

# BMJ Open Quality PROMPT Wales project: national scaling of an evidence-based intervention to improve safety and training in maternity

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## ABSTRACT

**Background** In healthcare, there is increasing recognition of the importance of developing and testing strategies to scale effective interventions. The NHS long-term plan (2019) acknowledges that often a gold standard approach to a problem already exists somewhere within the NHS, however, it has not been replicated widely across the system.

**Methods** We describe the approach and process measures for national scaling of PROMPT (Practical Obstetric Multi-Professional Training) across 12 obstetric-led maternity units in Wales. PROMPT is an evidence-based training package for local maternity staff, previously associated with improvements in maternal and neonatal outcomes, reduction in litigation related to preventable harm and improved safety culture. PROMPT has previously been disseminated internationally using a train-the-trainer model. However, this has been associated with variations in uptake, fidelity and impact. In Wales, the project was supported by Welsh Government, and a structured scaling plan was developed, encompassing ongoing implementation support from a multi-professional team.

**Results** PROMPT was successfully implemented in all obstetric led units in Wales, with 326 local PROMPT facilitators trained, and 82.5%–100% of maternity staff attended a local PROMPT course in the first 15 months of the project (January 2019–March 2020). All training courses included evidence-based authentic elements, and 93% of courses in the first year (100/107) were supported by a national implementation team, providing coaching, implementation support and quality assurance.

**Conclusions** Authentically scaling up complex interventions is a significant challenge. To replicate the improved outcomes demonstrated by PROMPT, intervention reach and fidelity must first be demonstrated. In this national scaling project, our scaling methodology led to the successful implementation of PROMPT across all health boards in Wales. Additionally, we demonstrated reduced variation in adoption, reach, timescale and intervention fidelity between maternity units with varying readiness for change, which had been difficult in two previous large-scale PROMPT implementation projects.

## INTRODUCTION

There is increasing recognition of the challenge to effectively spread successful

interventions across the NHS.<sup>1</sup> The Health Foundation has emphasised that healthcare improvement must now focus not only on innovation of solutions, but methods to ensure uptake of these solutions across organisations.<sup>2</sup> This is echoed in the NHS 2019 long-term plan, which calls for improved scaling of successful interventions.<sup>1</sup> The WHO describes scaling as ‘deliberate efforts to increase the impact of successfully tested health innovations so as to benefit more people and to foster policy and program development on a lasting basis’.<sup>3</sup> It is a theorised, strategic and systematic approach,<sup>4 5</sup> with benefits not just in sharing ‘what worked well’, but the potential to create widespread networks of implementers, provide a platform for innovation, and large-scale collection and use of data.<sup>6</sup> Through this, the original intervention may be further improved, honed and evidence-based.

Various scaling frameworks have been developed,<sup>6–9</sup> however, there remains a lack of consensus on the most effective one to use in the NHS. Effective scaling is not simple, and even evidence-based interventions rarely achieve widespread uptake.<sup>10</sup> Barriers to scaling include lack of adaptability of the intervention, lack of resources or capacity, insufficient investment in the structure and support of implementation and lack of political will.<sup>5 11–14</sup> This paper describes the experience, including barriers and facilitators, of a project to scale a complex healthcare improvement intervention nationally across Wales.

## Previous scaling of the Practical Obstetric Multi-Professional Training intervention

PROMPT (Practical Obstetric Multi-Professional Training) is an evidence-based training package for multi-professional maternity staff; involving interactive drills



and workshops for managing obstetric emergencies, with integrated teamwork and human factors training.<sup>15</sup> Midwives, obstetricians, anaesthetists and support staff are trained together in their clinical area, using their own equipment and systems.<sup>16 17</sup> Developed in Bristol in the year 2000, PROMPT has been disseminated internationally by the PROMPT Maternity Foundation (PMF) with uptake in diverse healthcare settings including Australia, Germany, Philippines, UAE, USA and Zimbabwe.<sup>18–20</sup> When implemented successfully, PROMPT has been associated with improvements in maternal and neonatal outcomes in the UK and abroad, including a 50% reduction in hypoxic ischaemic encephalopathy (HIE), 100% reduction in permanent brachial plexus injury following shoulder dystocia, a 45% reduction in school-aged cerebral palsy and 40% quicker birth at category I caesarean section.<sup>19 21–23</sup> PROMPT has demonstrated improvements in safety culture in maternity units in Australia,<sup>16</sup> and reduced litigation costs to hospitals in the UK and USA, through the reduction of preventable harm.<sup>17 24–26</sup>

