Public Health Wales Behavioural Science Unit's impact across the public health system:

A realist ripple effects mapping evaluation

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Behavioural Science Unit:

The Public Health Wales Behavioural Science Unit was to provide specialist expertise on behavioural science, and develop the application of it, to improve health & wellbeing in Wales. The Unit is part of the World Health Organisation (WHO) Collaborating Centre on Investment in Health and Wellbeing.

For further information, or support around the application of behavioural science to improve and protect health and wellbeing and to help reduce inequity in Wales please get in touch.

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Executive Summary

Introduction and Context

Integrating behavioural science into public health practice and policy can improve outcomes at the individual and population level, yet routine application varies considerably across the system. Public Health Wales established a specialist Behavioural Science Unit (BSU) in 2022, with a mission to enable the routine use of behavioural science for better health. Since their inception, the unit have continuously reflected on, evaluated, and learned from activities undertaken and how these have impacted on the public health system. In line with the Unit's prioritisation of continuous monitoring on the use of behavioural science, understanding their impact, and informing improvement, an independent evaluation was commissioned to identify where, how, and why the Unit's activities had led to intended and unintended impacts across the public health system. This work has since informed how the Unit can work more effectively, and progress towards the systematic application of behavioural science for better health.

Methodology

To understand associations between activities delivered by the Behavioural Science Unit, underlying mechanisms across the public health context, and impacts over time, this evaluation adopted a Realist Ripple Effects Mapping Approach involving three distinct phases: 1) Ripple effect map development- the evaluation team facilitated a discovery workshop with the BSU to map their activity and perceived impacts over time; 2) 'How and Why conversations'- the perceived impacts identified in Phase One were tested through qualitative interviews and focus groups with stakeholders across the public health system; 3) 'Learning and refining'- findings from Phase One and Two were converged and refined to inform recommendations for the BSU's future activities and practice.

Analysis and Results

Analysis of the ripple effects map identified three core impact themes - 'Relationship building', 'Developing capability to implement behavioural science across the system', and 'Increasing capability, opportunity, and motivation to use behavioural science in practice'. Each theme represented an area of contextual influence on perceived impacts and their subsequent ripple effects over time. Themes included corresponding assumptions which underpinned the mechanisms through which change occurred. Stakeholders' interviews were analysed using a retroductive realist approach to identify differences between the impact themes' assumptions and what stakeholders had experienced. This identified several barriers to the routine application of behavioural science in practice including: insufficient resources, lack of practical examples, and the need for additional support when evaluating behavioural science use in practice. Informed by findings from Phase Two, the BSU validated their perceptions of where, how and why their activities had impacted on the use of behavioural science. Assumptions underpinning each impact theme were refined accordingly to better represent what happens in reality.

Implications of findings by theme

Relationship building

- Continue to tailor approaches and guidance for implementing behavioural science to the needs of stakeholders.
- Co-create resources with stakeholders as much as possible (testing and refining).
- Use more collaborative approaches to learning with stakeholders.
- Draw on others to advocate and 'champion' the use of behavioural science and the work of the BSU to facilitate future engagement.

Developing capability across the system

- Continue adapting training and workshops to cater to all styles of learners for maximum impact.
- Continue to ensure tools are suitable for application of behavioural science in practice.
- Offer accessible CPD opportunities which work towards upskilling the wider workforce across the system.
- Continue to support stakeholders to gather behavioural insights to help inform their decision making.
- Across resources, training and direct project support provide meaningful examples and a rationale for the use of behavioural science.
- Explore opportunities for teams to practice applying behavioural science to their work.

Increasing use of behavioural science in practice

- Share good practice, and build an evidence-base from the work of stakeholders who are effectively applying behavioural science.
- Follow up initial contact with stakeholders to ensure they understand, and aren't overwhelmed by the concept of behavioural science.
- Support teams to apply behavioural science where possible, to help demonstrate the importance for them in that context.
- Use 'quick wins' (i.e. examples where behavioural science has positively impacted) to influence leaders' and managers' perceptions.

Recommendations

This evaluation demonstrates that work undertaken by the BSU resulted in wider 'ripple effects' between implemented activities and wider impacts. Stakeholders perceived the BSU as an approachable and flexible team, which facilitated relationships and their application of behavioural science in practice.

