

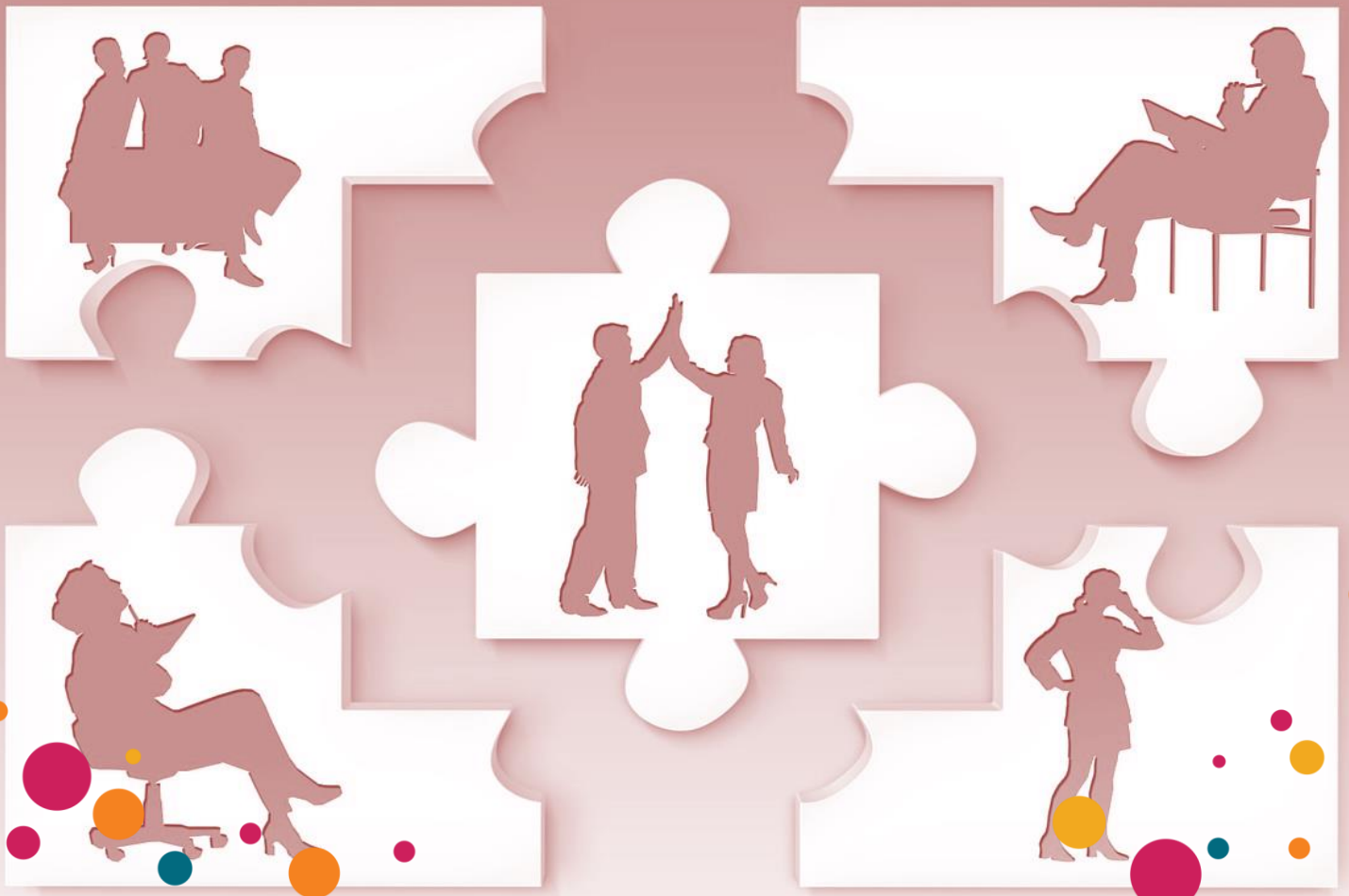
# Tailoring Immunization Programmes (TIP)

An evidence-based approach to enhance vaccine acceptance in Canada

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## Building the capacity to improve vaccine acceptance and uptake

The Canadian Vaccination Evidence Resource and Exchange Centre (CANVax) is an online database of curated resources to support immunization program planning and promotional activities to improve vaccine acceptance and uptake in Canada. As an online resource centre, CANVax aims to increase access to evidence-based products, resources, and tools to inform public health professionals in immunization program planning and promotion.