Previously, the method of disseminating PROMPT has employed a centralised, one-off ‘train-the-trainer (T3)’ programme attended by maternity unit champions who take the intervention tools back to their unit to implement PROMPT locally.<sup>18</sup> One benefit of a ‘cascade’ strategy of spread such as this, is that it can result in rapid expansion of interventions, however, it provides little control over the fidelity, and subsequent impact of the intervention at spread sites.<sup>27 28</sup>

Many aspects of the intervention mean PROMPT lends itself well to scaling; it is evidence-based, often demonstrates relative advantage, trialability, observability low risk and local reinvention.<sup>2 10 29</sup> However, the complexity of the ‘core’ of the intervention is often underestimated by units who perceive it is solely a training programme. Studies by social scientists on the factors that make PROMPT successful have shown it is a complex integrated and systematic approach to improving organisational safety in maternity units, and requires social and system changes in the clinical area, not just the training room.<sup>17 30</sup> For maternity units, the ability to embrace this is influenced by many contextual factors including local leadership, drive, organisational readiness for change, resources and staff buy-in.<sup>30 31</sup> These influencing factors are similar to those outlined in Rogers ‘diffusion of interventions’, where he described a bell-shaped adoption curve for uptake of new interventions, with sites as early adopters, early majority, late majority or laggards.<sup>27</sup>

Due to these differences, it is likely some maternity units need more structure and support than can be provided by the dissemination approach. This is echoed by the variation in implementation across units demonstrated by two previous large-scale projects in Australia and Scotland where PROMPT was implemented by the approach described above, with a single intervention-sharing interaction.<sup>20 32 33</sup> In both projects, significant variations in uptake between hospitals were seen, including differences in timescale, reach, adoption and

intervention fidelity.<sup>20 32 33</sup> In Scotland, the Thistle study (a step-wedged randomised control trial of national PROMPT implementation) did not achieve significant improvement in its primary outcome of APGAR score <7 at 5 min in term infants (APGAR is a standard assessment of newborn condition). The research team recommended that future programmes should provide additional, longitudinal support to maternity units to improve implementation.<sup>33</sup> Implementation variance is not unique to PROMPT; other scaling projects have identified the need for robust processes and support to be in place to address local barriers.<sup>34</sup> In this paper, we describe our approach to scale up PROMPT effectively in Wales, including how we designed our implementation methodology to address previous barriers and inconsistencies to scaling identified. We report the process measures from the project, and compare these to the Scottish and Australian projects.

## METHODS

Below, we outline the scaling approach taken for the national roll out of PROMPT across 12 obstetric-led units in Wales.

### Scaling method

The scaling approach for this project was based on the Institute for Healthcare Improvement ‘framework for going to full scale’<sup>7</sup> as well as lessons learnt from previous large-scale PROMPT implementation projects, primarily the need for ongoing support including assistance with local planning and adaption of the course, coaching and feedback.<sup>19 20 23 25 33</sup> This project represented the transition from a ‘help it happen’ diffusion mechanism of spread to ‘make it happen’ planned and regulated approach.<sup>10</sup>

### Set-up Context

NHS Wales consists of 7 health boards with 12 obstetric-led maternity units. The birth rate is approximately 31 000 per annum. Maternity is the leading area for litigation in NHS Wales, with the highest average value of claims. In 2016/2017 maternity cases represented 38% of the litigation payments reimbursed to health boards.<sup>35 36</sup> Multi-professional annual training has been recommended by research and several notable reports to reduce preventable harm in maternity,<sup>21 37–42</sup> and has the potential to reduce litigation costs.<sup>26</sup> In 2016, the chief nursing officer for Wales approached the Maternity Network Wales and the Welsh Risk Pool (WRP) to evaluate the effectiveness of existing obstetric emergency training. A scoping review identified significant variation in quality and methods of training, with teams mainly training in single-profession silos. To improve training, the evidence-based PROMPT programme was selected, via tender, for national implementation. The initiative was entitled ‘PROMPT Wales’.

