

SOLOMON ISLANDS FIELD EPIDEMIOLOGY TRAINING PROGRAM



THEORY OF CHANGE

Report
January 2022

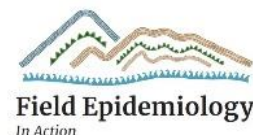


TABLE OF CONTENTS

Summary	4
Acronyms.....	5
Background.....	6
About Sols FETP.....	7
Methodology.....	8
Workshop findings.....	17
Workshop evaluation & lessons learned.....	34
Next steps.....	36
Conclusion.....	43
References.....	44
APPENDIX 1: Participant list.....	45
APPENDIX 2: Planned workshop timetable.....	46
APPENDIX 3: Opening presentations.....	48
APPENDIX 4: Theory of Change summary handout.....	49
APPENDIX 5: Day 1 – Theory after Day 1.....	50
APPENDIX 6: Draft Theory of Change.....	51

Author: This report was prepared by Rachel Mather (University of Newcastle, Field Epidemiology in Action) and Dr Megge Miller (University of Newcastle, Field Epidemiology in Action) for the Public Health Emergencies and Surveillance Unit (PHESU) of the Ministry of Health and Medical Services (MHMS), Solomon Islands. For further information please contact Rachel Mather

rachel.hammersleymather@newcastle.edu.au

Supported by: This exercise was supported by the Ministry of Health and Medical Services and University of Newcastle. Funding was provided by the Indo-Pacific Centre for Health Security and the World Health Organization.

Acknowledgements: We would like to thank all participants for their time and contribution to the Theory of Change and the Indo-Pacific Centre for Health Security for providing funding. We are grateful for Dr Erica Breuer's support throughout the process planning and implementing the Theory of Change.

Caveat: This Theory of Change was conducted in order to articulate the key outcome of Solomon Islands Field Epidemiology Training Program (Sols FETP) and prerequisites to achieving it. The results of the Theory of Change will inform key program strategies and activities of Sols FETP as well as its Monitoring, Evaluation and Learning (MEL) framework.

Cover photo: On Day 2, Theory of Change participants discuss the draft schematic summarising Day 1 discussion.

SUMMARY

Theory of Change (ToC) is a process which describes how programs bring about specific outcomes through a logical sequence of intermediate outcomes. The subsequent product or process describes how and why a program works, and can be used to inform the development, monitoring and evaluation, and implementation of programs. This report summarises the process and learnings from the ToC workshop held at Honiara Hotel, Honiara, from 24 – 25 March 2021. The ToC developed aims to support planning and delivery of the Solomon Islands Field Epidemiology Training Program (Sols FETP). Housed in the Ministry of Health and Medical Services (MHMS) Sols FETP is an 8-month training program through which participants (fellows) undertake a combination of classroom-based learning and work-based field projects to meet the course competencies.

Eighteen participants contributed to the workshop, coming from a range of program areas and provinces of the Solomon Islands. The workshop was facilitated by an epidemiologist from the University of Newcastle, with context presentations delivered by the Manager and Surveillance Officer of the Public Health Emergencies and Surveillance Unit (PHESU) of the MHMS.

Participants worked in groups before engaging in workshop-wide discussion during separate but related sessions across the workshop. These sessions included consideration of or articulating: the challenges that were likely to present when developing and implementing an FETP; the long-term vision for Sols FETP; the key outcomes of Sols FETP; steps required to achieve outcomes; the assumptions (or preconditions) that needed to hold true in order for the outcomes to be achieved; interventions required to achieve the outcomes; indicators of success and a ceiling of accountability, beyond which the program recognises there are other influences within the health sector.

Participants articulated the long-term outcome for Sols FETP as *a cadre of competent field epidemiologists will be available and dispersed across Solomon Islands*. This overall outcome incorporated the participants' view that field epidemiology capacity needs to be distributed across the country's 9 Provinces and Capital Territory. The program will seek to contribute to high quality and appropriately used public health surveillance systems. In turn, evidence will be generated to support informed public health decisions. As field epidemiology capacity will be decentralised, evidence will support decisions made from the facility level all the way up to the National level. Capacity at the facility level across the Provinces will support more timely public health interventions, such as for outbreak response, leading to less illness in the community and mitigating the need for long and costly escalation processes to National decision makers.

Prior to achieving the overall outcome, the ToC describes an intermediate outcome of having *FETP fellows demonstrate core field epidemiology competencies and graduate from the program*. This will be the result of fellows completing the requirements of the FETP and ensuring fellows have met the required course competencies. The ToC articulates three main pathways that will enable fellows to graduate as competent field epidemiologists: fellows, faculty and Executive Management support. Each is supported by the foundational outcome to have a clear governance structure and operational support to implement Sols FETP. Governance will be led by a Steering Committee with a clearly articulated purpose, scope and Terms of Reference (ToR). The Steering Committee will be cornerstone to all three pathways. It will also engage with other committees to provide relevant support for the program.

ACRONYMS

AAR	After Action Review
AOP	Annual Operation Plan
DFAT	Australian Government Department of Foreign Affairs and Trade
FEiA	Field Epidemiology in Action
FETP	Field Epidemiology Training Program
FETPNG	Field Epidemiology Training Program of Papua New Guinea
KRA	Key Result Area
MHMS	Ministry of Health and Medical Services
NHSP	National Health Strategic Plan
PHA	Provincial Health Authority
PHESU	Public Health Emergencies and Surveillance Unit
SIHRERB	Solomon Islands Human Research and Ethics Review Board
SMART	Specific, Measurable, Achievable, Realistic, Timebound
Sols FETP	Solomon Islands Field Epidemiology Training Program
SOLMAT	Solomon Islands Emergency Medical Teams
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
ToC	Theory of Change
ToR	Terms of Reference
WHO	World Health Organization

BACKGROUND

The nascent Solomon Islands Field Epidemiology Training Program (Sols FETP) is part of a global network of Field Epidemiology Training Programs (FETPs) established to strengthen health security workforce capacity in their respective countries. The program is a collaboration of the Ministry of Health and Medical Services (MHMS), the World Health Organization (WHO), the University of Newcastle and Hunter New England Health. It is funded by the Indo-Pacific Centre for Health Security through Australia's Department of Foreign Affairs and Trade (DFAT) under the Field Epidemiology in Action (FEiA) Program.

The development and implementation of Sols FETP was originally scheduled for the first quarter of 2020 but was postponed due to the emergence of COVID-19 and the subsequent pandemic. The pandemic has, however, highlighted the imperative of developing workforce capacity to respond to health emergencies in Solomon Islands, and Sols FETP is an integral component of the work plan of the Public Health Emergencies and Surveillance Unit (PHESU) within the MHMS.

Sols FETP is structured using the successful model developed by the Field Epidemiology Training Program of Papua New Guinea (FETPNG). In this model, participants are embedded within various levels of health services, they learn the skills required to be a field epidemiologist in their workplace, using the 'learn-by-doing' approach that is unique to FETPs around the world. This model has ensured tangible impacts for the communities and health systems that participants work in.

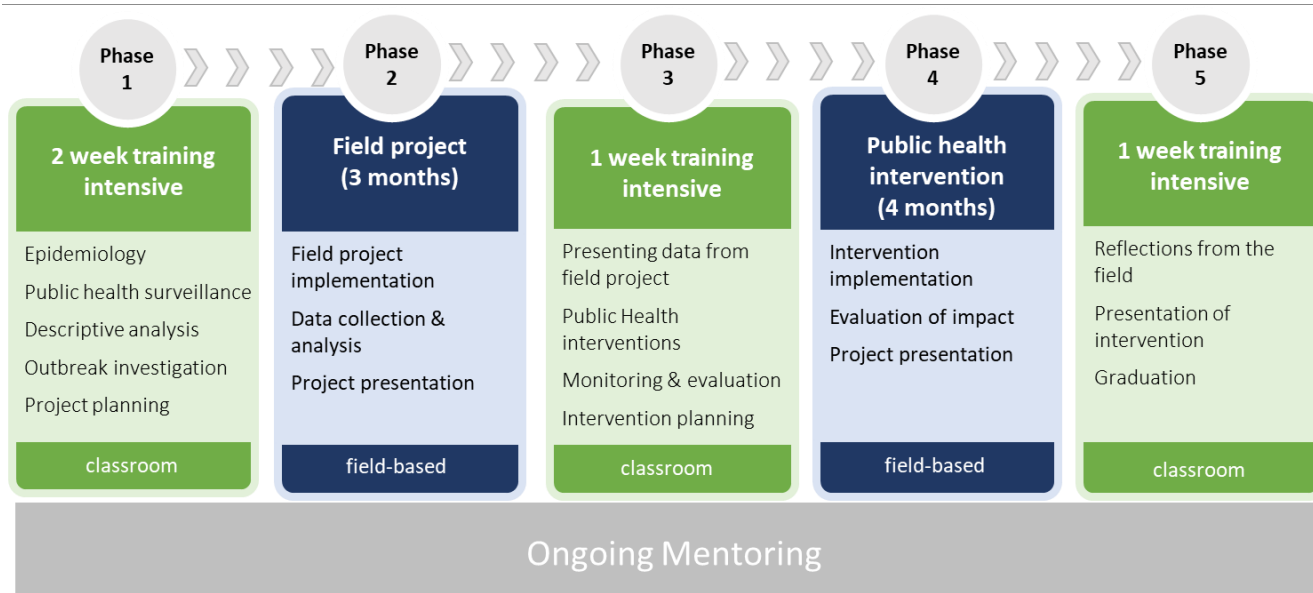
A preliminary activity of Sols FETP was a participatory Theory of Change (ToC) process. While Sols FETP will be modelled off FETPNG, engagement with key stakeholders from across the Solomon Islands health system was deemed critical to identify contextual adaptations. As a methodology underpinned by stakeholder engagement and participation, ToC was identified as an ideal process through which to ensure Sols FETP is appropriate and contextualised to Solomon Islands requirements. Furthermore, the ToC enabled essential partners to shape the key outcomes of the program in a way that aligns to MHMS priorities, and identifies the preconditions essential to meeting these outcomes. Provided recommendations from the ToC process are implemented, Sols FETP will be built from a participatory process, giving the program every chance to ensure its relevance and sustainability beyond the life of the grant supporting its development.

ABOUT SOLS FETP

Sols FETP is housed within PHESU in the MHMS. At least in its early implementation, the curricula and delivery will largely be structured on that of FETPNG. FETPNG's unique training model includes classroom training, a field based epidemiological project and a field-based intervention project. Following engagement of two Solomon Islands fellows in the 2018 cohort of FETPNG and extensive consultation with FETPNG Coordinator Mr Berry Ropa, the MHMS found that the model could support the development of epidemiological capacity amongst its own health staff working at Provincial and Area Health Levels.

Sols FETP cohorts are trained over an 8-month period during which fellows undertake a combination of classroom-based learning (160 hours) and work-based field projects (192 hours). Each component of the program builds on prior knowledge and skills. Fellows are existing health workers, working at various levels and roles within the health system. Fellows must attend all workshops, complete a field project and a public health intervention project (see *Figure 1*, below), and demonstrate that they have met the eight competencies of the program in order to graduate. The eight competency domains are public health surveillance, outbreak investigation, field project, public health intervention, data management and analysis, communication, evidence-based practice and management and leadership. These align to competencies of FETPs globally.

Figure 1: Structure of the Solomon Islands Field Epidemiology Training Program, 2021



The inaugural Sols FETP cohort was trained in 2021. Ideally, the ToC process would have occurred well ahead of running the first training in order to ensure the ToC learning shaped implementation from the outset. Travel challenges caused by the COVID-19 pandemic, coupled with the pressing public health need for field epidemiologists in Solomon Islands, necessitated a FEiA staff deployment to cover both the in-person consultation and commencement of the first cohort of the program in early 2021. As such, early recommendations from the ToC were implemented throughout 2021, and will continue to influence the delivery of training in 2022 and beyond.

