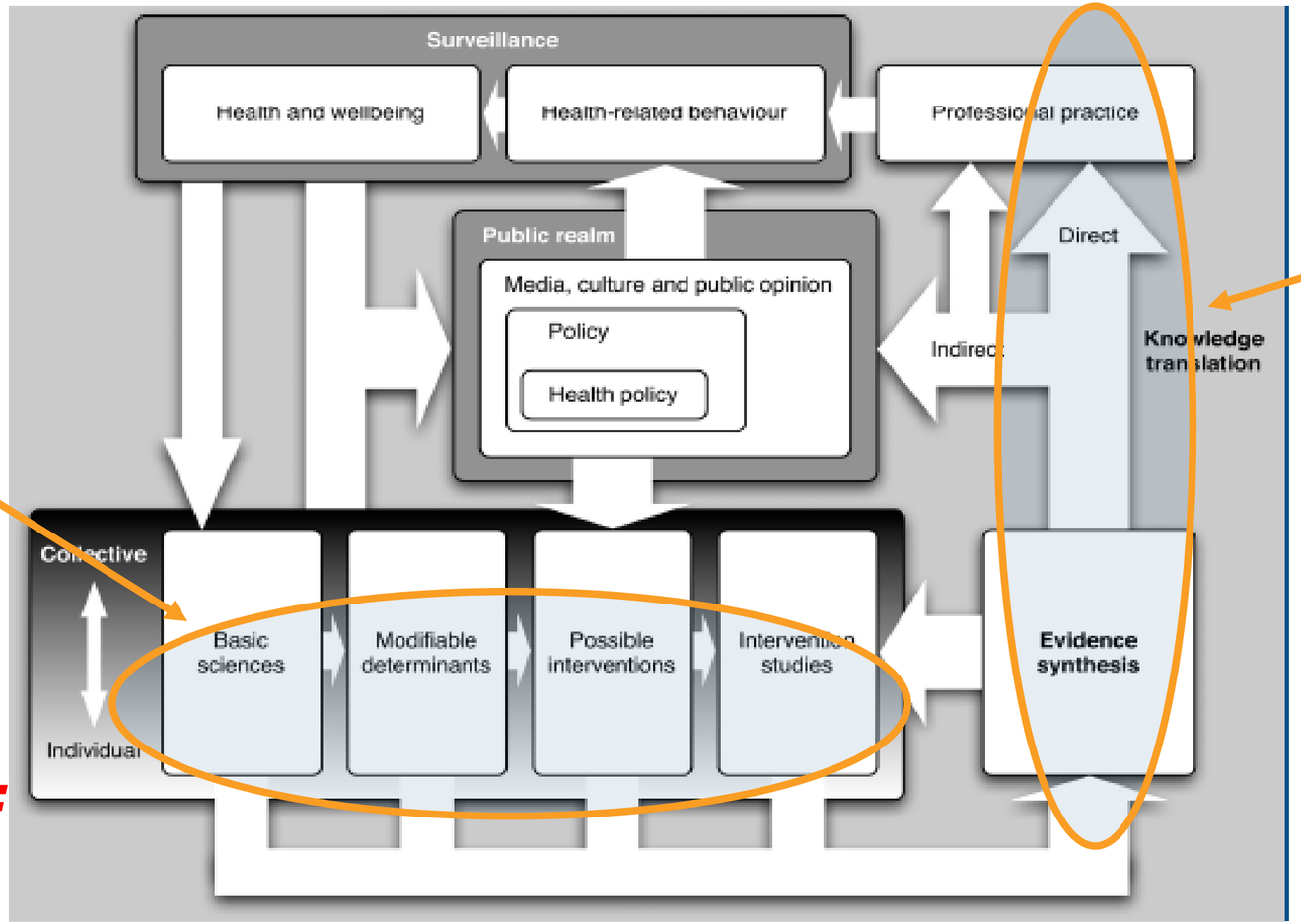
In PH/HS KTE…

Research:

- **Influences – and is influenced by – culture, behaviour, policy and practice,**
- Influences **operate in a variety of direct and indirect ways**,
- **Not a straightforward linear translation** of evidence into practice.