### Governance structure

Previous scaling evaluations have highlighted the need for political support, ensuring interventions are aligned with

national recommendations.<sup>19</sup> Therefore the governance structure for this project involved an executive committee composed of PMF, WRP and Maternity Network Wales representatives, who liaised with the Welsh government as well as heads of midwifery and clinical directors at each health board.

The executive committee appointed a national implementation team to work directly with maternity units. This included an obstetrician and midwife from PMF, working in collaboration with multi-professional leads from different health boards (two midwives, four obstetricians and an anaesthetist). Each health board had a local multi-professional team responsible for the delivery of PROMPT.

### Initiative goals

The vision for PROMPT Wales was to reduce avoidable harm and improve perinatal outcomes through multi-professional training to enhance safety, teamwork and communication. To achieve this, a strategy document was developed by the executive committee, which included four standards:

1. Identification of staff who should participate in PROMPT Wales training.
2. Development of local PROMPT Wales syllabus.
3. Implementation support to maintain local multi-professional training teams.
4. Multi-professional participation in local PROMPT Wales training.

As part of standard 4, an aspiration of training 100% of relevant staff by 31 March 2020 was outlined. Welsh government shared these standards with stakeholders of all local health boards through a Welsh Health Circular.<sup>43</sup> Process outcome measures were set relating to these standards, including faculty data, percentage of staff trained, timescale and course content.

### Branding and promotion

To facilitate ownership, a 'PROMPT Wales' logo was developed and used to brand uniforms and resources. Programme momentum was supported through a website and social media accounts. Stakeholders attended a national launch event where the chief medical officer and chief nursing officer for Wales delivered opening speeches, endorsing the programme and declaring it a priority.

### Building a scalable unit

#### Adapting the intervention to the context

Ensuring interventions are aligned with other national incentives is crucial for the feasibility of scaling.<sup>7 12 44</sup> The PROMPT programme aligned with many national projects; such as the Saving Babies Lives care bundle.<sup>21</sup> However, further adaption of the package was required to compliment the OBS Cymru (obstetric bleeding strategy for Wales) national quality improvement (QI) project, which involved multi-disciplinary team training to reduce post-partum haemorrhage (PPH) rates.<sup>45</sup>

Senior members of the OBS Cymru and PROMPT teams had several collaborative meetings to adapt the PROMPT PPH training module, prior to scaling. Furthermore, OBS Cymru representatives were invited to contribute at the national train-the-trainer programme.

### Provision of resources

In addition to funding training of local teams, WRP ensured all maternity units had the capability to deliver authentic PROMPT via the purchase and distribution of training resources to the health boards.<sup>23 40 46</sup> Local maternity units agreed to fund the release of staff to undertake and attend the training.

### Testing scale-up

Some maternity units in Wales had introduced earlier versions of PROMPT (iteration 1 and 2), however, the scoping exercise demonstrated variety in the content and delivery of courses, especially relating to updated information, multi-professional input and staff trained, therefore all units required transition to the PROMPT Wales model with a more standardised training approach and updated information (iteration 3). The implementation experience gathered from these prior adopters of PROMPT provided valuable feedback for the project. Members of the implementation team were recruited from these 'early adopter' sites. It is beneficial to recruit early adopters as advocates to communicate the value of the intervention to leadership and peers.<sup>27</sup>

### Going to full scale

#### Introduction of the intervention to sites

Multi-professional champions (obstetricians, anaesthetists, midwives and support staff) were identified by management from each health board to have responsibility for implementing PROMPT in their units. Eighty-nine staff attended a T3 course in May/June 2018. This provided facilitation skills training, training aids and strategies for local implementation.

#### Adoption mechanisms and support systems

As a result of previous PROMPT scaling projects, the ongoing implementation support role of the implementation team was a crucial element of the scaling plan. Specific actions taken are outlined below.