METHODOLOGY

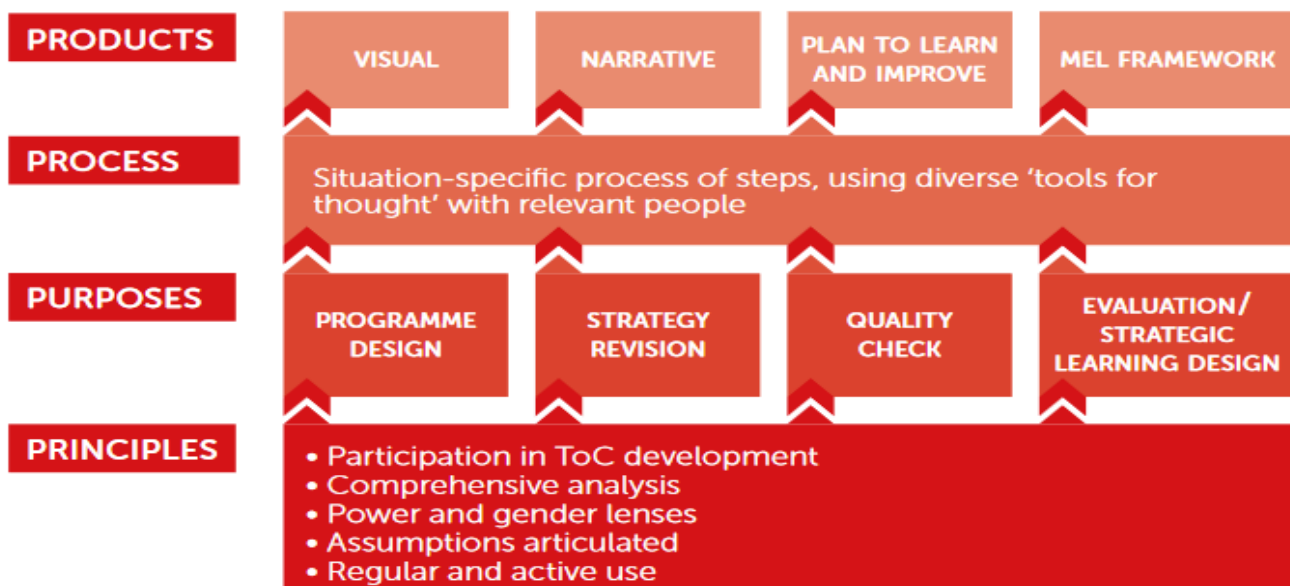
Theory of Change: a methodology

Globally, ToC is increasingly utilised as a process to develop, implement and evaluate international development programs (Stein & Valters, 2012). The process commonly engages key stakeholders to consider the reasons for, and the expected impacts of, a project or program. Compared to traditional linear Logical Framework models (LogFrame), ToC is a more holistic approach to developing or recording program scaffolding with wider scope to capture the complexity of defining and measuring successful project outcomes (Hivos 2015, p.13).

In its stepwise guidance document, Hivos (2015, p.12) describes ToC as both the conscious and unconscious “ideas and hypotheses people and organisations have about how change happens... [they are] based on personal beliefs, assumptions and a necessarily limited personal perception of reality.” A more operational definition of ToC is provided by Breuer et al. (2016 p.2): “an approach which describes how a program brings about specific long-term outcomes through a logical sequence of intermediate outcomes.” The Sols FETP process was underpinned by that operational definition, with additional context provided by Hivos that experiences and worldviews influence perceptions and approaches to change.

ToC are employed for different purposes, including project or program design, reviewing or auditing an existing initiative, strategy revision, evaluation, multi-actor collaboration, collective impact monitoring, and scaling initiatives in different contexts (Hivos 2015, pp.18-19, see *Figure 2*, below). The Sols FETP ToC process intersected numerous of these. As the FETP model of training delivery is new to Solomon Islands, the ToC aimed to assist program design while reviewing the existing global FETP initiative in terms of the Solomon Islands context. It also sought to determine appropriate, localised outcomes from which the Sols FETP could be evaluated against. Globally, ToC is a methodology new to FETP planning and evaluation; the only other documented use of the approach also comes from FEiA in its support of planning its advanced FETP, aFETPNG, in later 2018.

Figure 2. Hivos (2015) highlight give central principles that remain regardless of the ToC purpose.



Workshop objectives:

The key objectives of undertaking a ToC process during the establishment of Sols FETP were to:

1. Engage a variety of relevant stakeholders to collaboratively articulate a vision for Sols FETP
 - a. Articulate a vision for change, and the pathway for how the Sols FETP will contribute to it
 - b. Identify the risks that have potential to diminish this change, and in turn strategies to mitigate these risks
2. To support visibility of the training program to key stakeholders, ensuring their support throughout its implementation, including through releasing appropriate delegates for training
 - a. Develop a collective understanding on how Sols FETP can be embedded within the National Health Strategic Plan (NHSP)
 - b. Develop a collective understanding of how Sols FETP will contribute to each level of the Health System
3. To develop a framework from which Sols FETP can be evaluated
 - a. In terms of how Sols FETP contributes to the NHSP
 - b. To capture lessons learnt for continuous quality improvement

Workshop method: planning

Breuer (2020) describes six key elements to the ToC approach. These are largely hierarchical, starting with the greatest change a program is seeking to achieve and working backwards to the foundation assumptions that are true of the current state of play. Breuer's key elements are:

1. Impact: what is the real-world change that the program/project/intervention is the intervention seeking to influence?
2. Outcomes: in backwards order, what are the logical steps that need to occur if the impact is to be achieved?
3. Assumptions: current truths that need to be considered in planning the program.
4. Rationale: the evidence, or rationale, for why one outcome will lead to the next.
5. Indicators of success: Who or what will change, and to what extent; how long will change take to occur?
6. Interventions: what needs to be done to move from one outcome to the next?

With advice from Breuer, the steps were modified to operationalise the Sols FETP ToC workshop. Specifically, the workshop was designed to first identify early challenges to the success of a program or intervention, and mapping as these can be helpful in building the parameters of a program, identifying political, economic and logistical barriers, and allow participants to express misgivings ahead of deeper discussion. A brainstorm of key challenges to implementing a sustainable Sols FETP process therefore became the first step in the Sols FETP process.

Rather than using the language of impact, which can have specific connotations in monitoring and evaluation literature (Perrin, 2012), the Sols FETP ToC process sought a long-term outcome for the program. Participants were invited to consider: if a headline proclaiming the success of Sols FETP was going to adorn the cover of a newspaper in five years, what would it say? This discussion generated numerous key features of a successful program, which participants were then asked to logically order.

Rather than rationale comprising a specific component of the workshop, participants of the Sols FETP ToC were asked to consider the long-term outcomes and the current context as bookends, and backwards map the key preconditions required to achieve the outcome. Rather than considering these to be activities – which assume there is a specific activity that leads from one precondition to the next – participants were asked to consider the conditions themselves. However, inevitably, backwards mapping and activities or interventions were somewhat merged.

Next, participants considered the context that Sols FETP would be operating, with an assumption that these conditions would hold true. Assumptions included the barriers and risks alongside enabling factors that needed to be considered in planning the program.

While some interventions had been pre-identified during the backwards mapping phase, these were discussed in more length in this fifth phase of the workshop.

Finally, indicators and a ceiling of accountability were discussed in the sixth phase. Rather than developing indicators, which requires a degree of monitoring and evaluation expertise, participants were asked to consider which outcomes could be reasonably measured and attributed to Sols FETP. This led to identifying a ceiling accountability, beyond which Sols FETP could influence but could not directly attribute to its own activities.

Participants

To optimise opportunity for wide and open discussion, the aim was to have no more than 25 participants attend the workshop. A recruitment rationale was brainstormed and the Sols FETP Director and faculty asked to nominate participants who met some or all of the following criteria:

- People or provinces who will influence the program in a positive way
- People will be directly engaged in the program, either as a faculty or mentor, or a fellow
- People who have positional power who will make decisions about the future of the program
- People who will manage fellows
- Provinces that are a priority to build capacity
- People who are willing to share ideas and have a growth mindset
- People who are willing to listen to others' ideas
- Representation from as many Provinces as possible
- Representation of both females and males

A list of 29 individuals was drafted and invitations sent to all; 19 confirmed their attendance (see [Appendix 1](#) for list of participants). The majority of participants (n=11, 58%) came from the National level; two (11%) came from Malaita, with one participant each from Western Province, Central Province, Isabel, Makira, Temotu and Choiseul. Eight participants (42%) were female; six of these came from the National level while only two came from the Provinces. Male participants were more likely to come from the Provinces, and held more senior roles in the Provincial Health Authority (PHA); in reality, the pool of females within PHA management roles was limited. Five participants (26%) were directly involved in the program as either a Director or faculty, and one Provincial participant was later invited to be a fellow for Cohort 1.



Image 1, from front row left: Nathan Jama Jr, Ambrose Gali, Cynthia Joshua, Deborah Davo, Freda Pitakaka, Samuel Manu, John Harara, Lorraine Satorara, Alison Ripiapu Sio. *Back row:* Simpson Qalo, Rolly Viga, Martin Gavira, Barbara Leinga, Rachel Mather, Nixon Olofisau, Dr Rex Maukera, Dr Hugo Bugorgo.

Workshop method: implementation

A two-day ToC workshop was conducted on March 24-25 2021 at the Honiara Hotel in Honiara, Solomon Islands. A complete flow of the Sols FETP Workshop can be found in [Appendix 2](#), which outlines the proposed workshop schedule; a summary of the agenda is presented in *Table 1*. As is described in [Opening and Background](#), below, this schedule was condensed, however no section was skipped.

The Sols FETP workshop was facilitated by Rachel Mather, an epidemiologist in the FEiA team. The FEiA Solomon Islands Program Lead, Dr Megge Miller, attended the entire workshop via Zoom, taking extensive notes of the discussion.

Table 1: Abbreviated run sheet of the Sols FETP ToC workshop, March 24-25, 2021.

Workshop Agenda Item	Purpose
Opening and background	<ul style="list-style-type: none"> - Introduce FETP concept - Explain why Solomon Islands is establishing an FETP - Provide context of ToC
Challenges	<ul style="list-style-type: none"> - Brainstorm the likely challenges to developing and implementing an FETP in Solomon Islands
Long-term outcome	<ul style="list-style-type: none"> - Collectively establish the long-term (5-10 year) outcome Sols FETP is seeking to achieve
Backwards mapping	<ul style="list-style-type: none"> - Determine the preconditions that must exist in order that the long-term outcome can be achieved
Assumptions	<ul style="list-style-type: none"> - Identifying current contextual factors that must be recognised in the planning and implementation of Sols FETP - Identify assumptions that must be true for the Sols FETP ToC to be realised
Interventions	<ul style="list-style-type: none"> - Brainstorm the activities and initiatives to be undertaken by Sols FETP in order to achieve the long-term outcome <p><i>E.g. the activities that ensure the preconditions.</i></p>
Indicators and Ceiling of Accountability	<ul style="list-style-type: none"> - Identify at what point in the ToC can outcomes be reasonably attributed to Sols FETP, above which Sols FETP contributes but does not control - Consider how the effectiveness of Sols FETP should be measured in terms of: <ul style="list-style-type: none"> o The ToC outcomes o The Solomon Islands health system o National Strategic Health Plan priorities

Opening and Background

While the official opening of the program was scheduled to commence at 9:30am, during the registration time the Permanent Secretary kindly requested the ToC participants and facilitator to attend the launch of the COVAX Facility in Solomon Islands. While this did take significant time from Day 1 of the two-day workshop, the benefits to participants were immense. Participants were able to receive their first dose of the COVID-19 vaccine, AstraZeneca, with some proclaiming they were the first representatives from the provinces to receive it. The value of having health workers from across the country participate in this historic occasion cannot be overstated, as Solomon Islands, continues to be challenged by low vaccine uptake.

The ToC workshop commenced with an opening address from National Nursing Director Mr Michael Lauri on behalf of the Permanent Secretary of Health. This was followed by a statement from National Training Manager Ms Lorraine Satorara who provided insight into her engagement with FETPNG in order to determine its suitability for Solomon Islands.

There were then numerous PowerPoint presentations providing overview and background for Sols FETP. While only 45 minutes had been allocated to their delivery, they were further condensed due to the reduced time schedule. The facilitator delivered a brief presentation on FETPs globally, covering the key components of an FETP, how FETPs contribute to the health system, graduate skills, and what managers can expect from staff participating in the program. This was followed by a presentation from PHESU Manager Ms Alison Ripiapu Sio going over the rationale for Sols FETP in terms of the country's previous engagement in field epidemiology training, as well as the program's alignment to national strategies and plans. She stressed the expense and delays of deploying the national Solomon Islands Emergency Medical Teams (SOLMAT) and the need to enhance surveillance and outbreak investigation capacity at the Provincial level. After, PHESU Surveillance Coordinator, Mrs Cynthia Joshua, presented her experience as a fellow in the 2018 cohort of FETPNG, including how the program was implemented and how her field projects enhanced her existing work strategy to strengthen dengue surveillance. The final presentation was delivered immediately after lunch, when the facilitator provided an overview to the ToC process and what participants could expect over the workshop, and longer term. All four presentations can be accessed through [Appendix 3](#).

Upon arrival, participants were given a number that corresponded to a table, one to four. This ensured an even distribution across the groups and also sought to facilitate networking, as participants were prevented from simply choosing to sit with those already known to them. During the opening participants received a copy of the full-agenda for the two days, and there was discussion as to how this might be condensed due to the late start (refer to [Appendix 2](#) for the planned Workshop Timetable). A pictorial handout with brief descriptions of the key segments of the workshop was also provided to participants (see [Appendix 4](#)). Participants were informed that each component of the workshop would commence with group discussion at tables, with key themes from the discussion noted on coloured post-it notes. At the end of the allocated time, the post-it notes from each group would be gathered by the facilitator and, when possible, quickly grouped into themes, which would then be discussed and clarified as a plenary. If a topic was not relevant to



Image 2: Sols FETP Director Alison Ripiapu Sio explained how and why the Ministry of Health and Medical Services is using field epidemiology training to strengthen the country's health systems.

that stage of the conversation, or if too much time was being spent on it, it would be placed in a "Parking Lot" which would be revisited at the logical time within the workshop sequence, or if time permitted at the end of the workshop.

General workshop process

As is anticipated in any group workshop, discussion did not always exclusively fit the confines of the specific agenda item; for example, activities were commonly suggested in the backwards mapping session, and then discussed and linked back to previous discussion when it was time to come back to these in activities.