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## TIP in a Nutshell

- To fix a problem, you need to understand what causes it.
- TIP engages stakeholders and draws on research studies to diagnose barriers to, and enablers of, vaccination.
- TIP provides evidence to inform the development of targeted and tailored interventions.
- TIP is an effective way to ensure the best investment of resources (i.e., spending on what really matters to enhance vaccine coverage in a specific context).

## Background

Policies implemented to promote vaccination have often taken a “cognitive deficit” approach, assuming that if people possess sufficient knowledge, they will make the “right” decision (i.e., vaccinate themselves and/or their children). However, this assumption is incorrect; determinants of an individual’s behaviour towards vaccination are complex and multifaceted. Therefore, the approach to ensure behaviour change must be comprehensive and take into account a wide array of factors to reach immunization and disease prevention goals (1).

To address these complex issues, the Vaccine-preventable Diseases and Immunization (VPI) programme of the WHO Regional Office for Europe has developed the Tailoring Immunization Programme (TIP) Approach. Their behavioural insights approach was developed by gathering evidence to identify and understand target groups and their barriers to, and drivers of, vaccination. This was achieved through a review of data and existing studies, qualitative and quantitative research, and input from stakeholders with expertise and experience with immunization programs and the target population. The next step is the development of a behaviour-change intervention to be implemented, evaluated, and potentially scaled up (2).

In this document, we briefly describe the TIP approach and its usefulness in the Canadian context. This is informed by the **Guide for Tailoring Immunization Programmes** document, which was developed in response to the recommendations of the evaluation of the TIP tool and approach in the European region.<sup>1</sup>

The description of the TIP approach below was taken from a new WHO guidance document on the TIP approach, which was published in 2019 (3).

<sup>1</sup>The report of the evaluation is available online at: <http://www.euro.who.int/en/health-topics/communicable-diseases/measles-and-rubella/activities/tailoring-immunization-programmes-to-reach-underserved-groups-the-tip-approach/evaluation-of-the-tip-tool-and-approach-in-the-european-region>

# The Tailoring Immunization Programme Approach

## Why is TIP Needed?

Although vaccination saves millions of lives every year, potentially fatal vaccine-preventable diseases (VPDs) can be halted only if every child is reached with vaccination until transmission stops. Some people have become complacent due to the low prevalence of vaccine-preventable diseases. The resurgence of preventable childhood diseases, most prominently measles and rubella, poses a threat to healthcare systems worldwide, but also within Canada, where current vaccination rates are insufficient to ensure community immunity and stop the spread of VPDs.

For example, in February 2019, an outbreak of measles was confirmed in two French schools in British Columbia. This outbreak was linked to an unvaccinated child who had contracted measles during travel abroad. In an interview, the father of the unvaccinated child indicated he had refused the measles, mumps and rubella vaccine due to fear of autism (4). Later, in March 2019, Angela Price – the wife of Montreal Canadiens hockey player Carey Price, with 147,600 social media followers – posted a video in which she mentioned having followed an alternative vaccination schedule for her two daughters and in which she promoted *The Vaccine Book* by Robert W. Sears, a book that has been widely criticized by immunization experts (5). Although the direct impact on vaccine coverage rates of such statements cannot be measured, the influence of celebrities on medical decisions is well recognized (6). These recent examples show the need to build resilient vaccination programs, defined as “programs that are able to withstand major shocks and disruptions, to quickly adapt to changing circumstances, and to maintain high vaccine uptake and acceptance over time” (7, 8).

## What is TIP?

The TIP is an approach using social and behavioural insights to design and evaluate interventions for behaviour change. This approach has been developed as part of an overall vision to integrate **people-centred research** and social science methods into health program planning and policy. TIP is **evidence-based** and oriented towards reaching health goals.

### People-centred research

People-centred research means identifying ways to put people and communities – not vaccines or vaccine-preventable diseases – at the centre of vaccination services, and empowering people to take charge of their own health rather than being passive recipients of services (9).