#### Planning support and contextual data collection

Previous work shows scaling is not successful in unreceptive environments; understanding the values, practices and infrastructure of sites is crucial, with adaptation of the intervention where required.<sup>7 10</sup> Following the T3 programmes, the implementation team organised unit visits, using a structured template to collect data on staffing, unit structure and previous training practices to understand capacity and capability for scaling. The implementation team reviewed local resources including training venues and equipment, and local course programmes were codeveloped, the content of which was adapted to local training priorities. Information on perceived barriers to scaling



was gathered from unit teams and additionally, 352 multi-professional staff completed an anonymised Sexton Safety Attitude Questionnaire prior to local implementation, to help with understanding individual unit issues with teamwork, safety climate, perception of management, job satisfaction, working conditions and stress recognition<sup>23 25 47</sup> and therefore personalise support.

#### Training of additional faculty

During planning visits, all local teams raised concerns about achieving PROMPT Wales standards without expanding their core of local trainers, due to the challenge of releasing facilitators from clinical duties. Therefore, the implementation team supported units to organise and deliver local 'faculty development programmes' to train additional faculty in each unit prior to commencing courses.

#### Creating networks

Peer networks are a key component of facilitating change in practice.<sup>3</sup> The implementation team used social media, newsletters, conference presentations and a website to share programme progress. The national launch event included networking and troubleshooting sessions for local teams, and in February 2020 (after a year of local implementation), the implementation team organised a further networking event to reflect and share local barriers and enablers for the programme.

#### Engaging leaders

It is important to not only *inform* leaders, but to coach them regarding the specific actions required to successfully adopt the intervention.<sup>18 19 27</sup> The implementation team presented to the National Specialist Advisory Group and head of midwifery advisory group (HOMAG) in 2019, communicating the value of the programme and informing stakeholders how they could support PROMPT locally.

#### Coaching and support

Building a bond between implementers and adoptees often has a positive influence on implementation.<sup>27 48</sup> Multi-professional implementation team members provided face-to-face coaching and support on courses, chaired a debrief session and providing written feedback and action plans to local teams.

#### Setting up monitoring processes

Local teams submitted training data for monitoring of progress towards the PROMPT Wales standards. The implementation team fed back training data, observational data and reports to the executive committee. A set of baseline clinical outcomes was developed including rates of postpartum haemorrhage, APGAR score <7 at 5 min, HIE, maternal admission to level 3 care, unexpected neonatal intensive care unit (NICU) admission at term and brachial plexus injury at birth. They examined ways of collecting and monitoring this data including local and national data collection processes.

#### Process measures

Previous research has identified the clinical impact of PROMPT when it is implemented authentically, however, clinical outcome changes have previously taken at least 2 years to be demonstrable following the commencement of training, and therefore post implementation outcomes are not included in this paper.<sup>19 20 33</sup> Process measures can ensure an evidence-based intervention is being delivered as intended, and therefore, we report on process outcomes of the scaling methodology used in PROMPT Wales, including:

1. Adoption and reach of the intervention: defined by the number of local faculty trained, number of maternity units that initiated local courses, percentage of eligible staff (midwives, obstetricians and obstetric anaesthetists) who attended a course in the first 15 months. These data were gathered by the implementation team through training registry data and feedback forms, observational data and staffing information from human resources and managers.
2. Authenticity: course content evaluated against evidence-based elements of PROMPT. Quality assurance is defined by number of courses attended by members of national implementation (NI) team. Data were gathered through analysis of course programmes and observational reports and notes made by the multi-professional implementation team.
3. Timescale of replication—days from T3 to initiation of local courses.

Analysis of number of staff trained was done using simple statistics and percentages.

#### Ethical considerations

As this is a quality improvement and implementation report with observational process data, formal ethical approval was not required. Maternity units and individuals were anonymised in any reports outside of the NI team. Patients were not involved in this project, therefore patient and public involvement for design was not applicable.