To support stakeholders' capabilities for routine application of behavioural science in practice, the BSU should:
- Continue to deliver activities which use practical and relevant examples of application in the stakeholders' context
- Collaboratively identify and monitor key outcome indicators resulting from the activities undertaken in each impact area
- Utilise this data to measure progress and impact against their logic model.

Introduction and Context

There is a strong and increasing consensus in the scientific literature that integrating behavioural science into policy, services, and communications can improve outcomes across diverse areas (e.g. smoking cessation, vaccination uptake, increased recycling), at both the individual and population-level (Kelly et al., 2023). Behavioural science fundamentally involves the evidence-based study of factors which may enable or prevent human behaviour, to subsequently inform the design of interventions or policies intended to elicit behaviour change (Ghebreyesus, 2021). Furthermore, understanding how these barriers or enablers to health-related behaviours function in context is integral to decision-making processes, such as which behavioural determinants to target within the public health system (Albarracín et al., 2024).

Despite the evidence, the routine application of behavioural science in health policy and practice varies considerably across public health systems, predominantly due to insufficient resources, limited capability, or a lack of confidence in potential impacts (Knowles & Gould, 2023; Ghebreyesus, 2021). To help address these barriers, the World Health Organisation has advocated for specialist units to be established within the health system to: increase awareness of behavioural science, deliver capability-building activities, and provide insights to inform interventions, campaigns, and policy-related decisions (WHO, 2022).

Public Health Wales's Behavioural Science Unit (BSU) was established in May 2022. Based in the Policy and International Health Directorate, the BSU works with key stakeholders across the Organisation and wider public health system, providing specialist support and expertise on the application of behavioural science to optimise outcomes from policy, services and communications which aim for better health and reduced health inequalities. This reflects the *behavioural dividend* for public health in Wales by supporting delivery of Public Health Wales's Long-Term Strategy - so more people live longer, healthier lives, and all people have fair and equal access to the things that lead to good health and well-being.

The BSU's vision is that:

> *Activity across Wales's public health system, to deliver better health and reduce health inequity, is optimised through the systematic application of behavioural science, in its development, implementation and evaluation.*

This long-term vision is underpinned by two objectives which focus on 1) developing capability, opportunity and motivation for behavioural science across the system, and 2) embedding behavioural science into routine processes and approaches. To achieve these objectives, the specific areas of support provided by the BSU comprise six key 'functions' which reflect those recommended by WHO (2022; Figure 1).

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Figure 1. Functions of the Behavioural Science Unit

To guide implementation of the vision, the BSU developed a logic model, to outline how planned inputs (i.e. activities) are expected to achieve short-term and long-term outcomes (Figure 2). Specifically, the logic model is intended to provide a planning, monitoring, and evaluation framework through which the BSU can understand changes in the use of behavioural science by stakeholders across Wales. Activities undertaken by the BSU to date have included: co-developing a suite of behavioural science resources; capability-building through training and workshops; consultancy support for external projects; technical feedback on resources; and developing a 'Community of Practice' for Wales to optimise the impact of public health policies, services, and communications. While these activities mirror the logic model and specific functions of the BSU, the team identified a need to reflect and learn from work undertaken over the past two years.

The BSU commissioned an external evaluation to identify areas of practice which have led to intended and unintended impacts, develop an understanding of how and why impacts occurred, and establish the extent to which this work has contributed towards the unit's vision. The methods, key findings and recommendations from this evaluation are presented and discussed throughout the remainder of this report.

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Figure 2. Logic Model

Inputs

- Generating guidance
- Producing tools
- Identifying and sharing case studies
- Sharing a repository of resources
- Advocating for the use of behavioural science, including at conferences/webinars
- Integrating behavioural science into existing processes
- Stakeholder mapping
- Creating a community of practice
- Training
- Running stakeholder workshops
- Collecting behavioural insights
- Providing technical advice/consultancy
- Providing rapid feedback

Short-term outcomes

Increase opportunity (physical and social)

Increase motivation (automatic and reflective)

Increase capability (psychological and physical)

Intermediate outcomes

- BeSci referenced in operating frameworks, plans and strategies
- BeSci evident in system approaches
- Organisations have structures, systems and processes which promote BeSci
- BeSci is integrated into policymaking processes
- Integration of BeSci into service development, delivery, and improvement
- Communications are based on the systematic application of BeSci
- Data and evidence on behaviours and their determinants are readily available
- Leaders use and advocate for BeSci
- BeSci is visible in evaluation frameworks, guidance and practice