The first participatory component of the ToC asked participants to reflect on the information provided about Sols FETP in order to consider the likely challenges to developing and implementing the program. The purpose of commencing with the challenges was twofold and compounding; challenges are often easier for people to identify and articulate, and because this is true, starting with challenges engages participants early in the workshop, serving as an icebreaker and setting the tone for lively, participatory discussion.

In order to develop outcomes for Sols FETP, participants were asked to brainstorm what was the vision of change that the program would have made if it is successful in five years. Intersecting with each theme generated in this session was the overarching outcome that decisions are made through consideration of evidence. Other outcomes included early intervention – for example, to outbreaks, but also other public health problems; improving service quality and coverage; and political support for the program.

The ToC hinges on a set of assumptions that must remain true in order for the theory to uphold and change to occur. This comes with the acknowledgement that Sols FETP does not operate in isolation, but with a system. Participants were prompted to think of assumptions as considerations that are true right now.

While the discussion was broad, it was collated and synthesised to generate nine key assumptions, as listed in the [Assumptions](#) findings.

When the time came to discuss measuring the progress of the theory through indicators, participants were requested not to nominate indicators, but specify which preconditions or outcomes should be measured. However, participants put forward many thoughtful indicators – including specific targets – clearly linked to earlier discussion.

The final request of ToC participants was to nominate where a ceiling of accountability could be drawn. It was explained that on one side of the line, outcomes could be directly attributed to the program; that is, Sols FETP was directly accountable. Past the ceiling of accountability, Sols FETP would be able to contribute to outcomes, but indirectly; they were not the sole responsibility of the program.

Synthesising the Theory of Change

On the evening of Day 1, a draft theory diagram was developed by Rachel Mather and Dr Megge Miller, with assistance from Dr Erica Breuer. This process saw critical review of the comprehensive notes taken, as well as photos of the post-it notes captured for the day's key session on outcomes. The review considered how the discussion could be summarised thematically, and suggested an order that demonstrated the sequence of the outcomes. Including general discussion of the day, this process took approximately two hours. The basic sequence were presented as a PowerPoint slide and hand-out (see [Appendix 5](#)) to the workshop participants in the morning of Day 2 for feedback. Participants' generally agreed with the presented outcomes and minor wording feedback was incorporated into the final diagram.

A similar, more comprehensive process was undertaken on the evening of Day 2, involving the same participants. Again, critical review of the notes was undertaken, with post-it notes and discussion summarised thematically. Themes and sub-themes emerged, as highlighted in the final draft, and in the discussion presented in findings. A PowerPoint slide was used to capture the resultant ToC. The process on the second night took approximately six hours.

The resultant draft ToC (see [Appendix 6](#)) was circulated the following day, Friday March 26 2021. While many workshop participants had early travel arrangements to return to their respective provinces, the prompt development of a draft theory allowed for hard copy drafts to be shared with some participants before they departed, alongside participants resident in Honiara.

Following from this, an email communication was sent to all participants on Tuesday 30 March, 2021. The focus of this communication was to thank participants for their contributions; disseminate all presentations, hand-outs and photos from the workshop; and share the draft theory, with requests for feedback. While all feedback was welcomed, participants were specifically asked to consider four questions:

1. To you, does the diagram represent the key points of our discussion?
2. Is there anything missing from the diagram?
3. Would you change anything in the diagram?
4. Any other feedback on the diagram

While numerous acknowledgments of the email were received, just one participant provided feedback. They requested that faculty developed capacity of mentors; that as communication between international and national mentors may be unreliable with the provinces, the program utilise mobile and land phones rather than relying on internet-based communications; and that mentors and fellows develop their own times and plans for communication. These helpful contributions were considered as strong operational considerations rather than inherently linking to the theory, and so the theory was not amended based on these.

The Sols FETP Director Alison Ripiapu Sio suggested that program faculty – convened to commence the first cohort of Sols FETP on 19 April 2021 – were best placed to provide feedback. No further additions were elicited, and so upon her return to Australia, the facilitator engaged a graphic designer to finalise the first ToC in a style that could be easily recognised as coming from the Solomon Islands. The resulting product is the Sols FETP [ToC diagram](#). This, alongside a preliminary report, was shared MHMS Executive Management on 29 June 2021. This brief five-page report was also shared with the ToC workshop participants in early July 2021.

WORKSHOP FINDINGS

Overview and Presentation of Findings

In this section the findings of the ToC workshop and the resultant [ToC map](#) are presented. In order to avoid repetition in this report the process and discussion captured over the two days has been synthesised and thematically grouped as was logically placed in the final ToC. The order is outlined in the table below.

Table 2: Sols FETP ToC findings

Workshop agenda item	Findings section
Challenges	Challenges
Long-term outcome	Long-term outcomes
Backwards mapping; Interventions	Intermediate outcomes Pathway 1: Fellows Pathway 2: Faculty Pathway 3: Executive support Governance
Assumptions	Assumptions
Indicators and ceiling of accountability	Indicators & Ceiling of Accountability

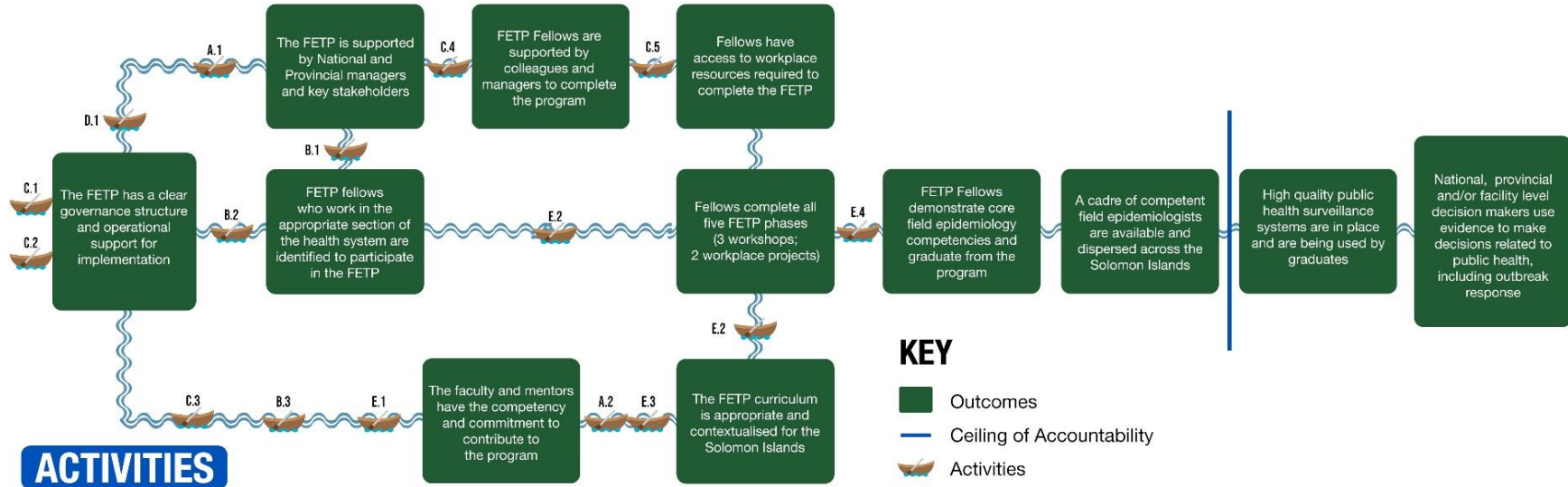
Where appropriate, each Workshop agenda item listed above immediately refers to the content on the final [ToC diagram](#) through bullet points. Main bullet points (blue text) list outcomes as they are presented on the diagram. Activities that are listed on the pathways to these outcomes are shown as sub-bullets (green text).

Various font emphasisers are used to denote different aspects of the data, as described below:

- Bold text denotes a theme that emerged from the discussion
- *Italicised* text repeats an outcome as it appears on the ToC diagram, or refers the reader to a sub-section
- Underlined text links an activity as it appears on the ToC diagram

SOLOMON ISLANDS FIELD EPIDEMIOLOGY TRAINING PROGRAM

THEORY OF CHANGE



ACTIVITIES

- A. ETHICS**
 - Engage with stakeholders to streamline ethical requirements for the FETP
 - Include theoretical and practical ethics guidance in the FETP curriculum
- B. RECRUITMENT AND SELECTION**
 - Develop a recruitment strategy which aligns to existing policies for workforce development
 - Develop selection criteria and minimum entry criteria for fellows
 - Develop selection criteria and Terms of Reference for mentors/faculty
- C. MANAGEMENT**
 - Decide on the purpose, scope and terms of reference for a steering committee
 - Establish a steering committee
 - Check curriculum is appropriate for the Solomon Islands
 - Strategic engagement with key stakeholders (including FETP fellows' workplaces)
 - Workplaces develop operational strategies to support fellows
- D. SUSTAINABILITY**
 - Embed the budget and funding for the program in the Ministry of Health and Medical Services
- E. DELIVERY & ASSESSMENT OF FIELD EPIDEMIOLOGY TRAINING**
 - Train-the-trainer capacity development for faculty and mentors
 - Deliver training to each FETP cohort
 - Develop assessment criteria for core competencies
 - Assess FETP fellows for core competencies

ASSUMPTIONS

- The FETP fellows are aware of the scope and competencies needed to graduate from the program
- The FETP is able to deliver the program despite the remoteness of some of the fellows and poor connectivity
- The projects of the FETPs fellows are aligned with the scope of their work and are possible within their current role and available resources and data
- FETP are able to navigate work and personal commitments during the program
- Positions exist in the public health system for FETP graduates
- Faculty and FETP fellows are respected within the field of public health and this leads to increased career opportunities
- Involvement in Solomon Islands FETP supports access to a broader public health network where different ways of training and different ideas can be shared
- The National Ministry of Health and Medical Services owns and leads an FETP for the Solomon Islands
- The National Ministry of Health and Medical Services is committed to developing accreditation and a career pathway for FETP graduates

Challenges

Family commitments were viewed as a significant challenge and, to the participants, potentially one unique to Solomon Islands.¹ Commitment to family – including to attend family events and funerals – was viewed to precede all other duties in Solomon Islands culture; this was viewed as having potential to impact fellows' participation in workshops. This commitment sees people take on responsibilities for many people, with 'home' responsibilities extending to community responsibilities. Further to this discussion was acknowledgement that being an FETP fellow would intersect with full-time work alongside existing family responsibilities, and that it would be challenging to juggle social, family, work and being a fellow. As one participant noted, "do we put family first or work?"

Linked to this was a broader theme of human resources, which each of the groups individually acknowledged coming to the plenary discussion. There were numerous conversations within this theme, including that there is a general shortage of human resources. In remote places, this is compounded by difficulty motivating highly qualified people to live away from resources, such as quality education sources for their children. The human resource shortage results in officers shouldering broad workloads, particularly in some of the provinces. Fellows might be "wearing many hats", whereby they are responsible for multiple roles within their position in the provincial health system. "If a person has many roles," a participant noted, "it might be difficult for them to carry out all of the roles and be a fellow." The carriage of responsibility of officers in the province could have broader ramifications for community and indeed the national health system while the fellow attended training. As there may not be any other person to handover to while fellows attend training, important functions such as surveillance might not continue in their absence, while it was also possible fellows would return to a backlog of work. A participant noted, "...while at training, there is no one else to do the role while they're away. So when they get back, they need to catch up on all of the work that didn't happen."

Selection of fellows generated much discussion amongst participants. They noted that clear guidelines on fellow selection would be required, as Sols FETP would be widely viewed as a desirable training with limited places. All agreed that commitment from fellows was essential; Sols FETP must enrol fellows who really want to do the program, and try to limit enrolments from fellows who will not complete the training. It was suggested that selection should be based on where fellows come from, including both their geographic location (e.g. by province) and the area of the health system they represent. The Director of Sols FETP, Alison Ripiapu Sio, reflected that there are existing systems and priorities dictated by the COVID-19 Public Health Emergency, including surveillance. Perhaps the existing areas of the health system could be mapped and prioritised through a staged approach. She reiterated that for the first cohort, surveillance would be prioritised and geographically, provinces with Ports of Entry such as Choiseul, Malaita and Western. As excessive time was spent discussing selection of fellows, the topic of selection criteria was placed in the Parking Lot. However also linked to selection of fellows was management support. Management support was viewed to sit in the junction between human resources and mentoring. It was widely agreed that supportive management would be essential for fellows to have time to devote to their projects while in their existing roles.

Numerous logistics considerations were raised in the discussion. Logistics included the transportation required to attend workshops, collect data and complete other tasks for projects. Logistics was also linked to unpredictable weather which can have significant impacts on all modes of transportation in Solomon

¹ Unlike Western concepts of nuclear family, in Solomon Islands and other Melanesian cultures, the *wantok* system "strongly links to the practices of group identify and belonging, reciprocity, and caring one's relatives." (Nanau, 2018) "It signifies a setting demanding cooperation, caring and reciprocal support, and a shared attachment to locality." (Nanau, 2018).



Image 3, from left: Martin Gavira, Samuel Manu and Freda Pitakaka during a brainstorming discussion.