Source: Ogilvie, Craig et al. *BMCPH* 2009;9:116-125.

A non-linear framework for thinking about translation of PH/HS research



EBP model

Cooksey pathway

Source: Ogilvie et al. *BMC PH 2009;9:* 116-125.

Implications

Measuring the impact of PH/HS research is complex: **simple 'payback' (ROI) models will often underestimate its benefits**

- e.g. **time-preference (social) discounting**, favoured by economists, can kill virtually *any* preventive intervention if the benefits are very remote in time, and/or the discount rate chosen is high enough – **this narrow approach is no help if *only preventive measures are likely to work in the long run*** (e.g. the obesity pandemic – no one believes treatment is enough!)

The framework implies a more holistic research approach to planning, doing and reporting:

- **KTE occurs throughout the research process;** funders should support researchers to make use of the **whole range of (two-way) translational processes, between researchers and research users, not just "diffusion plans" later!**

Implications (cont'd)

Standard key elements of best KTE practice for PH/HS Research – worthy but daunting:

- **Involve users** of the research **in its earliest stages**: they should help **"frame the question(s)"** so the answers (later) are relevant to them [this, when fully developed as "**co-production,**" or "**participatory action research,** is onerous!]

- **Keep stakeholders involved** throughout the project – e.g. fully engaged "Stakeholder Reference Committees" -- ensuring "**no surprises"/**shared awareness of **design changes/ delays**

- Create a **range of research products** at the end, for **different audiences**: 20-30 pages, 6-8 pages*, 2-3* pages, < one page* ("for the Minister") +/- VIDEOS (for the community)

[*These shorter versions should be jargon-free!]

Personal Reflections on Influencing Policy & Practice with Research

OBSERVATION#1: Policy-makers often ask not just "*Why should I care about this research*?" but also "*Why NOW*?"

MORAL: Policy "*windows of influence*" open… and close; ask, as each project begins: "When is the *best time* to present these results?" "When is the *worst time*?"

IMPLICATIONS:

- **Research projects *often must report before they are "ready,"* if they are to have any chance of influencing decision-makers .**
- **Conversely, *don't hesitate to present "old" (but relevant) research* if a policy window re-opens! [Institutional memories are short!]**

Personal Reflections on Influencing Policy & Practice with Research

OBSERVATION #2: The *most powerful researcher influences are often indirect* – e.g. changing the way policy stakeholders "think about an issue." [Scottish Government and CVD Prevention story]

MORAL: It is worth using all your interactions with stakeholders to provide them with "*more scientific/critical ways of thinking*" – even if your specific research project is inconclusive.

IMPLICATIONS:

- **Take every opportunity to *provide broader advice*, and relevant "CPD", *to policy stakeholders – never assume their knowledge-base is appropriate for the decisions they are making*;**
- ***Building relationships* is key in the long run… particularly *being viewed as helpful*, beyond the transmission of your particular research findings – not just another grant-seeker!**

KEY Q:
WHY DO SUCH EVENTS COMBINE *ANTLER DISPLAY* WITH A *BAKE-SALE*??

Personal Reflections on Influencing Policy & Practice with Research

OBSERVATION #3: *Stopping bad policies* can be as useful as getting a good policy implemented; you are remembered.

MORAL: When other researchers hope for *grants from calls for pointless studies*, be brave enough to *speak up* (e.g. "Improving PSA Screening Uptake for Prostate Cancer": will do more harm than good because PSA trials have shown clear net harm!)

IMPLICATION: *Getting one more grant* (especially to study a useless policy) is surely *less important than keeping your integrity* in the long run; documenting harmful policies matters!