Long-term outcomes

Advocacy for the routine application of behavioural science by leaders and senior managers across the public health system

The routine application of behavioural science by practitioners across the public health system

Impact

Improve and protect public health, improve health equity

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Methodology

Public health systems are highly complex; often involving the delivery of complex activities to address complex issues at scale. A non-traditional, pragmatic evaluation approach was therefore required to fully capture and understand the anticipated impacts of the BSU's activity, what happened in reality (including unanticipated impacts), and mechanisms through which impacts occurred. This evaluation applied a realist ripple effects mapping approach (Harris et al., 2024) comprising three distinct research phases:

Phase 1
Ripple effect mapping

Phase 2
'How' and 'why' conversations

Phase 3
Learning and refining

Ripple effects mapping is a participatory method which enables a better understanding of how activities have contributed to outcomes and system-level change (Nobles et al., 2022). This approach is particularly effective for evaluating intended and unintended impacts of activities implemented in complex systems over time (Chazdon et al., 2017). Unlike traditional 'cause and effect' evaluations, such as randomised controlled trials, the ripple effect mapping process utilises multiple sources of information from multiple stakeholders across the system, to understand the mechanisms and chains of effects (i.e. ripple effects) which were conducive to subsequent impacts (Nobles et al., 2022).

Combining the ripple effects mapping method with a realist evaluation approach can enable understanding of not only 'what works for whom, in what context', but also 'how and why' impacts occur (Pawson & Tilly, 1997). A realist approach is particularly useful when evaluating activity within complex systems systems such as public health, as it allows evaluator/s to configure associations between the context in which the activity happens, with underlying mechanisms which produce an outcome (Greenhalgh & Manzano, 2022). Consequently, it is possible to identify contextual conditions under which these mechanisms of effect may be activated (Greenhalgh & Manzano, 2022).

Thus, to evaluate whether activities undertaken by the BSU to date have 1) developed capability, opportunity and motivation for behavioural science across the system, and 2) embedded behavioural science into routine processes and approaches (Outcomes), this realist evaluation explored the affective and cognitive response of stakeholders to the BSU's activities (Mechanisms), with consideration to external factors which may have influenced this response (Context) (Pawson et al., 2005).

The following sections will explain the methods and procedure for each phase of this realist ripple effects mapping (RREM) evaluation.

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Phase One: Ripple Effect Mapping Workshop

The external evaluation team facilitated a 'discovery workshop' with the BSU team. The workshop's primary purpose was to identify activities undertaken over the past two years, and map out perceived impacts including 'ripple effects' (further effects of the preceding impact). The workshop included the following 'core elements' of REM (Chazdon et al., 2017):

1   **Appreciative Enquiry:** Participants worked in small groups to initially identify what areas of work were most important to the BSU, and discussed successful activities including the intended or unintended effects.

2   **Participatory Approach:** The workshop was guided by an external evaluation team, however The BSU team were actively involved with all aspects of data generation and analysis.

3   **Interactive Reflections:** The BSU team were asked to conduct peer-peer feedback to reach consensus on impacts of their activities, and as a group, reflect on collective effects of the identified areas of impact.

4   **Mind Mapping:** Using Miro, findings from elements 1,2 and 3 were visually mapped out across a timeline, depicting the 'impact pathways' connecting the team's activities with direct and indirect impacts.

Following the workshop, the evaluation team produced a final map of the activities, impacts, and ripple effects generated from the BSU's work since their inception.

Analysis and Results

The map produced from the discovery workshop was analysed by the evaluation team using a thematic approach. Similar items were initially colour coded in accordance with the six primary functions of the BSU (Figure 1), before further grouping and organising items into core 'impact themes' (Emery et al., 2015).

Three themes were identified, each representing an area of contextual influence on perceived impacts and their ripple effects. Utilising the 'explanatory statements' produced by the BSU, the evaluation team also developed corresponding assumptions (i.e. causal connections) underpinning the mechanisms through which how each impact theme produced change. The impact area themes and corresponding assumptions are displayed in Table 1.