Islands. Having access to computers was considered a logistics issue, particularly if fellows are required to take a computer to the workshop and left their colleagues without one. Associated with this were the logistical processes associated with, for example, accessing internet in particular offices and localities.

There was some concern that fellows would not have access to the health data required for them to complete their projects. This included access to databanks, such as the Digital Health Information System 2 (DHIS2), medical records, and data from frontline health facilities. Some databanks are only accessible to particular people. Further, participants highlighted that data quality could be variable, as data reporting and feedback cycles occur inconsistently, meaning some data is unvalidated. There was also concern that data systems do not synchronise between Provinces and the National system, resulting in data duplication. An example was given of Malaita, where raw data was reported to be entered into Microsoft Excel and sent to the National level, where it was analysed before a report was returned to the Province. Yet the Province owns the data, and it also conducts analysis. The duplication of the data analysis step was reported to result in a lack of clarity around responsibility for decision making. Participants want that data analysis and interpretation skills to be developed in the provinces to enable local decision making.

Linked to data was a wide discussion and divergent perspectives on the process to obtaining research ethics approval. Some participants considered the process to be too challenging for fellows to undertake in the timeframe that the program is completed in. This was based on the inexperience of fellows undertaking a research ethics application, the complexity of the application process, and perceived delays in receiving feedback before re-submitting applications. "Fellows need to know the process so they can navigate it and get approval," a participant commented. Fellows must first obtain approval from the Provincial level before submitting their application to the Solomon Islands Human Research Ethics Review Board (SIHRERB). A participant of the workshop, the Chair of the SIHRERB suggested if fellows' applications were collated the Board could call a special sitting to review them. As discussion did not culminate in wide agreement, discussion of ethics was placed in the Parking Lot to be developed specifically through direct consultations between Sols FETP and the SIHRERB.

With government-owned FETPs characterised by on-the-job learning, there was concern amongst participants that mentoring fellows in the field would be difficult. Challenges included having training and mentoring capacity in the field, and connectivity issues hampering communication with Honiara-based

mentors. In addition, there was query over the sufficiency of locally qualified trainers to support the program. The Sols FETP Director explained her strategy to recruit enough faculty to support the program; she considered the pool to be sufficient when considering partners through existing agreements.

Finally, funding was considered a major challenge to the sustainable implementation of Sols FETP. While Sols FETP is funded to the end of 2023 by FEiA grant through the Australian Government's Indo-Pacific Centre for Health Security, participants discussed the need for long-term funding. It was widely viewed that funding for the program needs to be built into the Annual Operations Plan (AOPs) of the MHMS, and below that, into the AOPs of Provinces. Provincial level funding was discussed in terms of funding fellows' project activities, such as costs associated with data collection or activities needed for fellows' projects. Processes to access funds, even if approved, can be difficult and lengthier than the time allocated for fellows to complete their projects. Time itself was considered a challenge; participants considered whether eight months would be long enough for fellows to complete their projects and could be impacted by management support and family commitments. Because of these challenges, it was found that fellows would need to develop projects that could be integrated into their normal work, including the resources normally available to them.

Long-term outcomes

Participants articulated the central long-term outcome for Sols FETP as a cadre of competent field epidemiologists will be available and dispersed across Solomon Islands. This overall outcome incorporated the participants' view that field epidemiology capacity needs to be distributed across the country's nine Provinces and Capital Territory. Beyond this outcome was an additional outcome and impact statement; that high quality public health surveillance systems are in place and used by graduates in Solomon Islands, with the resultant impact that decision makers at each level of the health system engage with evidence to make public health decisions, including in rapidly evolving situations such as outbreak response.

These key long-term outcomes stemmed from discussion across numerous themes. Strong data to inform evidence-based decisions making was cornerstone to each of the outcomes. Strong data meant competent data analysis, a functional surveillance system, timely analysis and interpretation, and no missing data. This was clarified to mean that there would be improved collection and reporting of data throughout Solomon Islands. When queried why data was so important for Sols FETP as an outcome, it was clarified that robust data would have to be used to make decisions. This data could be communicated to decision makers through policy briefs, and would also inform advocacy when requesting funding or partner support. Evidence would also be used to improve program interventions. The example of addressing domestic violence in a Melanesian setting was cited in terms of such interventions; this was deemed an area that requires more evidence in order to make more change. "In having people who are trained to collect evidence, including sensitive evidence... they can be listened to. It will be more respected, because the people who have generated the evidence are well-trained."

"[Field epi training is] laying the foundations to invest in our workforce. "

Sols FETP Theory of Change participant, 24 March 2021.

Service quality and coverage improvements were viewed to stem from having a skilled workforce that supports evidence-based decision making. Improvements were discussed from the National level through to the Provinces. As one participant noted, "we need to have well-designed processes and guidelines at the Ministry." By adopting a strategy that ensured a steady increase of field epidemiology graduates across



Image 4, from left at fore table: John Harara, Barbara Leinga, Cynthia Joshua and Deborah Davo brainstorming long-term outcomes of Sols FETP.

the Provinces, increased capacity at the frontline would in turn strengthen the quality of data collected. Decentralised epidemiology skills would also enhance opportunities for local analysis and associated early intervention (for example, to outbreaks). One participant likened the training to “laying the foundations to invest in our workforce.” Opportunities for field epidemiologists from remote settings to connect with international institutions was also highlighted as an important mechanism for achieving health indicators. International and National protocols and guidelines could be used as frameworks to develop context-specific solutions to public health problems. At the base level, the key to achieving a cadre of skilled field epidemiologists was achieving the training objectives of the FETP (connecting to [Intermediate Outcomes](#)).

Spanning across the themes was the desire for Sols FETP to result in strong partnerships. Partnerships were viewed between graduates, fellows and their teams, and the strength of evidence stemming from partnerships. One participant commented that sometimes evidence is ignored; “how do we engage decision makers to engage with the evidence?” The group discussed that graduates using their skills to influence decision-making within their teams would support a bottom-up approach to making evidence-based decisions. Equally, having a network of Sols FETP graduates would support communication and strengthen systems between provinces within the field epidemiology network. This holistic, integrated approach was viewed to be essential to engage political decision makers; as one participant commented, “When we share data we achieve change.” A successful fellow was someone would be able to influence their team through their increased network. As one participant explained, “When work colleagues see you coming back with training, you have a skill. Work colleagues see you have the skills and they will have confidence in you. When you want to make a change, then maybe they will accept that change easier, because they know you've been well trained.” This trust would lead to improved team work and provincial systems, and thus a stronger body for decision makers to draw evidence from. Participants felt that training should be delivered at different sites across the country so as to expose fellows to different systems in the

provinces. The politics of decision making was an unresolved discussion during the formation of long-term outcomes. There was an assumption that evidence makes good decisions, but it was acknowledged that sometimes good evidence doesn't matter. Additionally, Provinces with less influence on political decisions experience less implementation of recommendations.

Intermediate outcomes

Prior to achieving the overall outcome, the ToC includes an intermediate outcome of having *FETP fellows demonstrate core field epidemiology competencies and graduate from the program*. This will be the result of *fellows completing the five phases of the FETP* and meeting the required course competencies. In turn, there are three pathways that support fellows meeting the graduate requirements; fellows, faculty and executive support, explored in-depth below.

The key discussion point that linked to these intermediate outcomes was establishing quality assurance. Participants considered that if fellows are able to follow Ministry guidelines, the technical skills gained through Sols FETP would enable improvements to processes and systems. Graduates of Sols FETP would thus enact continuous quality improvement within the health system. However, in order to assure the quality of fellows, graduate competencies are required. Assessing FETP fellows for core competencies was the intervention to ensure competence in graduates from the program.

The discussion of graduates links to discussion on the development of a career trajectory for Sols FETP field epidemiologists. It is the accreditation of Sols FETP that will lead to people being recognised as a field epidemiologist, and there must be a salary attached to that. The integration of field epidemiologists within the health system therefore requires finance, to which one participant commented "We can't have those roles unless the mechanisms within the Ministry are there." The Director of Sols FETP, Alison Ripiapu Sio, also suggested that graduation from Sols FETP be a prerequisite to future epidemiology study amongst existing health workers. She also discussed the importance of working with Provincial teams to establish the position and its associated pathways (see discussion on *Pathway 3: Executive Support*, below). A career trajectory for field epidemiologists was considered crucial for the long-term sustainability of Sols FETP.

Pathway 1: Fellows

- *FETP fellows who work in the appropriate section of the health system are identified to participate in the FETP*
 - B2: Develop selection criteria and minimum entry criteria for fellows
 - E2: Deliver training to each FETP cohort

The first pathway leading to fellows completing and graduating from Sols FETP are the fellows themselves. Participants discussed the professional suitability and the necessary personal attributes fellows must possess to complete the training. While the discussion could be singularly described as the appropriate recruitment of fellows, recruitment was considered both upstream (e.g. the potential fellows themselves) and downstream (e.g. how graduates would contribute to the health system).

Having clear selection criteria for fellows, including clear minimum eligibility requirements, were considered essential to a clear and transparent recruitment process. Criteria needed to address the fellows' personal commitment to training and their ability to manage their time, as well as professional requirements to enrol in the program. Develop selection criteria and minimum entry criteria for fellows was the resultant criteria linking to this.

Consideration of future human resource needs was viewed as imperative to the fellow recruitment strategy. This included planning for the geographic distribution of field epidemiologists across Solomon Islands; as one participant reflected, "Field epis need to be dispersed across the country in order to have quality data." However, more important was the need to develop a clearly delineated role for field epidemiologists in the health system (linking to *Intermediate Outcomes* discussed above). Like many other FETPs globally, Sols FETP will be recruiting existing workers within the health system. Participants discussed the need for a strategy to develop field specific field epidemiologist roles, as well as for the roles that fellows currently occupy. This includes clarification on how field epidemiology skills intersect with existing roles, including recent roles created by the MHMS Role Delineation Policy, including Infection, Prevention and Control (IPC) and surveillance, while longer-term also creating an epidemiologist role at the Provincial level. Key actions to support this longer term included having clear role descriptions for field epidemiologists within provincial health systems.



Image 5, from left: Martin Gavira, Samuel Manu, Nathan Kama Jr and Freda Pitaka discussing preconditions to realising the long-term outcomes of Sols FETP.

Pathway 2: Faculty

- *The FETP curriculum is appropriate and contextualised for the Solomon Islands*
- *The faculty and mentors have the competence and commitment to contribute to the program*
 - A2: Include theoretical and practical ethics guidance in the FETP curriculum
 - B3: Develop selection criteria and Terms of References for mentors/faculty
 - C3: Check curriculum is appropriate for Solomon Islands
 - E1: Train-the-Trainer capacity development for faculty and mentors
 - E2: Deliver training to each FETP cohort
 - E3: Develop assessment criteria for core competencies

The second pathway that is essential to fellows completing and graduating from Sols FETP is linked to the technical capacity of the program. The program's technical capacity comes from the faculty and mentors who support the program.

Participants discussed the attributes that faculty must bring to Sols FETP; namely competence and commitment. Participants discussed how these could be assured through the development of Terms of Reference (ToR) and selection criteria for faculty and mentors. ToR would need to consider the roles of faculty within the health system, their skills and qualifications, and key selection criteria. Participants raised the point that given the time commitment of faculty – with the program being implemented over three workshops totalling four weeks, and with fellow mentoring between workshops – mentors' managers and/or employers would need to be supportive of their involvement in Sols FETP. This time commitment, alongside the personal conduct expected of faculty, could be articulated in a faculty Code of Conduct.

Linking to the extensive commitment required of faculty to be involved in the program annually was the need to continuously recruit faculty. Participants recognised that a pool of program supervisors would be essential to ensure adequate support of annual program implementation, with separate ToR for junior and senior faculty. Faculty are responsible for delivery of training to each cohort. Continuous professional development would also be required – both as an incentive for faculty for its contribution to their career trajectory, and to ensure that faculty were fully competent. This could be achieved through Train-the-Trainer capacity development for faculty and mentors.

Faculty were viewed as being chiefly responsible for an appropriate and contextualised FETP curriculum for Sols FETP. While participants received a briefing that there are global standards for intermediate FETP curricula, they identified that Sols FETP curriculum would need to be culturally relevant and fit to Solomon Islands health systems requirements. They advised that faculty should check the curriculum is appropriate for Solomon Islands. Alignment to Solomon Islands context was not limited to specific knowledge or skills development; participants felt the curriculum needed to support fellows' to learn about existing country processes. This included alignment to the Solomon Islands Human Research Ethics processes by embedding theoretical and practical ethics guidance in the FETP curriculum. Alongside continuously improving curriculum, faculty would be responsible for developing assessment criteria for core competencies aligning to the graduate competencies and the program curriculum. The Sols FETP curriculum and specifically who was responsible for signing off on it was a discussion that was not resolved in the process of backwards mapping. There was consideration that while a key package for curriculum exists, there must be oversight in how it is positioned for the context of Solomon Islands.