### Evidence-based

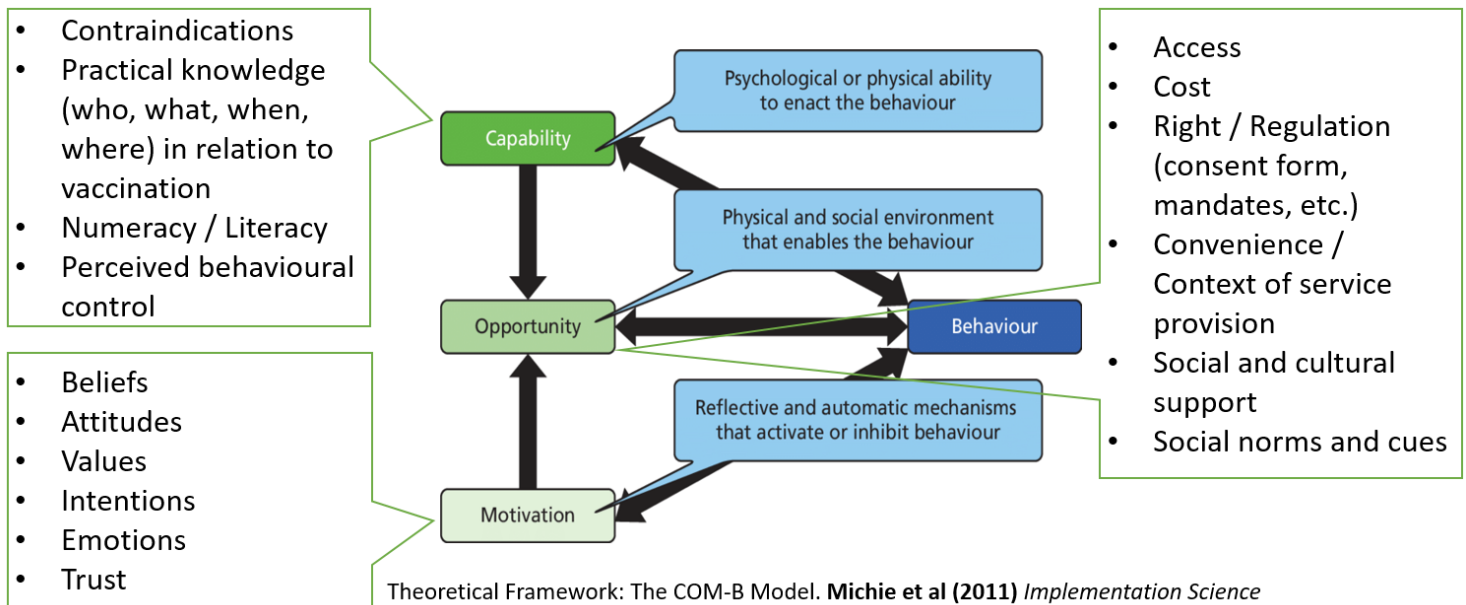
The TIP is underpinned by evidence from behavioural sciences. The theoretical model used is an adapted version of the Behaviour Change Wheel (10), a tool developed by a team of researchers based on 19 frameworks of behavioural change.<sup>2</sup> It can be applied to any behaviour in any setting at levels ranging from the individual to the group, sub-population and population.

<sup>2</sup> These include well-known frameworks such as the Health Belief Model, the socio-ecological model, the theory of planned behaviour, the common sense model and prospect theory.

## The Key Actors Explored and Addressed

Three interacting factors are necessary for any behaviour: **Capability**, **Opportunity** and **Motivation** (COM). When applied in the TIP, the dimensions under the three factors are grouped as either **drivers** of, or **barriers** to, vaccination (Figure 1).

**Figure 1. The COM-B Model adapted for vaccination (10)**



This theoretical model also offers a pathway through which a behaviour change intervention with relevant activities can be developed. Each component of the pathway builds on the previous one, and is guided by specific exercises developed for the purpose.

## What is the TIP Process? – A Phased Approach

The TIP process offers a flexible phased approach with specific suggested steps, which may be planned differently according to the context. The next sections describe the phases and steps for implementing the TIP in favour of promoting sustainable behaviour change.