UK Research Excellence Framework (REF) Model of "Impact Case Studies"

- For many years, the UK has used a massive nationwide evaluation of research quality and impact to give out substantial extra research money to universities: The "REF"
- Current *UK REF2021* exercise provided detailed guidance on *how to write "best practice" Impact Case Studies* (ICS)– the stakes are huge: 25% of REF university funding is from ICS;
- *Each "high-quality" ICS will be worth as much as £190,000 annually* over the seven-year REF cycle (total ~ £1.3 million per highly-rated ICS)

UK Research Excellence Framework (REF) Model of "Impact Case Studies"

For REF2021, the definition of research impact includes, but is not limited to:

"an effect on, change or benefit to the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding of:

- an audience, beneficiary, community, constituency, organisation or individuals, *beyond academia*
- in any geographic location, whether locally, regionally, nationally or internationally.

The REF criteria for assessing impact have been thoughtfully developed over many years, using expertise from many disciplines, culminating in the "Impact Case Studies" approach

Non-Traditional Types of Impact-Evidence in PH and HS Research

The REF 2021 Impact Case Study Guidance encourages the following discrete types of impact evidence:

- *Citation of research in policy/programme documents* (grey literature) e.g. in official Practice Guidelines (e.g. those of NICE in the UK)
- *Triangulated testimonials by users* of the research (ideally conducted by arm's-length consultants using a standard script, allowing negative and positive comments, as well as "never heard of that research…")
- *Archival documentation of influence* on policy making (typically tough to find; best sources may be confidential – e.g. "bad PH/HS policy options killed by good research input before they were made…")

THE BEST OVERALL OPTION IS DETAILED CASE STUDIES, based on all of the above sources, with a clear "narrative thread" connecting events over time in a plausibly causal sequence – like historians and judges think – this is *not* just "anecdote" when skilfully written, and takes skill, time & effort!

PERHAPS THE MAJOR CHALLENGE TO RESEARCH IMPACT DOCUMENTATION: LONG LAG TIMES/TORTUOUS PATHWAYS!

- For many sorts of impact (e.g. on policy), *timelines* for realization are of the order of *several years*: planning now, to *collect the relevant documentation* later, is critical [e.g. HPV vaccination's delayed impact on Ca Cx rates: >10yr]

- When actual impacts are still some time off, it can be helpful to have independent testimonials/other evidence of *what impacts stakeholders are anticipating (good & bad) – this can guide documentation's data collection*

- The great irony is that *no research funding/evaluation system yet devised is actually able to fully retain institutional memory and follow-through for such long lag-times… in practice, impacts past a half-decade are rarely asked about, let alone well documented*

- *This disadvantages PH/HS Research on long-term policies, particularly those involving chronic disease prevention – our "cross to bear.."*

PRACTICAL ADVICE ON PH & HS RESEARCH IMPACT ASSESSMENT:

- *Explicitly reward researchers* for high-quality impact *reporting* of this kind – for example in annual *Performance Reviews* – prompt, constructive feedback on failed efforts also helps

- *Make it EASY* for researchers to keep their project impact summaries online up-to-date: *software design* is critical – was it pre-tested before purchase, *by researchers from your field? [BAD EXAMPLE: UK Research Councils' "ResearchFish" software – impenetrable, overly detailed, no readable printouts!]*

- Encourage your institution/funders to ask for "Evidence of Research *Impact" in all CVs submitted for promotion/awards/grants,* etc.

BIBLIOGRAPHY

The best single source of references in the field of KTE for Public Health and related – e.g. Health Systems) Research is an annotated bibliography by staff of CIHR's Institute of Population and Public Health, commenting on dozens of key papers/books since about 2000:

Di Ruggiero, E., Viehbeck, S., & Greyson, D. (2018). Knowledge Utilization and Exchange. Oxford Bibliographies in Public Health.[http://www.oxfordbibliographies.com/view/document/obo-9780199756797/obo-9780199756797-0106.xml] – needs OUP sub

QUESTIONS & ANSWERS PERIOD

Thank you for joining!

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