Pathway 3: Executive support

- *Fellows have access to workplace resources required to complete the FETP*
- *FETP fellows are supported by colleagues and managers to complete the program*
- *The FETP is supported by National and Provincial managers and key stakeholders*
 - *B1: Develop a recruitment strategy which aligns to existing policies for workforce development*
 - *C4: Strategic engagement with key stakeholders (including FETP fellows' workplaces)*
 - *C5: Workplaces develop operational strategies to support fellows*

The final pathway identified at the ToC links to executive management support for Sols FETP. By engaging National and Provincial managers and key stakeholders, including through strategic communication with fellows' workplace, appropriate fellows will both be recruited and supported to complete the program. Workplaces will be engaged to develop operational strategies that support fellows to have access to the resources they need to complete the FETP.

In order to gain management support, ToC participants theorised there would need to be an avenue to elicit support from National and Provincial managers and key stakeholders. They asserted that a "clear package" that provided an overview of Sols FETP, including the program context and purpose, would be appropriate for executives. This could be aimed at key stakeholders, including national decision makers, provincial managers and representatives from fellows' workplaces. Engaging these stakeholders would lead to developing a recruitment strategy which aligns to existing policies for workforce development. This would include strategies to establish and build recognition for a 'career pathway' for field epidemiologists. Sols FETP Director Alison Ripiapu Sio reflected that she planned to work with provincial teams to create the role of field epidemiologist within the context of the Role Delineation Policy. In the short-term this included recruiting people within existing positions, but longer term the focus would be to have epidemiology-specific positions.

There was wide consensus that good management support was required for Sols FETP fellows to achieve graduate competencies. Managers who understood the purpose of Sols FETP and the technical assets graduates would bring to their workplaces were considered more likely to support fellows undertaking the program, including allowing fellows to allocate dedicated time to their projects. ToC participants also identified strong links between management support and workplaces developing operational strategies to support fellows. This included laptops, internet and phone connectivity; as these assets require funding within the fellows' specific workplaces, if appropriate managers were engaged in Sols FETP, they could be acquired through Annual Operation Plan (AOP) budgets. Access to such resources was considered a motivation to fellows by the ToC participants.

Executive support also filtered into discussions on the need for Solomon Islands to have high quality surveillance and response systems. Specifically, there was a view by participants that Sols FETP needed to engage executives in order to develop supportive policies and strategic plans in order to improve the quality of surveillance. The logic behind this reflected the general need to sensitise executives to the Sols FETP program: to ensure that budgets were developed that included resources to do surveillance, including computers and internet, as well as resources to mobilise in the event of an outbreak. Technology was again a feature of discussion, including ensuring that Sols FETP fellows could use technology, including proficiency in specific programs, such as Microsoft Excel. Participants acknowledged that there are trained staff and systems in place within a National system, including sentinel surveillance sites, but more needed to be done in order to "make these work." Participants felt that executive engagement would ensure

appropriate resourcing was pursued across the Provinces, including support and accountability for Sols FETP fellows to engage in surveillance.

Governance

- *The FETP has a clear governance structure and operational support for implementation*
 - A1: Engage with stakeholders to streamline ethical requirements for Sols FETP
 - C1: Decide on the purpose, scope and Terms of Reference for a Steering Committee
 - C2: Establish a Steering Committee
 - D1: Embed the budget and funding for the program in the MHMS

A foundational outcome was articulated as cornerstone to the three main pathways that ToC participants theorised would enable a cadre of competent field epidemiologists dispersed across the Solomon Islands health system: a clear governance structure and operational support to implement Sols FETP.

The ToC participants proposed that a Steering Committee should be established to oversee governance of Sols FETP. The Steering Committee would maintain oversight of the program and assist to determine key program strategies, such as which areas of the health system to focus capacity development, and ensuring a fair, justified distribution or rotation of fellows and training across the provinces.

It was suggested the Steering Committee would require a clearly articulated purpose, scope and Terms of Reference (ToR). The ToR would guide appropriate human resource appointments to the Steering Committee, including members who could support Sols FETP to contribute to the Solomon Islands health system and align with existing policies and procedures within the MHMS. Examples included having capacity within the Steering Committee to ensure the Sols FETP had budget and funding embedded within the MHMS. Participants felt that this would promote the sustainability of the program.

The topic of funding generated significant discussion, including for fellows to have access to funds to develop and implement their projects. Participants considered that part of the Steering Committee's role would be to ensure there is funding in the AOP for Sols FETP at the National level as well as within the Provincial AOPs. This would engage provinces to take responsibility for funding fellows in their own areas. Fellows would then use the existing systems within their province to access funds to implement their projects. Access to funding for fellows' projects was viewed as essential by participants. Sols FETP Director Alison Ripiapu Sio explained initially, funding for the program was embedded within PHESU's budget, and the training would be coordinated at the National level. She acknowledged that in the future, provinces may need to fund their fellows.

Another precondition that came up numerous times for lengthy discussion throughout the ToC workshop was the discussion of research ethics. The discussion of ethics was contentious; there was a view that the current process facilitated by the SIHRERB was adequate, while others felt that the existing process was too complicated and would serve as a barrier to fellows completing the program. There was consensus that the Steering Committee should engage with SIHRERB to discuss the ethics process for Sols FETP. SIHRERB oversee the ethics approval process, which it was considered fellows should undertake as part of their projects. In order to do that, participants felt Sols FETP would require specific ethics training and guidance on how to complete the SIHRERB ethics form. This could be placed in a broader teaching of research ethics. When ethics had to be placed in the parking lot as a discussion that could not be resolved within the confines of the workshop, there was widespread acknowledgment that ethics could be a whole program unto itself.

Questions were raised as to whether Sols FETP should be accredited before the first cohort commenced their training, with the view that accreditation would be a long-term enabling factor of the program. The facilitator explained that Sols FETP was already accredited by the United Nations Training Committee, CIFAL, and that TEPHINET (Training Programs in Epidemiology and Public Health Interventions Network) required at least two cohorts to be graduated (along with meeting other minimum standards) before a program could apply for accreditation. It was suggested that Steering Committee could work with the Ministry Training Committee towards meeting the TEPHINET accreditation requirements.

A few participants suggested that the Ministry Training Committee could oversee a training needs analysis which would explore what is required in terms of training needs across the provinces, and use these needs in order to forecast what the training should incorporate. The facilitator acknowledged that while this would be a useful process to ensure a suitable and context-specific program, only findings relevant to the scope of FETPs would be specifically relevant to Sols FETP.

A pathway to ensure Sols FETP fellows followed human research ethical practices was an unresolved discussion throughout the backwards mapping process. There was debate amongst participants as to whether the existing processes facilitated by SIHRERBs were appropriate for fellows to undertake, given the short 7-month timeframe of the program.

Assumptions

1. Sols FETP fellows are aware of the scope and competencies needed to graduate from the program

The first assumption was that fellows would be aware of how Sols FETP would equip them with skills that would strengthen their capacity to perform their existing role within the Solomon Islands health system, and eventually contribute to new career pathways. This connected to fellows having a clear understanding of the competencies they would develop throughout the program, and how these would be demonstrated and/or assessed.

2. The FETP is able to deliver the program despite the remoteness of some of the fellows and poor connectivity

In forming the second assumption, participants spoke of the remoteness of some of Solomon Islands' provinces, linking it to the overarching outcome that field epidemiologists would be dispersed across the country. This recognition supported the assumption that there would be fellows participating in the program that came from remote islands with poor internet connectivity. Participants spoke on the imperative of overcoming communication challenges, with the assumption that the program would be able to produce graduates of the program in spite of these challenges.

3. The projects of the FETPs fellows are aligned with the scope of their work and are possible within their current role and available resources and data

There were numerous assumptions that linked to the fellows' suitability for the program in terms of the resources they could access at work, and their ability to use these resources. The first was that fellows would be recruited to Sols FETP based on their position and location. This would enable fellows to have access to the health data required to complete the projects necessary to demonstrate competence. A secondary assumption building on this was that high quality data produced by well-trained graduates would influence decision making.

Other assumptions related to funding; including that fellows would have access to minimal funds to complete their projects, and that as Senior Executives needed to sign-off in order to mobilise funds, access would frequently be difficult or significantly delay the projects.

There were also cascading assumptions related to technology. The first was that fellows would have access to both the hardware and software required to complete Sols FETP. The second was that fellows would be computer literate in order to utilise the resources available to them. In this discussion, it was identified that the Solomon Islands Government has a suite of trainings related to computer skills. Stemming from this was the assumption that Sols FETP would utilise existing trainings to develop the computer literacy skills of fellows.

Generally linked to this overarching assumption was ethics processes. It was articulated by some that if Sols FETP fellows do not have knowledge on how to complete the ethics process, or do not have support, their projects would be delayed.



Images 6-8, clockwise from top left: Deborah Davo, Nixon Olifisau, Dr Rex Maukera and Lorraine Satorara; Ambrose Gali, Rolly Viga and Simpson Qalo; participants shared their tables' discussion throughout the workshop.



4. Fellows are able to navigate work and personal commitments during the program

The next major assumption related to the professional and personal capacity of fellows to commit to completing the program. There was an acknowledgment that fellows would wear many hats, likely having numerous workplace responsibilities. Participants assumed that there would be clarity on the necessity of time management in order to complete the program. This linked to an assumption that fellows may not be committed because they have other responsibilities. Tying closely to this was an assumption that fellows have lives beyond work – family commitments – which participants stressed could impact significantly on what they are able to achieve in time limited situations, such as the training.

5. Positions exist within the public health system for FETP graduates

There was consensus amongst participants that, very often, no positions exist within the health system to match the qualifications of people who have completed training; not just for Sols FETP, but any kind of training. This was a system-based issue that often resulted in trained personnel relocating elsewhere.

While it was acknowledged that there is not a specific field epidemiologist role currently embedded within the Solomon Islands health workforce, it was an assumption that the skills acquired in Sols FETP could be

utilised in existing roles. There was an assumption that these roles would receive management support to articulate a clear scope of duties and workplan. Extending on this, there was an assumption that roles for field epidemiologists that incorporated the specific training of the program would be developed by the MHMS in collaboration with the provinces.

6. Faculty and FETP fellows are respected within the field of public health and this leads to increased career opportunities

There was considerable discussion on the assumption that affiliation with Sols FETP would lead to respect within the field of public health in Solomon Islands, and in turn this would lead to increased career opportunities. Linked to the respect afforded was an assumption that both faculty and graduates would need incentives beyond recognition in order to do their job. For example, as one participant noted, "Good scholars require good mentors." As there was an assumption that there would be criteria for mentors to guide supervision of their fellows, there would be a perception by faculty that this was a job and some money incentives, as well as status, would be required. Further to this, there was an assumption that as graduates of the program have increased skills, they will expect to be remunerated for their expanded role.

7. Involvement in Sols FETP supports access to a broader public health network where different ways of training and different ideas can be shared

Participants discussed their belief that fellows would benefit from the multidisciplinary public health professionals, from both Solomon Islands and abroad, that they would encounter through their journey to complete the course. There was an assumption that exposure to diverse mechanisms of training, such as those introduced by international faculty, would support fellow retention. There was also an assumption that international faculty would introduce different ways of thinking and ideas that would benefit fellows.

8. The National Ministry of Health and Medical Services owns and leads an FETP for the Solomon Islands

While there was some discussion about whether Sols FETP should be affiliated with SINU, when Sols FETP Director Ms Alison Ripiapu Sio explained that many FETPs globally are situated within Ministries of Health as work improvement programs, participants agreed that the program should be owned and led by the MHMS. As discussed in previous pathways, this would also imply that the program would contribute to the strategic directions within MHMS, and that long-term, the MHMS would be responsible for funding it.

9. The National Ministry of Health and Medical Services is committed to developing a career pathway for FETP graduates and international accreditation of the program

The final assumption that developed from discussion at the ToC workshop related to the MHMS taking carriage of the responsibility to accredit the program and forge a career pathway for Sols FETP graduates. One participant highlighted that a Key Result Area (KRA) of the current NHSP was "to build foundations for the future and build partnerships". Linking to this, she highlighted, was an assumption that fellows who graduated from an accredited program would be part of a larger pool of field epidemiologists, and the assumption that an active alumni network would support sustainability of the program. The group also agreed that graduating from an accredited program that expressly links to a career pathway is an incentive for fellows to complete the course.

Indicators

During the discussion on indicators, participants suggested a number of indicators. For the most long-term outcome – related to the uptake of field epidemiologist-produced evidence by public health decision makers – included indicators relating to the number of fellows' projects that influenced health policy and program activities. This included the number of policy briefs submitted to Executive Management.

Also attracting suggestions for indicators was the outcome related to high quality public health surveillance. Participants suggested that this could be done both at the level of the individual fellow, and the provincial level. For example, a simple check would be to compare what fellows included in their workplans next to what they were able to accomplish. At a higher level, data management improvements could be measured through reports that looked at data quality before and after training at the specific sites of fellows. Further, participants asked that the number of fellows and graduates involved in outbreak investigations was important to examine, as well as the function of the fellows within the response. Also important was how quickly outbreak responses were enacted, and if over time, there was an overall reduction in disease burden.

Other indicators linked to the outputs of graduates, including the number of research papers published, the number of fellows who attended conferences, and the number of fellows and projects that are communicated about in the media. The number of FETP graduates who both apply for and are accepted into postgraduate study was also considered to be a worthwhile indicator, with the acknowledgment that not everyone who does the program may wish to do further postgraduate study.