## The Phases of a TIP Approach

The starting point of TIP is the identification of a **subgroup** in which **vaccination uptake rates are lower than expected**. This could be identified by an outbreak of vaccine-preventable disease in a specific community, a detailed analysis of vaccine coverage rates showing low uptake for specific vaccination in a specific sub-group (e.g., urban well-educated parents, older adults with chronic diseases, a First Nation community, etc.), or a public position against vaccination taken by a community leader.

### PRE-TIP: PROCESS PLANNING

Usually the TIP process is organized by a core planning group, which consults other stakeholders at different stages in the process. A project lead should be appointed to coordinate the project. The core planning group leads and implements the TIP process, while the other stakeholders (for example, health workers, community representatives, or experts) offer input, perspectives, and insights. Managers (Ministry of Health, Ministry of Finance and other administrations organizing service provision) are kept informed or engaged as needed and if feasible.

### Time and Budget

The process to develop a behaviour change intervention is feasible within a time frame of up to one year. However, in many instances the process takes longer. Subsequently implementing, evaluating, adjusting and scaling up the activities may take several years.

The cost related to a TIP depends on the context. When assessing whether the necessary financial resources are available, the core planning group needs to consider both the TIP process in itself, and the future and ongoing implementation of a behavioural change intervention.

### PHASE 1: SITUATION ANALYSIS

#### Planning of Phase 1 (2 months)

The time required for Phase 1 depends on the data and knowledge already available. Often, 1-3 months are required to review data and existing studies and reports, and another week is needed to meet with the core planning group and a broader stakeholder group.

#### 1.1 Review Data and Existing Studies

The objective of this step is to review existing information with the aim of preliminarily identifying key issues: the challenges around vaccination, the target groups, and the barriers to, and drivers of, the intended immunization behaviour as they relate to Capability, Opportunity and Motivation from Figure 1.

The outputs of this step include a *situation analysis report* summarizing data, conclusions, possible issues and target groups, a *situation analysis summary* in PowerPoint for use at stakeholder workshops, and an updated progress report.

## 1.2 Consult Stakeholders

Applying a participatory approach with stakeholder consultation and engagement is a core value of the TIP. How stakeholders are best consulted and engaged depends on the context and the individual stakeholder(s). It is suggested that one or more one-day stakeholder workshops be conducted in this phase, with the purpose of obtaining input from stakeholders based on their expertise and experience.

## 1.3 Prioritize and Plan Research

A one- or two-day core planning group meeting is then needed to consolidate input from the situation analysis report and the stakeholder consultation, and to use these inputs 1) to make a final decision regarding priority target behaviours and target groups and 2) to agree on a focus for research project(s).

The outputs of this step are: research protocol(s) – including a time plan and budget, an updated progress report, and/or (alternatively according to outcome) a decision to revisit situation analysis or a decision to go straight to Phase 2 because sufficient knowledge and evidence are already in place.

## PHASE 2: TIP RESEARCH

### Planning of Phase 2 (6-12 months)

The time required for Phase 2 depends on the type and extent of the research study or studies conducted. Unless the relevant research has recently been conducted (which is deemed sufficient to continue to Phase 3), Phase 2 will often take up to one year or even longer.

## 2.1 Conduct Research

TIP strives to be **people-centred**. Therefore, interventions to change immunization behaviours must be based on a genuine understanding of the people TIP implementors are trying to reach – whether they are children, teenagers, adults, parents, health workers, community leaders or others. How the research is carried out depends on the context. Qualitative, quantitative or mixed-method studies, literature reviews, data reviews or other studies may be relevant depending on what information is needed and how generalizable the data needs to be.

The outputs of this step are: 1) research report(s) with segmentation of target groups/problem behaviours for multiple target groups, and 2) identification of barriers and drivers for each target group.

### Example

In 2015, we conducted a qualitative study to better understand the low uptake rates for HPV vaccination in school-based vaccination programmes in Quebec. Interviews and focus groups were held with 70 key informants, including immunization managers, school nurses, school principals, teachers and parents of Grade 4 students (9 years of age). Our findings showed that low HPV vaccine uptake was not only due to parents' lack of knowledge and negative attitudes toward the HPV vaccine – as anticipated by stakeholders – but also due to some system-related barriers (e.g., lack of resources to implement reminder and recall for informed-consent process, lack of time between the moment parents received the consent form and the vaccination days, etc.).