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Table 1. Impact themes and underpinning assumptions identified from the Ripple Effects Map

Relationship Building	Developing capability to implement behavioural science across the system.	Activities delivered by the BSU will increase capability, opportunity, and motivation to use behavioural science in practice
Assumption 1: Through building meaningful relationships across the system, the BSU have increased their reach and opportunity to deliver impactful activities.	**Assumption 1:** There is a belief that the training, workshops, and events facilitated and delivered by the BSU has led to individuals/teams implementing behavioural science within their own practice.	**Assumption 1:** Activities delivered by the BSU have contributed to reducing the barriers for others in the system to use behavioural science within their future practice.
Assumption 2: Developing relationships across the system has resulted in the unit receiving greater exposure and engagement through requests for support, training, feedback and consultancy.	**Assumption 2:** The tools and resources developed by the BSU are being used by individuals/teams within their respective practice.	**Assumption 2:** Through the capability the BSU has enabled across the system, teams have started to establish ways of integrating behavioural science into their work.
		Assumption 3: The operationalisation of behavioural science is increasingly becoming common practice in some teams - particularly those the unit have worked directly with.w

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Phase Two: 'How' and 'why' conversations

To test the impact themes and underpinning assumptions produced by in Phase One, the evaluation team conducted a series of qualitative realist interviews with key stakeholders who had engaged with the BSU. This provided an opportunity to explore how, why, and for whom perceived impact themes had affected in practice, and consequently test and refine impact pathways (Harris et al., 2024).

Using a purposive sampling approach, eight diverse teams with whom the BSU had previously supported were referred to the evaluation team. A total of nine stakeholders from the referred teams participated in either one-to-one interviews (n = 5) or small focus group discussions (n = 2). The interviews provided stakeholders with the opportunity to reflect on their team's interactions and connections with the BSU (Theme 1), discuss changes in their perceived capabilities of applying behavioural science in practice (Theme 2), and identify potential barriers or enablers to their embedding of behavioural science across the system (Theme 3). In accordance with the realist approach, this provided further insight into stakeholders' experiences of how contextual nuances (e.g. time, workload, accessibility of resources, trust in the BSU) had either promoted or impeded impact of the BSU's activities.

Analysis and Results

Using a retroductive analytical approach (Jagosh, 2020), the evaluation team applied the knowledge and understanding generated in Phase One to draw inferences about how and why impacts of the BSU's activities had, or hadn't occurred between the contexts in which they were implemented (Pawson et al., 2005). This allowed refinement of the original assumptions underpinning each impact themes from what the BSU perceived was happening in theory to what stakeholders had experienced in practice, and subsequently informed how the BSU could most effectively implement future work. Representative quotes from stakeholders which evidence their experiences in practice are presented in accordance with each impact theme.

Impact Theme 1: Relationship Building

Throughout the qualitative 'how' and 'why' conversations it was evident that stakeholders perceived the BSU team as experts in the field of behavioural science, with the ability to translate their knowledge into accessible and relevant information. This had facilitated trusted working relationships between the BSU and stakeholder teams, leading to further collaborative opportunities and advocacy for wider application of behavioural science (Table 2).

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Table 2. Perceived and actual impacts of relationship building

Perceived Impacts	Stakeholder Experiences	Representative Quotes
Assumption 1: Through building meaningful relationships across the system, the BSU have increased their reach and opportunity to deliver impactful activities.	- Formal relationships are developing across the system built on trust and collaboration. - These relationships work because the BSU are approachable and accessible. - BSU providing bespoke support is impactful because it helps stakeholders to apply BeSci principles in their own work in their own way. - The BSU utilise and impart their knowledge and expertise in accessible and non-condescending ways.	*"I don't know what I would have done without them because they are approachable and do their best to do what they can... It's a sounding board which has been invaluable."* *"They've been patient with our work... it's evolved and changed from probably where the conversations were initially to where we focused in the end. But they flexed with that they fitted in with our time scale."*
Assumption 2: Developing relationships across the system has resulted in the unit receiving greater exposure and engagement through requests for support, training, feedback and consultancy.	- Stakeholders in the system benefit from the support and resources provided by BSU which has led to continual requests for support. - The relationships that BSU broker with wider stakeholders are positive because there is the feeling that the knowledge is mutual and exchangeable; it isn't a transactional relationship. - The visibility of the team is paramount for building relationships. - The community of practice events foster a sense of collective meaning-making that promotes learning. - Teams who have worked with BSU feel in control to advocate for BeSci to wider networks and sectors.	*"The relationship has led to further talking, further work, further ideas about how we can implement... being, sort of, champions around behavioural science, and sort of weaving that into the screening realm, and also having those opportunities for further learning".* *"Working together led to new work and projects .... we've started working with others.... All the work that has been done and interaction with them has enabled us to reach out to others."*

These findings have several implications for effective working practices between the BSU and stakeholders which, through relationship building, will contribute towards the unit's objectives and long-term aim:

💡 **Continue to tailor approaches and guidance for implementing behavioural science to the needs of stakeholders.**

💡 **Co-create resources with stakeholders as much as possible (testing and refining).**

💡 **Use more collaborative approaches to learning with stakeholders.**

💡 **Draw on others to advocate and 'champion' the use of behavioural science and the work of the BSU to facilitate future engagement.**

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Impact Theme 2: Developing capability to implement behavioural science across the system.