A very simple but important indicator included counting the number of graduates of Sols FETP. Linked to this was retention, with a target of 90% or more enrolled fellows graduating. Linking to the long-term outcome that graduates should be dispersed across the country, including that at least 70% of provinces have a Sols FETP graduate by 2023. Another suggestion included measuring not just the provinces that have graduates, but the specific health services within the public health system. A general indicator of the sustainability of the program was if it was still running after a designated period of time.

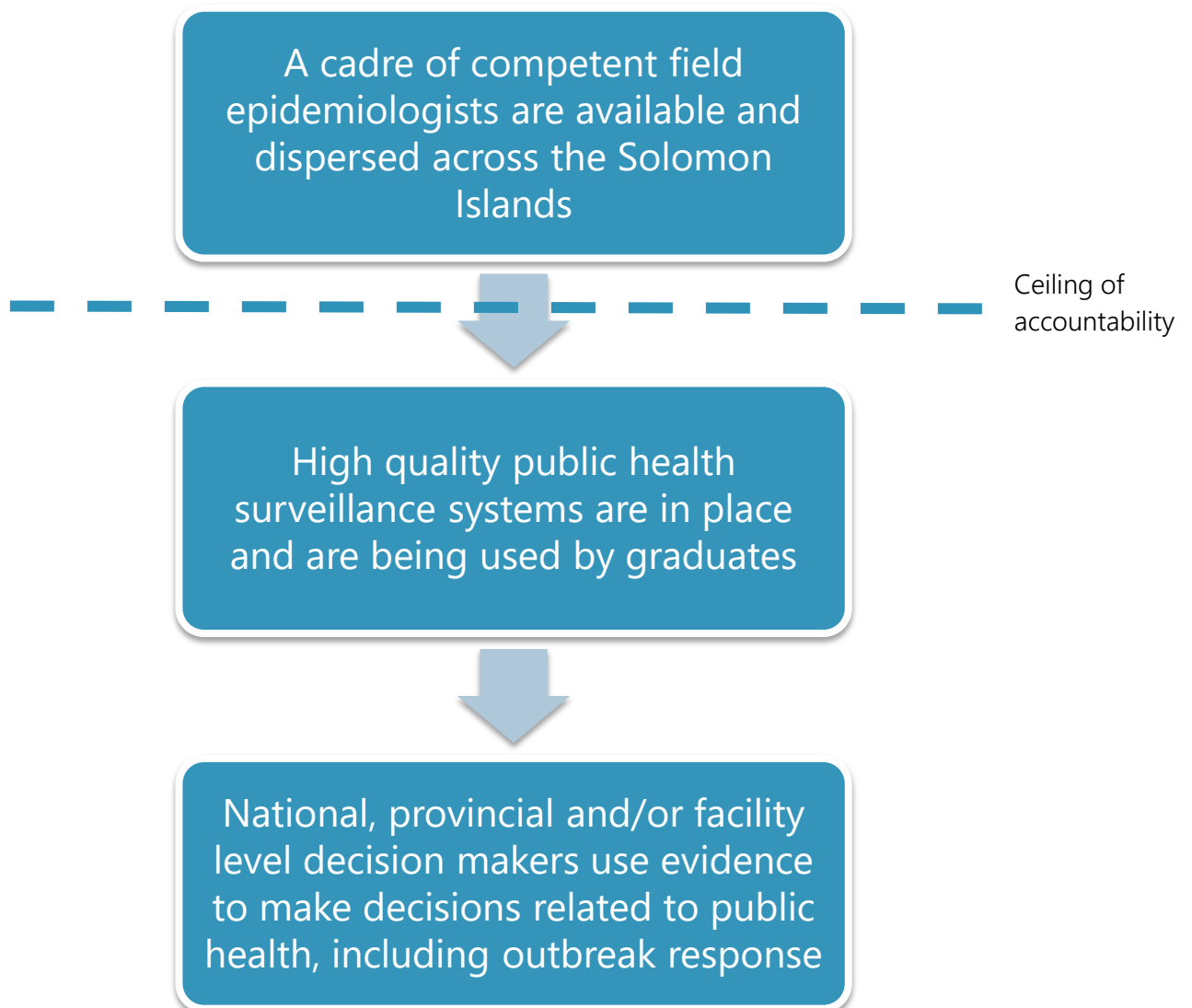
Specifically linking to the program was counting the number of trainings conducted, and the number of cohorts to graduate. Participants considered whether measuring the quality of fellows' projects would assist in evaluating the curriculum and training delivery. An indicator that linked to the desirability of the program was how many applications were received to enter the program within a given time period.

It was suggested that the degree of the MHMS ownership of the program could be measured by what proportion of the program was funded by the Solomon Islands' Government. If a high proportion of the program was funded domestically, it would suggest the program is sustainable.

Ceiling of Accountability

Participants pondered the longer-term outcomes they had developed (see [Appendix 5](#)) when determining where the ceiling of accountability lay for Sols FETP. They determined that Sols FETP was wholly responsible for “a cadre of competent field epidemiologists are available and dispersed across the Solomon Islands.” Beyond this, it was acknowledged that while Sols FETP could contribute to long-term outcomes, there were other influences that would contribute to whether they were realised.

Diagram 1: the long-term outcomes of Sols FETP’s ToC, and the ceiling accountability that workshop participants nominated.



WORKSHOP EVALUATION & LESSONS LEARNED

A basic evaluation was employed to determine participants' satisfaction with the ToC workshop. Using post-it notes, they were asked to stick their contributions under three headings:

1. What was one thing you liked about the workshop?;
2. What was one thing that could be improved about this workshop?; and
- 3) I walk away feeling_____.

The contributions are summarised below.

What was one thing you liked about the workshop?

The majority of positive feedback related to the participatory nature of the workshop (nine post-its). Specific comments included "Good team participation", "One thing I liked was the team work, contributing ideas", "Participation of everyone" and "I like the constructive group discussion on this new topic."

The remaining eight notes linked to the ToC as a methodology. As one participant wrote, "I liked learning this important tool and the process." Participants shared that they enjoyed learning a new model, that ToC is important, and that it helped to achieve the objectives of the workshop.

Two post-its included comments that the participant enjoyed the catering.

What was one thing that could be improved about this workshop?

The most common suggestion for improvement was to allocate more time for the workshop (seven post-its). Five participants included that three days was required for adequate discussion.

Two post-its suggested that a handout overviewing the Sols FETP program should have been provided.

One participant suggested there should have been agenda allocated to brainstorm what the Sols FETP training should include, while another commented they could improve on their own contributions.

I walk away feeling_____.

All responses to this statement were positive. Four people commented that they felt motivated, while three commented that they were excited about Sols FETP, and one person felt accomplished. Two people felt satisfied, while another extended this to say they felt satisfied to contribute to developing an FETP for Solomon Islands. One note read "[I walk away feeling] important in sharing and receiving knowledge", while a further two commented that they felt happy and better about the newly introduced program.

*"I walk away satisfied to contribute in developing an FETP for
Solomon Islanders."*

Sols FETP Theory of Change participant, 25 March 2021.

Lessons learned

The key lessons learned by the facilitators of the ToC workshop largely mirror that of the feedback provided by participants. While the date of the COVAX roll-out was announced only days prior to the workshop commencing, a contingency plan should have been developed to communicate this plan to participants and negotiate for extra discussion time.

Throughout the workshop it was evident that there was no clarity on what an FETP was. This may have been mitigated by spending more time on the background of both FETPs globally and how Solomon Islands came to develop its own. While this was rushed by necessity, throughout the discussion it was clear that including more discussion on the context of the program would have helped participants.

NEXT STEPS

The ToC workshop clarified key actions to support the sustainability of Sols FETP, which highlight the key priorities and next steps for the program. These can be linked to each of the outcomes identified in the final theory, and the activities that link to them (see [ToC diagram](#)). These are described below in terms of key priorities, starting from the foundational outcome related to a clear governance structure, following the three pathways identified in the [workshop discussion](#) that leads to fellows completing the program, through to the long-term outcome that sees decision makers utilising evidence to make public health decisions.

Almost a year has passed since the ToC workshop took place and this report has finalised, and in that time, progress has been made towards achieving some near-term priorities. Such progress will also be highlighted, below.

Long-term outcomes

- *National, provincial and/or facility level decision makers use evidence to make decisions related to public health, including outbreak response*
- *High quality public health surveillance systems are in place and are being used by graduates*
- *A cadre of competent field epidemiologists are available and dispersed across the Solomon Islands*

While the long-term outcomes articulated by Sols FETP rely substantially on the pathways leading to them, it is essential to prioritise how achievement of these outcomes should be measured. The ToC provides a framework which summarises what Sols FETP is seeking to achieve over the next five years. In order to measure change, the indicators that were discussed during the ToC workshop will be further developed and presented in a SMART (Specific, Measurable, Achievable, Relevant, Timebound) format. Indicators will be aligned to the key features of the ToC map in order to measure progress towards them. The ToC map and corresponding indicators will be reviewed annually by the Steering Committee (see *Governance*, below), faculty and FEiA team, with updates made according to insights gained or context changes. Progress towards indicators will be summarised in an annual report. An impact evaluation examining progress towards the long-term outcomes articulated by the theory – as well as the barriers and enablers to achieving them – should commence in early 2026.

Intermediate outcomes

- *FETP Fellows demonstrate core field epidemiology competencies and graduate from the program*
- *Fellows complete all five FETP phases (3 workshops; 2 workplace projects)*
- **E4: Assess FETP fellows for core competencies**

While the next steps for the Sols FETP ToC are relatively straightforward, they are ultimately enmeshed in the political and social context of Solomon Islands. With Cohort 1 due to graduate at the third and final workshop, the key barrier to reaching this program milestone is for Workshop 3 to be implemented. Unfortunately, January 2022 saw the first documented community transmission of COVID in the country after nearly two years of keeping the public health effects of the pandemic limited to those in hotel quarantine, thrusting the country into lockdown. The timeframe to finalise Cohort 1 is currently unknown. Meanwhile, fellows of the current program are showing their value within their respective provincial responses, supporting public health measures and leading efforts to contact trace, isolate cases and support communities to be vaccinated.

The unfolding of potentially the great public health effort ever required in the Solomon Islands further highlights the need for field epidemiologists across the country's health system. Supporting the intermediate outcomes articulated by the ToC, the next steps will focus on sustainable management in an environment where human resource capacity is stretched, and significant national events have potential to delay training for both present and future cohorts. This will require considerable consultation between the Sols FETP Management Team, the Steering Committee and FEiA.



Image 9: Sols FETP Cohort 1 are waiting to complete their training. At Workshop 2 in August 2021 are Standing row: Mr Aaron Kusilifu (fellow); Mr Ambrose Gali (faculty); Mr Robert Kasia (fellow); Mr Troy Panda (fellow); Ms Barbara Leinga (fellow); Ms Rachel Wale (fellow); Mr Harries Haza (fellow). Seated row: Mr Dudley Pitisopa (fellow); Mrs Cynthia Joshua (faculty); Ms Henao Boara (fellow); Mrs Lorraine Satorara (faculty).

Pathway 1: Fellows

- *FETP fellows who work in the appropriate section of the health system are identified to participate in the FETP*
- B2: Develop selection criteria and minimum entry criteria for fellows
- E2: Deliver training to each FETP cohort

To ensure that fellows come from an appropriate section of the health system, a recruitment process is required to ensure suitable candidates are enrolled in each annual cohort of Sols FETP. In the near-term – as stated in 2021 and including Cohorts 1 and 2 – PHESU in consultation with Executive Management in the MHMS have elected to focus recruitment on Surveillance Focal Points across the country. These roles are cornerstone for the Solomon Islands' capacity to report disease and detect outbreaks, including COVID-19. In recruiting cohorts 1 and 2, the Sols FETP Director minimum training requirements include beginner-level computer literacy, including Microsoft products Word, PowerPoint and Excel. If PHA's nominate fellows who do not have these, the PHA is requested to support the prospective fellow to obtain them ahead of training commencement.

Once a Steering Committee has been appointed, a key priority will be to finalise the Sols FETP fellow recruitment strategy. This will be informed by the existing policies and strategies, including the NHSP and Role Delineation Policy, as well as input from the Executive Management (see [Pathway 3](#), below). Once finalised, the fellow recruitment strategy will be implemented for future Sols FETP cohorts.

Alongside a recruitment strategy, the Sols FETP Coordinator will prioritise the development of a fellows' recruitment and on-boarding process. This process will include key communications to be shared with both the recruited fellow and their manager or a suitable executive, and a timeline for these communications. The aim of the recruitment and on-boarding process will be to provide fellows with context of the program ahead of commencing, including how the program intersects their current work, what competencies the program develops, and the professional and personal commitments required. The process will also outline opportunities to participate in supportive training – such as computer literacy courses – ahead of their full-time commencement. In addition, these communications will introduce future fellows to Sols FETP alumni and current fellows, thereby supporting the developing of a professional network. By providing future fellows with context of the program ahead of their formal commencement, the fellows will come to Workshop 1 with a basic context of Sols FETP and what lies ahead. This should go some way to supporting [Assumption 1](#) and [Assumption 4](#); that fellows have a clear understanding of what the program is about and are prepared to navigate their professional and personal responsibilities to complete it.