## PHASE 3: INTERVENTION DESIGN

### Planning of Phase 3 (1 month)

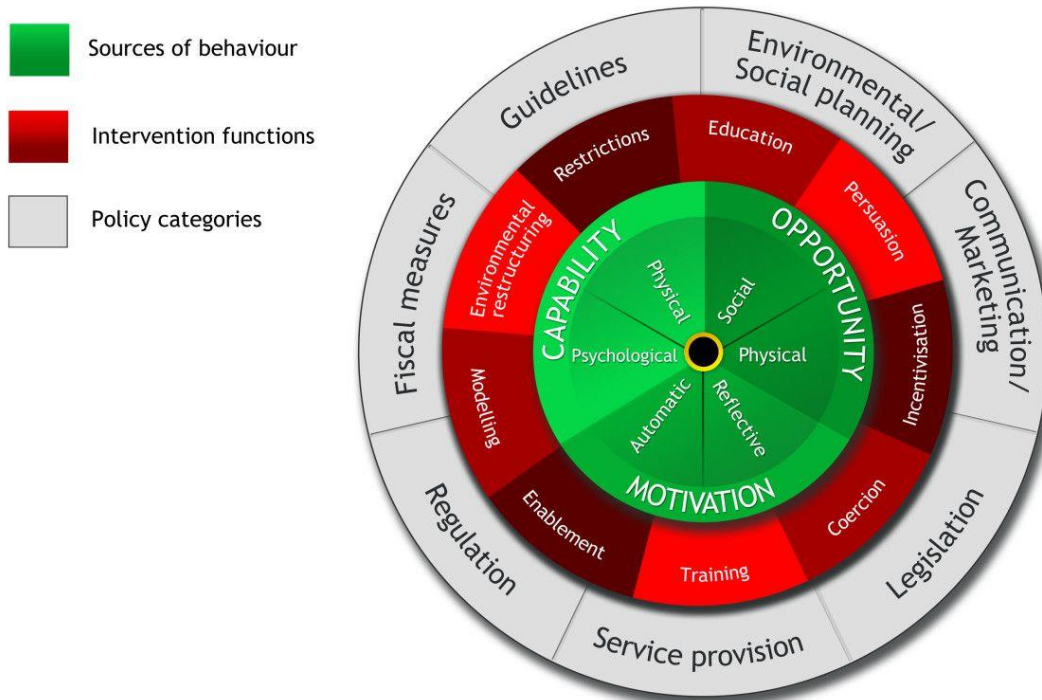
The majority of activities in Phase 3 can be carried out over a one-week period to work together to translate research findings into interventions for behaviour change, followed by a few weeks to write up the plan for behaviour change interventions.

#### 3.1 Translate Phase 1 Outcome into an Intervention

The objective of this step – based on the outcome of Phases 1 and 2 – is to identify a possible behaviour change intervention composed of activities and policy actions. It is in this step that behaviour insights are used to develop an intervention for behaviour change as an overall effort to change vaccination behaviours, which includes a range of underlying activities and policy actions.

A two- or three-day core planning group meeting is needed to translate the input from Phase 1 (data review, stakeholder consultation and research) into an intervention for behaviour change. The COM-B model can inform the design of interventions to address under-vaccination by highlighting relevant types of interventions, depending on the factors (10) (Figure 2). Note there are multiple components for consideration.

**Figure 2. The Behaviour Change Wheel (11)**





### 3.2 Consult Stakeholders and Advocates for the Project

This second round of stakeholder consultation serves to obtain input from stakeholders based on their experience and expertise. This will strengthen and refine the behaviour change intervention that has been developed. This round of consultation also serves to advocate for the intervention and to ensure stakeholders' support in its implementation. How stakeholders are best consulted and engaged, and how advocacy is best conducted, depends on the context and the stakeholders.

### 3.3 Design and Plan Intervention

The objective of this step is to plan the behaviour change intervention in detail, including its specific activities and policy actions. A good project plan is necessary for the successful implementation and outcome of the behaviour change intervention. It is also required to secure internal or external funding, if this is not already in place. Remember, such a plan has multiple components – not just a single intervention. Even a simple intervention such as a change in clinic location or clinic time requires communication to the community, and not just announcing the changes on the clinic door.