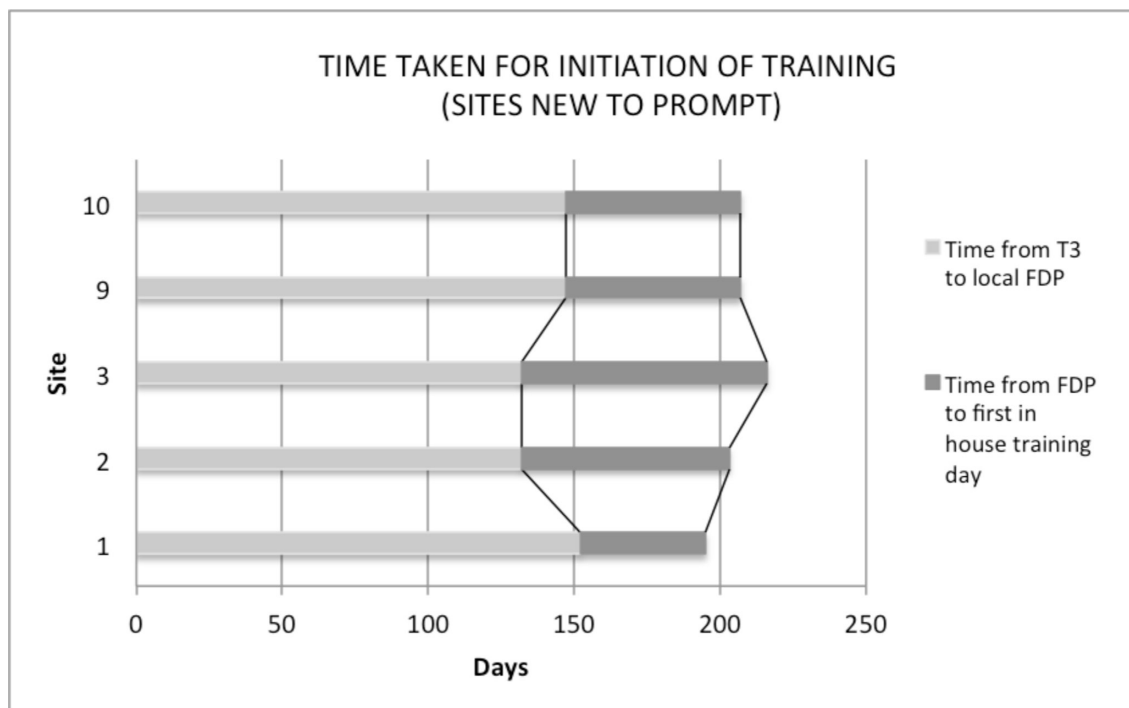
## RESULTS

### PROMPT Wales trained faculty

Eighty-nine multi-professional faculty were trained during the centralised T3 programmes, including 29 midwives, 23 obstetricians, 18 anaesthetists and 19 allied professionals. Following this, 7 local faculty development programmes trained an additional 173 faculty. By January 2019, there were 262 trained local facilitators (see online supplemental material). During 2019 two further national T3 programmes were conducted, with a total of 326 trained facilitators by January 2020.

### Timescale

Seven units had some experience with PROMPT prior to the project and 5/7 (units 4, 5, 6, 7, 8) were already running courses. However, their current training practices required transition to the PROMPT Wales model. 2/7 (units 11, 12) required restructuring of their training



**Figure 1** Timescale for initiation of local training for five units new to Practical Obstetric Multi-Professional Training. FDP, faculty development programme; T3, train the trainer.

systems and initiated their new course 111 days after T3. For the five units who had no prior experience of PROMPT (units 1, 2, 3, 9, 10), the timeline from T3 to local implementation is outlined in [figure 1](#).

By January 2019 all 12 maternity units had initiated regular courses. Course frequency varied from 5 to 13 per annum, with an average of 20–30 participants.

### Staff trained

Two thousand eight hundred and ten staff were identified requiring training nationally, including midwives (1676), obstetricians (299) obstetric anaesthetists (368) and healthcare assistants (467). A total of 141 local courses were held from January 2019–March 2020 (107 in 2019). During this 15-month time period, 94% of midwives, 90% of obstetricians, 86% of anaesthetists and 77% of healthcare assistants attended a course. The mean attendance for midwives, obstetricians and obstetric anaesthetists was 90.7% (88.6% when including healthcare assistants, however previous research of PROMPT demonstrating improved outcomes has not included their attendance) and [figure 2](#) describes the breakdown per health board.