While the general action for Sols FETP to deliver training to each cohort (E2) implies simplicity, to date, it has proved challenging in a turbulent year for Solomon Islands. While delivery of Workshop 1 for Cohort 1 was relatively straight forward, and Workshop 2 was implemented with significant innovation, Workshop 3 has been postponed indefinitely. Held in April 2021, Workshop 1 was delivered by three Solomon Islands faculty and two FEiA epidemiologists. While a second deployment of an additional FEiA epidemiologist (e.g. international faculty) was unfortunately delayed, Workshop 2 was still implemented in late August 2021. A blended-learning approach was used to deliver the training, whereby fellows and Solomon Islands faculty came together at a facility on the outskirts of Honiara, and international faculty participated online. Sessions were delivered through a combination of face-to-face delivery and online facilitation by FEiA epidemiologists. As described in Intermediate outcomes, the final workshop has been postponed twice, and a new date has yet to be determined. A major focus of the Sols FETP Management Team and FEiA will be to develop a risk management plan that considers alternative delivery options in the context of unexpected events.

Pathway 2: Faculty

- *The FETP curriculum is appropriate and contextualised for the Solomon Islands*
 - *The faculty and mentors have the competence and commitment to contribute to the program*
- A2: Include theoretical and practical ethics guidance in the FETP curriculum
 - B3: Develop selection criteria and Terms of References for mentors/faculty
 - C3: Check curriculum is appropriate for Solomon Islands
 - E1: Train-the-Trainer capacity development for faculty and mentors
 - E2: Deliver training to each FETP cohort
 - E3: Develop assessment criteria for core competencies

Following the commencement of Cohort 1 training, Solomon Islands' faculty quickly highlighted the imperative of a Faculty ToR. Initially, Sols FETP Director Alison Ripiapu Sio nominated faculty based on the participants of a Train-the-Trainer training held in Canberra, Australia in March 2019. This yielded six potential faculty – including herself – of whom four were available to support the program. A ToR was requested to provide clarity on the minimum requirements to be faculty and the scope of the role, with examples of how these responsibilities are operationalised. The process of developing a ToR took several months, with numerous versions drafted before the scope and terms were considered clear. The development of ToR also highlighted an expectation of faculty remuneration, with a payment proposed for faculty that aligns to the higher responsibilities allowance within the MHMS. This links to [Assumption 6](#) of the Sols FETP ToC, that faculty and fellow alike are respected within the field of public health which leads to increased opportunity. While the ToR is yet to be formally signed off by a Steering Committee, for the time being it's a support to existing faculty and an important part of the program scaffolding. Selection criteria for junior faculty are currently under development.

The Sols FETP curriculum has been adapted from that of FETPNG. Ahead of each workshop, faculty have reviewed the training materials and identified areas that need to be adapted to fit the Solomon Islands context. Further suggestions have been made at After Action Reviews (AARs), which take place after each workshop. These AARs provide an opportunity for deep and considered reflection on each aspect of the workshop; the logistics of implementing it, the curriculum delivered, and the training mechanisms used. Faculty are guided through a reflection and evaluation process, and also discuss the key learnings from evaluations completed by the fellows at the end of the training workshop. Updates have been made to content for Workshops 1 and 2 ahead of Cohort 2, with both the delivery of Workshop 3 and the associated AAR yet to come. Meanwhile, it is likely that Workshop 2 of Cohort 2 will be extended by several days to maximise fellows' time learning in line with the mid-week flight schedules of many provinces. AARs are a foundation of Sols FETP evaluation practice particularly related to the objectives linked to Pathway 2, promoting continuous quality improvement.

Globally, there are key FETP competencies that programs must meet in order to be accredited. While at least two cohorts must be implemented before Sols FETP can apply for accreditation with TEPHINET, the competencies underpinning the program curriculum have been developed with accreditation in mind. Assessment criteria for these competencies were developed ahead of the 2021 cohort and finessed through AARs and faculty meetings. Graduation criteria have also been developed and may be adjusted based on evaluation of its application for Cohort 1, however, Cohort 2 will commence training with a clear understanding of what is required to graduate from the program, both in terms of assessments and the requirements for graduation.

Continuous professional development for Sols FETP faculty and mentors was a priority identified in the ToC. While FEiA continues to support the program, it will engage a two-pronged approach to faculty development. The first has a faculty professional development plan which includes faculty development sessions that run for several hours focusing on specific skills faculty have requested or need ahead of a specific task. For example, some of the sessions proposed include facilitation skills, how to deliver constructive feedback, and training considerations in Solomon Islands (for international faculty). The plan was due to be implemented by the FEiA epidemiologist deployed in September 2021. However, competing priorities and the deferment of Workshop 3 has made this difficult to progress at this stage.

The second considers a regional approach to developing field epidemiology training capacity, whereby faculty from both Solomon Islands and PNG come together for training delivered by an expert in adult education. This is referred to as Train-the-Trainer. FEiA has budget to deliver a three-phase Train-the-Trainer program before June 2023. The first phase will engage faculty who previously completed the 2019 training to co-facilitate a workshop for new and junior faculty, providing the opportunity to deepen their knowledge and practice with the support of an adult learning expert. Borders permitting, the next workshop will bring Solomon Islands and PNG faculty together in Australia to complete the second phase of the Train-the-Trainer program, which will look at the development of training materials that are underpinned by adult learning theory, and also developing mentorship skills. In 2023, FEiA is planning to bring Solomon Islands and PNG faculty together for a workshop that will focus on further developing technical epidemiological knowledge and skills. The identification of junior faculty is a direct way that FEiA can contribute to [Assumption 5](#) of the Sols FETP ToC: to ensure positions exist within the public health system for FETP graduates. It also supports assumptions [6](#) and [7](#), through provision of increased career opportunities and access to a broader public health network that shares different ideas and ways of training.

Unfortunately, 2021 did not bring any progress to the discussion of how Sols FETP intersects with research ethics processes. In order to ensure no research ethics were breached in Cohort 1, fellows' projects focused on workplace improvements that could be made with data collected through routine activities. This approach supports [Assumption 3](#), that fellows' projects are aligned to their scope of work and current access to resources and data. It is hoped that a pathway to engage SIHRERB in Sols FETP will be made clearer in 2022. In the meantime, the Sols FETP curriculum includes essential ethical research practice training that is based on SIHRERB principles of ethical research.



Image 10, clockwise from top left: From Cohort 1, Workshop 1: Cynthia Joshua (faculty), Dr Megge Miller (faculty), Rachel Mather (faculty), Dudley Pitisopa (fellow), Ambrose Gali (faculty) and Alison Ripiapu Sio (Program Director). Missing faculty include Lorraine Satorara, and international faculty Stephanie Wheeler and Laura Macfarlane-Berry.

Pathway 3: Executive support

- *Fellows have access to workplace resources required to complete the FETP*
 - *FETP fellows are supported by colleagues and managers to complete the program*
 - *The FETP is supported by National and Provincial managers and key stakeholders*
- B1: Develop a fellow recruitment strategy which aligns to existing policies for workforce development
 - C4: Strategic engagement with key stakeholders (including FETP fellows' workplaces)
 - C5: Workplaces develop operational strategies to support fellows

As discussed in [recommendations for Pathway 1](#), the Sols FETP management team is prioritising the development of a fellow recruitment strategy that not only aligns to existing policies for workforce development – such as those outlined in the NHSP and Role Delineation Policy – but engages Executive Management. This strategic engagement was a considerable priority of the Sols FETP Management Team in 2021, with associated activities included in the program's 2022 AOP. It is proposed that Executive Management from across the Solomon Islands will be engaged annually through a three-day workshop. This workshop will serve to sensitise Executive Management to the program, its context in Solomon Islands and globally; introduce a pathway to developing specific roles of Field Epidemiologists within the country's health system by providing operational perspectives to graduate competencies; and engage Executive Management in nominating and defining key priority areas that Sols FETP should focus on through recruitment of fellows or guidance on field and intervention projects. The first Executive Management workshop is planned to take place in September 2022, with the aim that it will support recruitment of Cohort 3.

Executive Management workshops will also ensure there is an understanding of what supports fellows need in their workplaces in order to thrive in Sols FETP. It is quite likely that many participants of these workshops may not be the fellows' direct line managers, but higher provincial executives. These executives will be encouraged to utilise their own AOP budgets, in consultation with individual health facility sites, to create environments that include appropriate resources for Sols FETP fellows, but ultimately better support the Solomon Islands health system. For example, improved connectivity through access to internet and computers supports fellows to participate in training systems. Aligning to [Assumption 2](#), even without these adjustments, fellows are able to participate in the program regardless of remoteness or poor connectivity. However, greater access to resources will provide remote fellows with more opportunities to engage in the program, and longer-term better enables sites to make timely contributions to surveillance. Similarly, as described in [Assumption 3](#), Executive Management will be encouraged to work with direct line-managers and the fellows themselves to develop projects that align with key health priorities in the specific province or region.

Governance

- *The FETP has a clear governance structure and operational support for implementation*
 - A1: Engage with stakeholders to streamline ethical requirements for the FETP
 - C1: Decide on the purpose, scope and Terms of Reference for a Steering Committee
 - C2: Establish a Steering Committee
 - D1: Embed the budget and funding for the program in the MHMS

The ToC highlighted the imperative of a Steering Committee to oversee governance and operational support for Sols FETP. Working under the broader framework of the MHMS, a ToR for the Steering Committee have been drafted and has been discussed with the Sols FETP Management Team in December 2021. Revisions are currently underway. Once finalised, the ToR will guide who is appointed to a Steering Committee, which is planned to be established in 2022.

In October 2021, a Sols FETP Coordinator and a Sols FETP Administrative Assistant were recruited to the program. Their complementary roles will guide the operational implementation of the program. With support from a FEiA Epidemiologist deployed to Solomon Islands in September 2021, the two program staff have commenced development of program management processes and manuals that will serve as the essential scaffolding of the program, linking to existing MHMS structures. The Sols FETP Coordinator will also be responsible for supporting the Steering Committee, including managing meetings and following up on actions tabled.

Sols FETP will be funded by DFAT through the FEiA program until the end of 2023. While FEiA directly managed funding for activities completed in 2021, the remainder of the Sols FETP budget has been transferred to the MHMS for domestic management. The Sols FETP Management Team and FEiA collaboratively developed a budget for activities implemented across 2022-2023. The MHMS management of these nascent program years – including the development of AOPs within the MHMS annual financial systems – is essential to ensure funding for the program can be ensured by the MHMS long-term, and managed independently, thus enabling a sustainable, country-led program.

CONCLUSION

FETPs are a tried-and-tested training model globally; there are over 70 programs supporting workforce capacity development across public health surveillance and outbreak response in over 100 countries (CDC 2017; TEPHINET, 2021). Through engaging a wide range of stakeholders representing different aspects of the health system to develop a ToC for its new program, Sols FETP, the MHMS understood that the program needed to be rooted firmly within the Solomon Islands' context for its best chance of success and sustainability.

The Sols FETP ToC asked participants to describe what a successful FETP would mean for the Solomon Islands. The long-term outcome they articulated was for Sols FETP to develop *a cadre of competent field epidemiologists will be available and dispersed across Solomon Islands*. Leading to the achievement of that outcome are three pathways – fellows, faculty, executive management – that each require the foundational support of good governance, suggested to be a Steering Committee. Beyond that outcome and beyond the program's ceiling of accountability, Sols FETP seeks to contribute to high quality and appropriately used public health surveillance systems. This is expected to result in evidence that informs public health decisions. As field epidemiology capacity will be decentralised across the country, evidence will support decisions made from the facility level all the way up to the National level. Capacity across all layers of the health system is envisaged to support timely public health interventions, such as for outbreak response, leading to reduced illness.

Again, acknowledging these impacts cannot be influenced by Sols FETP alone, a question remains as to how other influences may be best engaged – either by the program directly, or the MHMS as its owner – to maximise impact. Beyond political buy-in, a broader understanding of what data developed through robust health surveillance systems can contribute to is essential.

Through engagement with the answers to these questions, and others, decision makers at the highest levels of the Solomon Islands Government may be themselves primed to engage with the data created by Sols FETP fellows and graduates.

Both formally captured and anecdotal feedback found that participants of the Sols FETP ToC overwhelmingly enjoyed the process undertaken. There is no documented use of ToC to support FETPs outside of Melanesia and FEiA. In a [feedback interview](#), Sols FETP Director Alison Ripiapu Sio reflected that, compared to other consultation methods, ToC allows participants to wholly contribute to program design. The apparent isolated application presents a unique opportunity for FETP Directors in Solomon Islands and PNG to share their experiences with wider audiences. This includes lessons learnt from the process and advice for other countries considering its appropriateness in supporting FETP scaffolding.