### 3.4 Develop Monitoring and Evaluation Framework

This step defines how the implementation and impact of the behaviour change intervention will be monitored and evaluated. It helps document successes and limitations, allowing for:

- 1) tracking and documenting lessons learned,
- 2) refining and improving the behaviour change intervention,
- 3) broadening and improving the behaviour change intervention, and
- 4) advocacy for continued investment, based on value for money.

## POST-TIP PHASE: IMPLEMENTATION, EVALUATION, ADJUSTMENT, SCALE-UP

### Planning of the Post-TIP Phase (1-2 years or more)

In this phase, the implementation of the planned behaviour change intervention takes place with its activities and policy actions. How Post-TIP is implemented and how long it takes depends on the project plan and cannot be adequately described in the points below as it is dependent on the project plan. The process may take years and, if proven successful, should be continued for the future. However, remember that adaptations may be needed over time if context and/or cultural factors in the targeted community change. As well, the fidelity of the intervention may drift over time – hence the need for ongoing monitoring (see below).

### 4.1 Implement Planned Activities and Policy Actions

Implementation of planned activities and policy actions for the behaviour change intervention should take place as outlined in the project plan.

## 4.2 Monitor

Obtain evidence regarding the extent to which planned activities and policy actions were implemented, and the quality of these implementations (i.e., the fidelity). This step is critical, as the data obtained can be used to understand the reasons for successful and less successful activities/policy actions. The data is collected through registration, surveys or other methods, and can be related to the number of persons engaged, the number of prompted/unprompted requests, the number of activities/policy actions conducted, or to human or financial resources used. Which data is collected and how it is collected are defined in the monitoring and evaluation framework.

## 4.3 Evaluate

The evaluation draws on data collected at the start of the intervention's program to provide a baseline measure on the behaviour in question, and again at the end. Evaluation can include both quantitative (e.g., surveys) and qualitative (e.g., interviews) information.

A stakeholder workshop involving stakeholders and other interested parties can also be considered as an opportunity to discuss the implementation so far and the possible successes and shortcomings experienced. This results in 1) conclusions regarding the implementation of the behaviour change intervention and its impact, and 2) recommendations regarding refinement of the behaviour change intervention and opportunities for scale-up.

The output of this step is an *evaluation report with conclusions and recommendations* regarding the behaviour change intervention, including its implementation, its possible impact, possible adjustments to be made, and opportunities for scale-up.

## 4.4 Adjust Activities and Policy Actions

A core planning group meeting should be organized to discuss the evaluation conclusions and recommendations. A stakeholder workshop can also be considered as an opportunity to discuss the evaluation and a possible adjustment of the activities and policy actions. How activities/policy actions are adjusted depends entirely on the success of the intervention so far and on the conclusions and recommendations of the evaluation. Based on these meetings/workshops, the project plan is revised.

## 4.5 Scale-Up

The objective of this step is to scale up successful elements of the behaviour change intervention (e.g., to include additional target groups or additional geographical areas). To do this well, it is recommended that a core planning group meeting be organized to discuss the evaluation recommendations regarding a possible scale-up of the intervention. How activities and policy actions are scaled up depends entirely on the success of the intervention so far and on the recommendations of the evaluation.

The phases, steps, and outputs of the TIP approach are summarized in Table 1.