There was consistent evidence that participation in to workshops delivered by the BSU had promoted stakeholder's confidence and capabilities to apply behavioral science in practice. These perceptions were facilitated by the BSU's accessible and relatable delivery approach such as using applicable 'real world' examples. Increased confidence and capability did not always translate into application of behavioural science however, predominantly due to limited time and resources within the teams. While stakeholders acknowledged the utility of resources and toolkits designed by the BSU, some found it challenging to apply theoretical concepts to their own practice (Table 3).

Table 3. Perceived and actual impacts of developing capabilities to implement behavioural science

Perceived Impacts	Stakeholder Experiences	Representative Quotes
Assumption 1: There is a belief that the training, workshops, and events facilitated and delivered by the BSU has led to individuals/teams implementing behavioural science within their own practice.	- Organisations and those attending workshops feel more confident in applying BeSci because the knowledge is imparted in an accessible way. - People understand, and as a result feel capable in applying BeSci in their work. - There are challenges in applying behavioural science where time and capacity is limited. Often projects are underway before BeSci is considered. - There is some demand for tools that are tailored to programme and team needs, providing examples of how BeSci is done in practice. - Organisations across the system have valued the Community of practice events.	*"They're great for referring to and they give you lots of guidance, but it is that practical application. I think that was missing."* *"I will learn better by doing things [practically] than just reading the toolkit".* *"In person or practical support with real examples were seen as important, and the toolkit was not the best way for some to learn".*
Assumption 2: The tools and resources developed by the BSU are being used by individuals/teams within their respective practice.	- Making behavioural science applicable to organisations areas of work has been considered more effective than guides/tools. - More examples of behavioural science applications (good and bad experiences) would help to bring to life the reality of what is going on. - There isn't always dedicated time to practice behavioural science. - There is a recognition that the toolkit has resources that may be helpful, but it is not regularly accessed.	*"They're great for referring to and they give you lots of guidance, but it is that practical application. I think that was missing."* *"I will learn better by doing things [practically] than just reading the toolkit".* *"In person or practical support with real examples were seen as important, and the toolkit was not the best way for some to learn".*

Notes: BSU = Behavioural Science Unit; BeSci = Behavioural Science

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These findings have several implications for how the BSU can more effectively support stakeholders' capabilities for applying behavioural science in practice:

- **Continue adapting training and workshops to cater to all styles of learners for maximum impact.**

- **Continue to ensure tools are suitable for application of behavioural science in practice.**

- **Offer accessible CPD opportunities which work towards upskilling the wider workforce across the system.**

- **Continue to support stakeholders to gather behavioural insights to help inform their decision making in practice**

- **Across resources, training and direct project support provide meaningful examples and a rationale for the use of behavioural science.**

- **Explore opportunities for teams to practice applying behavioural science to their work.**

Impact Theme 3: Activities delivered by the Behavioural Science Unit will increase capability, opportunity, and motivation to use behavioural science in practice.

