**Supplementary material**

**Institutional and organizational context of immunization decision-making in Canada**

If we want to analyze the genesis of vaccination programs, we first need to identify the organizations and actors—the stakeholders—who participate in the processes leading up to these programs’ adoption. Canada which serves as main example in this manuscript, is a confederation where political responsibilities are shared between the federal government and provincial and territorial governments. Responsibility for health and for immunization programs is therefore shared between different jurisdictions [1].

Health Canada, the federal Ministry of Health, is responsible for vaccine licensing and controlling the quality of products distributed in the country. The Biologic and Genetic Therapies Directorate (BGTD) is responsible for these activities [2]. This branch monitors the safety of vaccines, and pharmaceutical companies are required to report serious adverse reactions brought to their attention through the Canada Vigilance Program [3]. Health Canada's role in organizing and funding immunization programs and services is limited to the Armed Forces and First Nations communities living on reserves [1].

The Public Health Agency of Canada (PHAC) is an autonomous government agency created in 2006 [4]. The PHAC plays an important role in promoting the importance of vaccination, monitoring adverse effects through an information system fed by spontaneous reports transmitted by health professionals, and disseminating vaccine utilization guidelines to health professionals. The Canadian Immunization Guide summarizes national recommendations [1]. PHAC is also the secretariat of two advisory committees. The National Advisory Committee on Immunization (NACI), which makes recommendations on the use of licensed vaccines in Canada and on optimal vaccination schedules [5]. The Committee to Advise on Tropical Medicine on Travel (CATMAT) makes vaccination recommendations for travelers; for the most part, these vaccines are not part of the programs funded by the public sector [6]. Also, under the auspices of the Canadian Public Health Association (CPHA), the PHAC hosts the Canadian Conference on Immunization every two years [7]. Discussions held during the conference are organized around important vaccination issues and involve the participation of key stakeholders in this field.

The PHAC also provides some assistance in coordinating provincial and territorial programs and services through the Canadian Immunization Committee (CIC) and the Council of Chief Medical Officers of Health. The CIC brings together members of various federal, provincial, and territorial government departments, each of which has an important role in planning, implementing, and managing immunization programs. The Chief Medical Officers of Health are nominally responsible for public health programs in their respective jurisdictions, but Council meetings are rarely primarily dedicated to immunization, except in exceptional situations, as during the 2009 influenza pandemic [8]. Health ministers also meet, but their priorities are financing health services and allocating tax revenues.

Ultimately, however, provincial and territorial health ministries define, fund, plan, implement, and manage public immunization programs in Canada [1]. For the purchase of vaccines, provinces and territories can negotiate directly with drug companies through private contracts or public tenders, or use the joint procurement program the PHAC manages through Public Services and Procurement Canada, a federal program [9]. Several provinces but not territories have an expert technical committee that advises public health authorities and responds to questions from health professionals. In Québec, the Québec Committee on Immunization (CIQ) plays this role, developing practical information for vaccinators that is then included in the Québec Immunization Protocol [10, 11]. No structure exists for consulting with or coordinating across different provincial advisory committees, although experts speak informally at scientific conferences or professional association meetings.

In addition to provincial technical advisory committees, some professional associations play a role both in lobbying and in drafting recommendations about the use of vaccines or guidelines for their members. Examples are the Canadian Society of Microbiologists, the Canadian Public Health Association, and the College of Family Physicians of Canada. The most influential organization is the Canadian Pediatric Society with its standing committee on infectious diseases and immunization. Some of these associations have provincial branches; the Québec branches being the most autonomous.

As far as civil society is concerned, anti-vaccination groups are the most organized and the most vocal. Some patient or family advocacy groups such as the Meningitis Research Foundation of Canada lobby for vaccines or support research, but their role is more limited than in other countries such as the United Kingdom, for example [12].

The vaccine industry is well represented in Canada and includes both small start-up companies developing vaccines or vaccine-related technologies and major global producers. BIOTECanada is the national industry association representing the health and agricultural biotechnology industrial sectors. Within BIOTECanada, the Vaccine Industry Committee acts as a lobby for its members and promotes vaccines to the population [13].

In terms of research, the Canadian Immunization Research Network (CIRN) brings together most Canadian researchers in the field of vaccines and immunization [14]. This network is supported by funding from the Canadian Institutes for Health Research (CIHR). Specific infrastructure, networks, and projects are funded in whole or in part by other public or private sources. Part of this funding is reserved for training through doctoral or postdoctoral fellowships. However, the optimal link between CIRN’s priorities and the needs of expert committees and public health authorities remains to be attained. Finally, the Canadian Association for Immunization Research and Evaluation (CAIRE) brings together researchers, industry representatives, and public health authorities to promote and ensure better coordination in terms of vaccine research [15]. This Association, however, lacks resources.

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