**Table 1. The phased TIP approach**

Phase	Steps	Output
<b>Pre-TIP:</b> Process planning	<ul style="list-style-type: none"> <li>• Internal discussion</li> </ul>	Planned timeline, budget, roles and responsibilities
<b>Phase 1:</b> Situation analysis (2 months)	<ul style="list-style-type: none"> <li>• Review data/existing studies</li> <li>• Prioritize and plan research</li> <li>• Consult stakeholders</li> </ul>	Situation overview obtained from existing evidence to guide decisions about TIP research
<b>Phase 2:</b> Research (6-12 months)	<ul style="list-style-type: none"> <li>• Conduct research</li> </ul>	Insights obtained on barriers and drivers to vaccination in prioritized target groups
<b>Phase 3:</b> Intervention design (1 month)	<ul style="list-style-type: none"> <li>• Translate Phase 1 outcome into intervention</li> <li>• Design and plan intervention</li> <li>• Consult stakeholders and advocate</li> <li>• Develop monitoring and evaluation framework</li> </ul>	Behaviour change interventions decided, designed, funded, and planned
<b>Post-TIP Phase:</b> Implementation, evaluation, adjustment, scale-up (2-3 years)	<ul style="list-style-type: none"> <li>• Implement planned activities</li> <li>• Monitor</li> <li>• Scale up</li> <li>• Adjust activities</li> <li>• Evaluate</li> </ul>	Behaviour change interventions implemented, scaled up, and evaluated

## Conclusions

The Tailoring Immunization Programmes (TIP) approach offers an evidence-based and theory-based structured process to better understand enablers of, and barriers to, vaccination in order to design evidence-informed interventions appropriate to the subgroup setting, context and vaccine (2). This approach has led to effective, non-intrusive, and cost-effective ways of enhancing vaccine acceptance and uptake (12).

The TIP approach can be perceived as demanding in terms of time and human resources. However, the TIP approach is based on community engagement and qualitative research thus enhancing the ability of its programmes to listen and gain an understanding of community and individual perspectives. This is a strength, but it also requires skilled researchers to lead the TIP project. A CANVax in Brief article (13) has been written to highlight some of the key principles that could help the design of an intervention to enhance vaccine acceptance and uptake when conducting a full TIP project is not feasible.

## References

1. Butler R, Habersaat KB. Commentary: Embracing social sciences to improve population health. *Vaccine*. 2019 Feb 23;37(35):4835-4837.
2. Butler R, MacDonald NE, Sage Working Group on Vaccine Hesitancy. Diagnosing the determinants of vaccine hesitancy in specific subgroups: The Guide to Tailoring Immunization Programmes (TIP). *Vaccine*. 2015 Aug 14;33(34):4176-9.
3. World Health Organization Regional Office for Europe. TIP Tailoring Immunization Programmes (2019) [Internet]. 2019. Available from: <http://www.euro.who.int/en/publications/abstracts/tip-tailoring-immunization-programmes-2019>.
4. Chek News. Father at centre of measles outbreak didn't vaccinate children due to autism fears. [Internet]. 2019 Feb 17. Available from: <https://www.cheknews.ca/father-at-centre-of-measles-outbreak-didnt-vaccinate-children-due-to-autism-fears-2-535745/>.
5. Derfel A. Angela Price says she follows "alternative" vaccine schedule. *Montreal Gazette* [Internet]. 2019 Mar 14. Available from: <https://montrealgazette.com/health/angela-price-says-she-follows-alternative-vaccine-schedule>.
6. Hoffman SJ, Tan C. Following celebrities' medical advice: meta-narrative analysis. *BMJ:British Medical Journal*. 2013 Dec 17;347:f7151.
7. Dubé E, MacDonald NE. Vaccination resilience: Building and sustaining confidence in and demand for vaccination. *Vaccine*. 2017 Jul 13;35(32):3907-9.
8. Ozawa S, Paina L, Qiu M. Exploring pathways for building trust in vaccination and strengthening health system resilience. *BMC Health Services Research*. 2016 Nov 15;16(7):639.
9. World Health Organization. What are integrated people-centred health services? Available from: <https://www.who.int/servicedeliverysafety/areas/people-centred-care/ipchs-what/en/>.
10. Michie S, Atkins L, West R. *The Behaviour Change Wheel: A Guide to Designing Interventions*: Silverback Publishing; 2014.
11. Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation science*. 2011 Apr 23;6:42.
12. Dubé E, Leask J, Wolff B, Hickler B, Balaban V, Hosein E, et al. The WHO Tailoring Immunization Programmes (TIP) approach: Review of implementation to date. *Vaccine*. 2018 Mar 7;36(11):1509-15.
13. Habersaat K, MacDonald N, Dubé E. Designing tailored interventions to address barriers to vaccination. *CANVax* [Internet]. 2020 Cited 2020 Mar 10. Available from: <https://canvax.ca/brief/designing-tailored-interventions-address-barriers-vaccination>.