REFERENCES

- Breuer E; Lee L; De Silva M; Lund C. Using theory of change to design and evaluate public health interventions: a systematic review. *Implement Sci* [Internet]. 2016 [cited 2021 Mar 01];11 (1):1-17. Available from: <http://dx.doi.org/10.1186/s13012-016-0422-6>
- Breuer E. Theory of Change. [PowerPoint presentation]. 2020. University of Newcastle.
- Centers for Disease Control and Prevention [Internet]. Atlanta GA: c1997-2021. FETP - Field Epidemiology Training Program - Disease Detectives in Action, 2017 Jul 19 [cited 2021 Sep 9]; [about 2 screens]. Available from: <https://www.cdc.gov/globalhealth/infographics/uncategorized/fetp.htm>
- Perrin B. Linking monitoring and evaluation to impact evaluation [Internet]. Washington, D.C.: InterAction; Apr 2012 [cited 2022 Apr 22]. 22 p. Report No.: 2. Available from: <https://www.interaction.org/wp-content/uploads/2019/03/Linking-Monitoring-and-Evaluation-to-Impact-Evaluation.pdf>
- Stein D, Valters C. Understanding Theory of Change in international development [Internet]. London UK: Justice and Security Research Programme; 2012 [cited 2021 Nov 25]. 26 p. Available from: https://www.researchgate.net/profile/Craig-Valters/publication/259999367_Understanding_Theory_of_Change_in_International_Development/links/56a699d408aeded22e354354/Understanding-Theory-of-Change-in-International-Development.pdf
- TEPHINET: Training Programs in Epidemiology and Public Health Interventions Network [Internet]. Decatur GA: 2021. About, 1997-2021 [cited 2021 Sep 9]. Available from: <https://www.tephinet.org/about>
- Van Es M, Guijt I, Vogel I. Theory of Change thinking in practice: a stepwise approach [Internet]. The Hague NL: Hivos; 2015 [cited 2021 May 10]. 120 p. Available from: https://hivos.org/assets/2020/10/hivos_toc_guidelines.pdf

APPENDIX 1: PARTICIPANT LIST

Representative	Role	Sols FETP role	Province
Alison Ripiapu Sio	PHESU Manager	Program Director	National
Ambrose Gali	Epidemiologist, Health Promotion, MHMS	Faculty	National
Barbara Leinga	Provincial Surveillance Officer	2021 Fellow	Central
Cynthia Joshua	Surveillance Coordinator, PHESU	Faculty	National
Deborah Davo	Nurse Educator & Provincial Training Officer		Choiseul
Freda Pitakaka	Chief Research Officer; lead of National Research Ethics Committee, MHMS		National
Dr Hugo Bugoro	Lecturer, Solomon Islands National University		National
John Harara	Nursing Director		Makira
Julie Atu	Provincial Training Officer		National
Lorraine Satorara	National Training Manager, MHMS	Faculty	National
Martin Gavira	Nursing Director		Isabel
Michael Lauri	Director of Nursing, MHMS		National
Nathan Kama Jr	Vector Surveillance Program, MHMS		National
Nixon Olofisau	Provincial Surveillance Officer		Malaita
Dr Rex Maukera	Provincial Health Director		Malaita
Rolly Viga	Infection, Prevention & Control Coordinator, PHESU	Faculty	National
Samuel Manu	Provincial Surveillance Officer		Temotu
Simpson Qalo	Assistant Director of Nursing		Western
Suné Waletofea	Program Support Officer, WHO Solomon Islands		National

APPENDIX 2: PLANNED WORKSHOP TIMETABLE

Theory of Change workshop, Day 1: Wednesday 24 March		Presenting
9 – 9:30	Arrivals; registrations; introductions	
9:30 – 10	Welcome Word of prayer Introduction	Deputy Secretary
10 – 10:45	<ul style="list-style-type: none"> • Introduction to FETP concept • Why is Solomon Islands establishing an FETP? • Cynthia Joshua’s experience of FETPNG • Overview of Theory of Change 	<ul style="list-style-type: none"> • Alison Sio • Cynthia Joshua • Rachel Mather
10:45 – 11	Tea break	
11 – 11:45	Challenges <ul style="list-style-type: none"> • What are the likely challenges to developing and implementing an FETP? 	Rachel facilitating group work
11:45 – 12:30	Long-term outcome <ul style="list-style-type: none"> • How will you know if Sols FETP is successful? If the local newspapers were to write a headline on the success of Sols FETP in 5 years time, what would it say? 	Rachel facilitating group work
12:30 – 1:30	LUNCH break	
1:30 – 1:45	Energiser	
1:45 – 3:30	Backwards mapping <ul style="list-style-type: none"> • What preconditions must exist for the long-term outcome to be reached? (NOT what activities can we be doing to advance our goals) • Beginning with the long-term outcome and working backward to the earliest changes that need to occur 	Rachel facilitating group work
3:30 – 4	<ul style="list-style-type: none"> • Recap process for the day • Outline process for tomorrow • Quick evaluation 	
Theory of Change workshop, Day 2: Thursday 25 March		Presenting
9:30 – 10	<ul style="list-style-type: none"> • Arrivals – sign in • Word of prayer • Recap on previous day’s evaluation – how it informed today • Recap on previous day’s discussion and findings • Icebreaker 	
10 – 10:45	Assumptions <ul style="list-style-type: none"> • What is the current context? What factors are important to recognise as true during the implementation of Sols FETP, and which must hold true for the theory to be realised? 	Rachel facilitating group work
10:45 – 11	Tea break	
11 – 12:30	Interventions <ul style="list-style-type: none"> • What are the activities, including actions, tactics and strategies, to be undertaken by Sols FETP? 	Rachel facilitating group work

12:30 – 1:30	<ul style="list-style-type: none">• LUNCH break	
1:30 – 1:45	<ul style="list-style-type: none">• Energiser	
1:45 – 3:00	Indicators and the ceiling of accountability <ul style="list-style-type: none">• What can we reasonably measure and attribute to our intervention?• Which outcomes should have indicators?	Rachel facilitating group work
3:00 – 3:30	<ul style="list-style-type: none">• Recap findings• Outline process going forward• Second day evaluation	Alison Sio & Rachel Mather

APPENDIX 3: OPENING PRESENTATIONS

Presentation 1: Background to FETPs, delivered by Rachel Mather



1.
20210312_Backgrou

Presentation 2: Rationale for Sols FETP, delivered Alison Ripiapu Sio



2. 2021-03-23
Alison Sio - rational

Presentation 3: Experience of FETPNG, delivered by Cynthia Joshua



3. 2021-03-23
Cynthia Joshua - exp

Presentation 4: Overview of Theory of Change workshop, delivered by Rachel Mather



4. 2021-03-23
Theory of Change p

APPENDIX 4: THEORY OF CHANGE SUMMARY HANDOUT

Outcome

They key changes or results that are linked to Sols FETP.

How do we know that Sols FETP has succeeded?

Backwards mapping

Working backwards from the outcome, identifying the logical steps that need to happen to achieve the outcome.

What do we need to reach the top?

Assumptions

Barriers/challenges/risks and facilitators/enablers/supports that need to be planned for.

On our way to the top, what are the barriers (including challenges & risks) and enablers (including supports & facilitators) that we need to consider in our planning?

Interventions/key activities

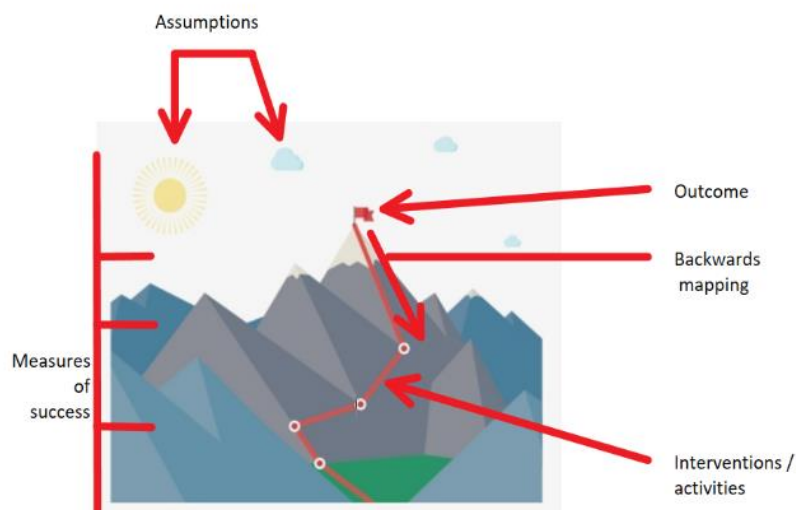
The activities that need to be completed in order to move through the logical steps to achieve our outcome.

What activities need to be done to move from the first logical step to the next so that we can achieve our outcome/s?

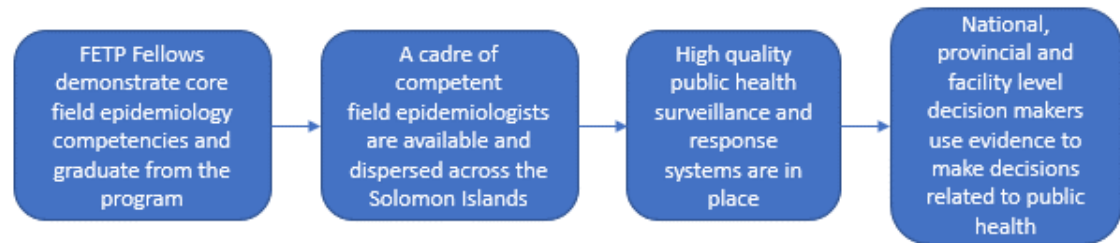
Indicators of success

Who/what, how, how long, how much change.

What do we measure to know that change has occurred?

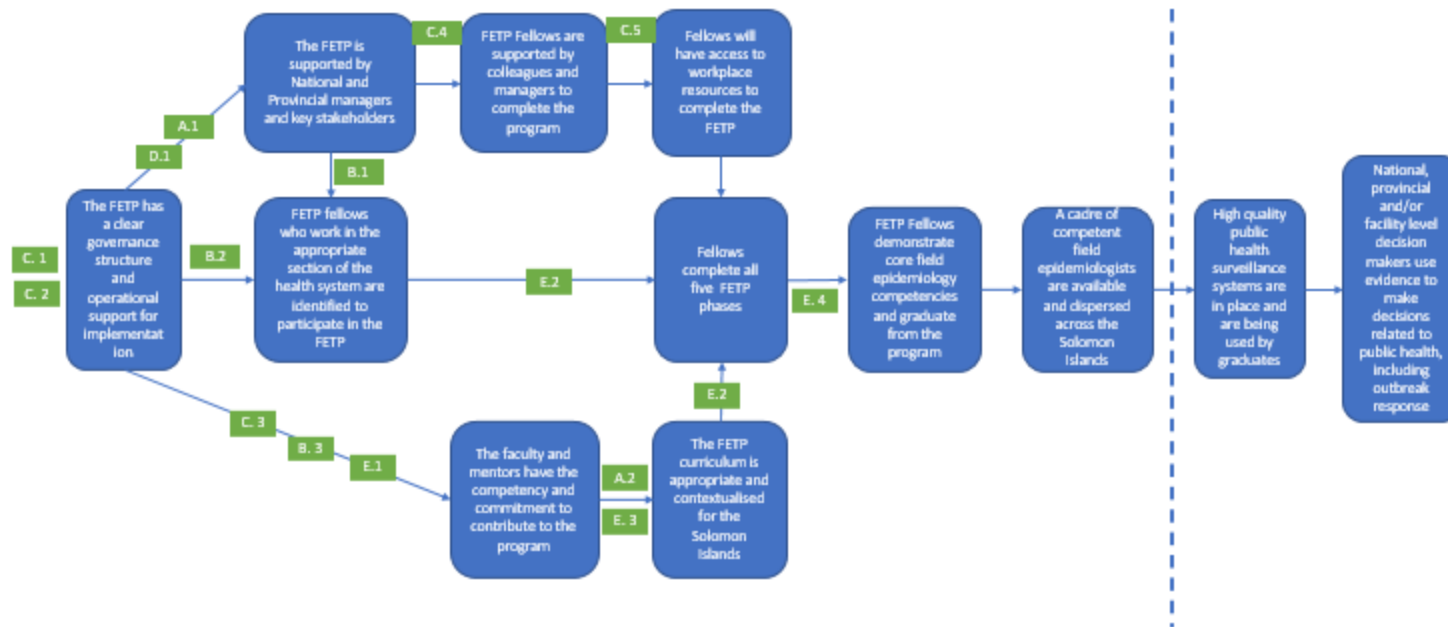


Theory of Change (so far)



APPENDIX 6: DRAFT THEORY OF CHANGE

21-03-25 – Draft Sols FETP Theory of Change

**A. Ethics**

1. Engage with stakeholders to streamline ethical requirements for the FETP
2. Include theoretical and practical ethics guidance in the FETP curriculum

B. Recruitment and selection

1. Develop a recruitment strategy which aligns to existing policies for workforce development
2. Develop selection criteria and minimum entry criteria for fellows
3. Develop selection criteria and Terms of Reference for mentors/faculty

C. Management

1. Decide on the purpose, scope and terms of reference for a steering committee
2. Establish a steering committee
3. Check curriculum is appropriate for the Solomon Islands
4. Strategic engagement with key stakeholders (including FETP fellows' workplaces)
5. Workplaces develop operational strategies to support fellows

D. Sustainability

- D.1 Embed the budget and funding for the program in the Ministry of Health and Medical Services

E. Delivery and assessment of Field Epidemiology Training

1. Train the trainer for faculty and mentors
2. Deliver training to each FETP cohort
3. Develop assessment criteria for core competencies
4. Assess FETP fellows for core competencies