There was a consensus amongst stakeholders that the application of behavioural science across the public health system was increasing, yet this was predominantly based on experiences from their own context and teams. Most stakeholders recognised that their knowledge of whether other teams were applying behavioural science was limited, and acknowledged a need for evidencing and wider sharing of good practices. Time and capacity were primary challenges to embedding behavioural science in practice, however having a specialist role within the team was the most effective way to overcome this (Table 4).
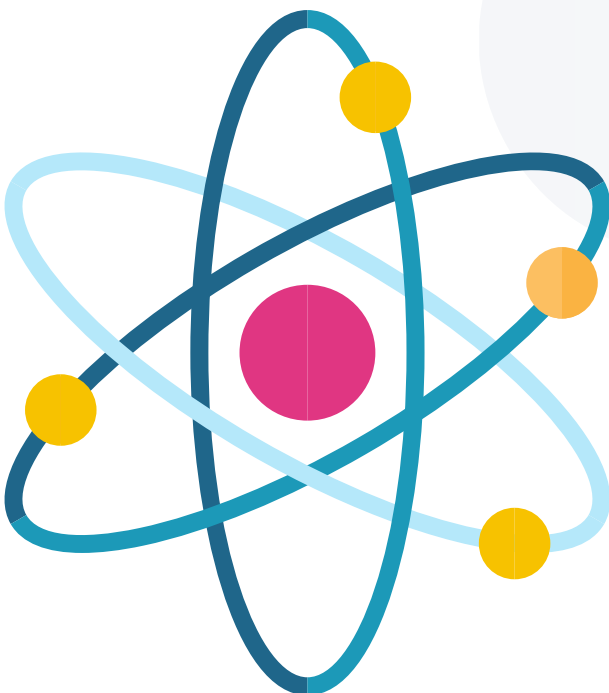
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Table 4. Perceived and actual impacts of activities on capability, opportunity, and motivation to apply behavioural science across the system

Perceived Impacts	Stakeholder Experiences	Representative Quotes
Assumption 1: Activities delivered by the BSU have contributed to reducing the barriers for others in the system to use behavioural science within their future practice.	- There is interest in applying behavioural science, but capacity to enact this is challenging for organisations. - Having a funded BeSci specialist role in a team with no previous expertise has been effective in reducing barriers and providing a legacy for use of behavioural science. - Capability to apply behavioural science is beginning to develop across the system.	*"We work on multiple projects so different work streams, so there's kind of competing demands quite a lot of the time anyway."* *"Having [Anon] full time has enabled people like him to inject behavioural science into work."* *"[Anon] is attending courses and training to upskill in behaviour science, to then be able to support her wider team."*
Assumption 2: Through the capability the BSU has enabled across the system, teams have started to establish ways of integrating behavioural science into their work.	- Time and capacity are recurring challenges that organisations are facing in applying BeSci. - Balancing quick wins over applying behavioural science for a longer time impact is a challenge organisations face. - Capability exists within organisations to apply BeSci but freeing up capacity is an issue.	*"We tend to be reactive and not just our team, but just in screening more generally. So if there's something that needs to be fixed, we fix it before really understanding it".* *"The capability to use behavioural science exists, but freeing up the capacity is an important challenge."*
Assumption 3: The operationalisation of behavioural science is increasingly becoming common practice in some teams - particularly those the unit have worked directly with.	- It is too soon to say that this is happening. - There was consensus amongst teams that the extent of which BeSci is being used in other teams is unknown. - Practitioners embedded within organisations provides a significant impact in using BeSci.	*"We are not at the stage where we really know that our partners are using behavioural science...we are making sense of it ourselves and actualising it but we need to see how it's landing for others."* *"Working remotely provides a challenge to know about other teams and their working practices".*

Notes: BSU = Behavioural Science Unit; BeSci = Behavioural Science

These findings have several implications for how the BSU could increase stakeholders' capability, opportunity, and motivation to apply behavioural science, and better understand adoption of these practices across the system:

💡 **Share good practice, and build an evidence base of stakeholders who are effectively applying behavioural science.**

💡 **Follow up initial contact with stakeholders to ensure they understand, and aren't overwhelmed by the concept of behavioural science.**

💡 **Directly support teams to apply behavioural science where possible, to help demonstrate the importance for them in that context.**

💡 **Use 'quick wins' (i.e. examples where behavioural science has positively impacted) to influence leaders' and managers' perceptions.**

💡 **Undertake more research to understand how stakeholders across the system are embedding behavioural science into their work.**

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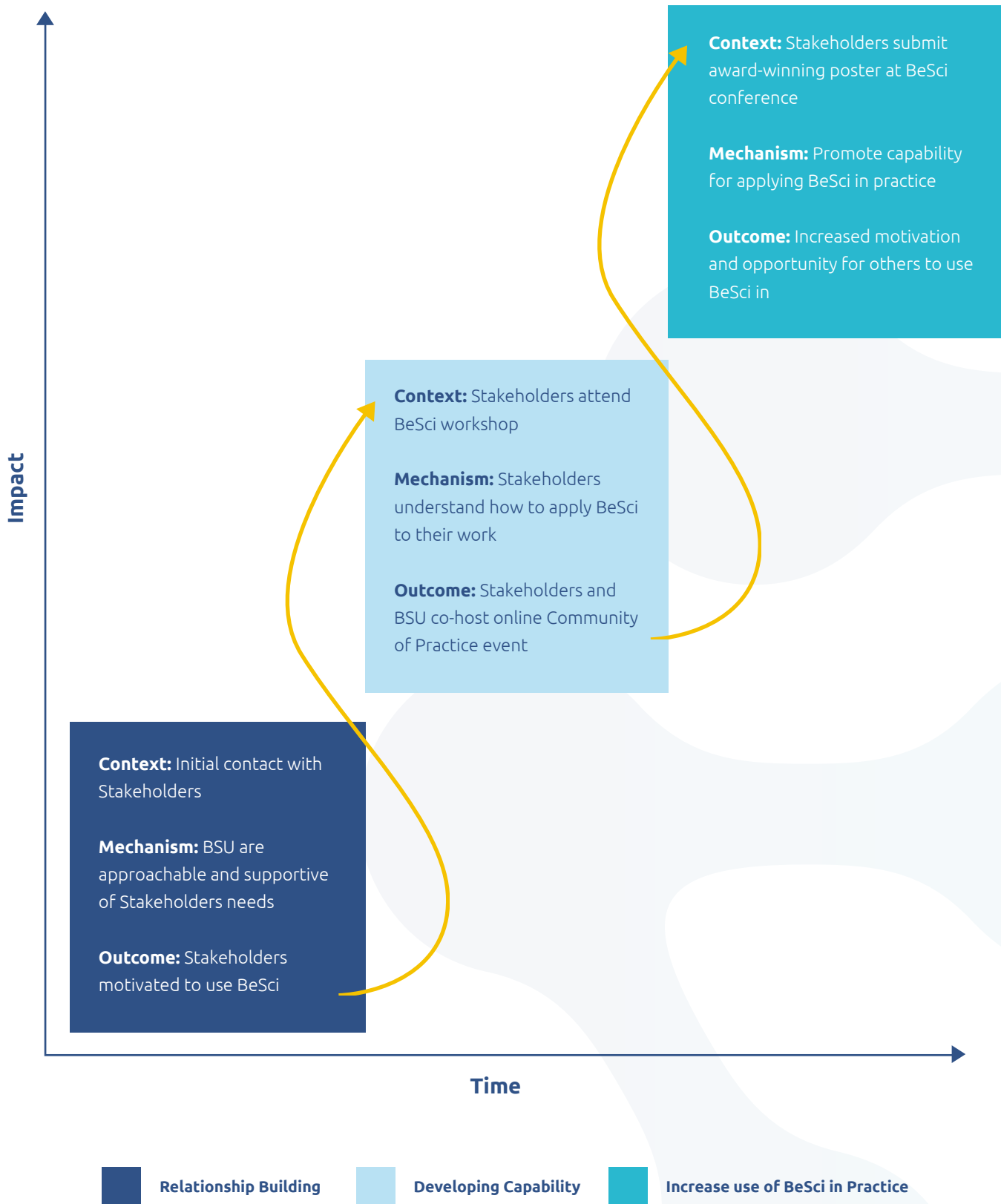
Phase Three: Learning and Refining

Following the development (Phase One) and testing (Phase Two) of impact themes and underpinning assumptions, the evaluation team reported findings back to the BSU to reflect on the process, refine their assumptions, and consider the implications for future practice. This provided an opportunity for the BSU to validate their perceptions of how and why their activity had impacted on the use of behavioural science, and reach consensus on how their assumptions could better represent what happens in reality (Harris et al., 2024). Refined assumptions underpinning each impact theme are presented in Figure 3.

Figure 3. Refined assumptions underpinning each impact theme

Impact area 1:
Relationship building

- Being approachable, flexible, and supportive are important to maintaining relationships with other teams.
- Where relationships are mutual rather than transactional, we see knowledge being built in teams and use of behavioural science.

Impact area 2:
Developing capability across the system

- Training events and workshops are most useful when relevant examples of applying behavioural science in practice are provided.
- Individualised approaches to applying behavioural science are more positively received than tools and resources.

Impact area 3:
Increasing use of behavioural science in practice

- Providing examples of behavioural science in practice, and making these applicable to the team being supported will promote capability development.
- Evaluating the application of behavioural science across the system can help to advocate for its use amongst more teams.

During this phase the BSU also reviewed the original REM produced in Phase One, which provided an opportunity to sense check the depicted 'causal connections' with the refined assumptions underpinning impact. Through this process, the BSU were able to visualise how impacts developed over time through 'ripple effects' which originated from initial activities (Figure 4). This also allowed the BSU to reflect on activities from which there was no further impact (i.e. ripple effects), and thereby learn from findings, and plan how they could be applied to their future activity.

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Figure 4. Ripple effects of initial relationship building on long-term impact across the system

Context: Stakeholders submit award-winning poster at BeSci conference

Mechanism: Promote capability for applying BeSci in practice

Outcome: Increased motivation and opportunity for others to use BeSci in

Context: Stakeholders attend BeSci workshop

Mechanism: Stakeholders understand how to apply BeSci to their work

Outcome: Stakeholders and BSU co-host online Community of Practice event

Context: Initial contact with Stakeholders

Mechanism: BSU are approachable and supportive of Stakeholders needs

Outcome: Stakeholders motivated to use BeSci

Impact

Time

Relationship Building   Developing Capability   Increase use of BeSci in Practice

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Conclusions

The RREM evaluation demonstrates that work undertaken by the BSU since their inception has, over time, resulted in further ripple effects between implemented activities and wider impacts. There was a consensus amongst stakeholders that the BSU were approachable and flexible, which facilitated relationships and encouraged application of behavioural science in practice. The BSU's activities were most effective for building stakeholders' capabilities when they were delivered using practical and relevant examples of how behavioural science could be applied in that context.

The main barriers to stakeholders' application of behavioural science in practice was a lack of resources (i.e. staff, capacity and time), and limited understanding of how to evaluate the effectiveness of behavioural science use. This was reinforced through recognition that demonstrating impact is pivotal to behavioural science becoming embedded across the public health system.

The findings from this evaluation largely mirror those reported following a mixed-methods study which explored barriers and enablers to stakeholders' applying behavioural science in practice (Knowles & Gould, 2023). Specifically, data collected through interviews, workshops and a quantitative survey was mapped onto the COM-B model (Figure 5) to identify how capability, opportunity and motivation impacted on stakeholders' application of behavioural science in practice (Michie et al., 2011). Findings indicated that the majority of stakeholders (92%) understood the importance of behavioural science in their work, yet lacked understanding, time, and adequate resources to apply this in practice (Knowles & Gould, 2023). These findings substantiate those presented in the current report, and reinforce the need for embedding behavioural science into existing systems and process in Public Health Wales, and address wider public health priorities using a whole systems approach.

Figure 5. The COM-B model of behaviour

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Recommendations

It is important that findings from this evaluation are interpreted in the context of the BSU's logic model (Figure 2), and applied to inform what steps could contribute towards achieving their objectives and long-term vision.

The evaluation highlighted a need to collaboratively identify and monitor key outcome indicators resulting from the activities undertaken in each impact area, and utilise these data to measure progress and impact against the logic model (Table 5). Involving senior managers in this process will promote their role as advocates for behavioural science, and facilitate supportive environments in which the routine application of behavioural science can be embedded into policy and practice.

Table 5. Indicators of impact and progress towards logic model outcomes

Impact Area	Outcome Indicators	Logic Model Outcomes	Possible Methods
Relationship building	- How many stakeholders have received support from the BSU? - Which teams are / aren't engaging with the BSU and why?	- Integration of BeSci into service development, delivery and improvement. - Leaders use and advocate for BeSci.	- Stakeholder mapping - Network analysis - Focus groups
Developing capability across the system	- How many stakeholders are aware of the BSU's resources and toolkits? - How does stakeholders' knowledge of BeSci change after accessing resources?	- BeSci is visible in evaluation frameworks, guidance and practice. - Integration of BeSci into service development, delivery and improvement.	- Resource downloads - Surveys - Focus Groups
Using behavioural science in practice	- How many stakeholders are applying BeSci to their practice? - What is the relationship between BeSci application and outcomes in practice?	- Data and evidence on behaviours and their determinants are readily available. - BeSci is integrated into policy-making processes.	- RE-AIM evaluation - Case studies - Data linking

Notes: BSU = Behavioural Science Unit; BeSci = Behavioural Science; RE-AIM – Reach, Effectiveness, Adoption, Implementation, Maintenance.

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Thank you