### Intervention fidelity

Research in to obstetric emergency training packages have shown that to achieve improvements in outcomes, training packages must have the following core components<sup>16 20 49</sup>:

- ▶ Multi-professional (participants and trainers).
- ▶ Locally delivered—in the clinical area to familiarise staff with local systems and processes.
- ▶ Training all maternity staff annually—including obstetricians, anaesthetists and midwives.

- ▶ Integrated team working and human factors training.
- ▶ ‘Right fidelity’ simulation, for example, for shoulder dystocia.

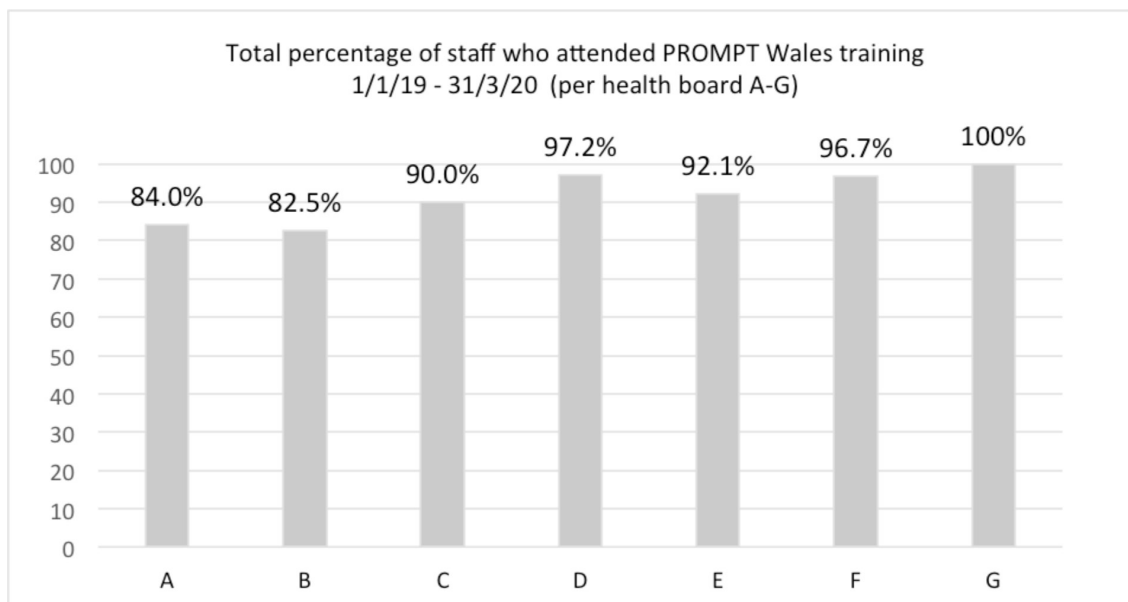
In 2019, 100/107 (93%) of local courses were observed by members of the implementation team for quality control and monitoring processes, and [table 1](#) summarises the authenticity of training content of each unit.

### Cost

The expenditure of the WRP on the scaling of PROMPT Wales for the financial year 2018/2019 was £375 000. This included set-up and implementation costs including funded time for the NI team, events and resources including specialist mannikins and training materials. This cost is not negligible, however, is modest compared with the litigation costs in maternity. The total cost of reimbursements for maternity claims for concluded cases was £19 million in 2016/2017, and £17 million in 2019/2020. In addition, £8 million per annum is spent making periodical payments to claimants. The average reimbursement per case in 2017 was £400 000,<sup>35</sup> if the investment in PROMPT Wales leads to prevention of at least one significant adverse outcome nationally, it may be viewed as financially sound.

## DISCUSSION

The PROMPT Wales programme provides valuable insights into the national scaling of an evidence-based complex training intervention. Comparators have been provided by the THISTLE study in Scotland (12 units),<sup>32 33</sup> and implementation in Victoria, Australia (8 units)<sup>20</sup> where a dissemination approach to spread was



**Figure 2** Percentage of staff per health board who attend a Practical Obstetric Multi-Professional Training (PROMPT) Wales course January 2019–March 2020 (excluding staff groups that were not mandated e.g. health care assistants, theatre staff and students).

used, with a single ‘T3’ interaction. The key differences in PROMPT Wales have been provision of support from Welsh government, a clear governance structure, national standards and accountability for units and ongoing support and monitoring.

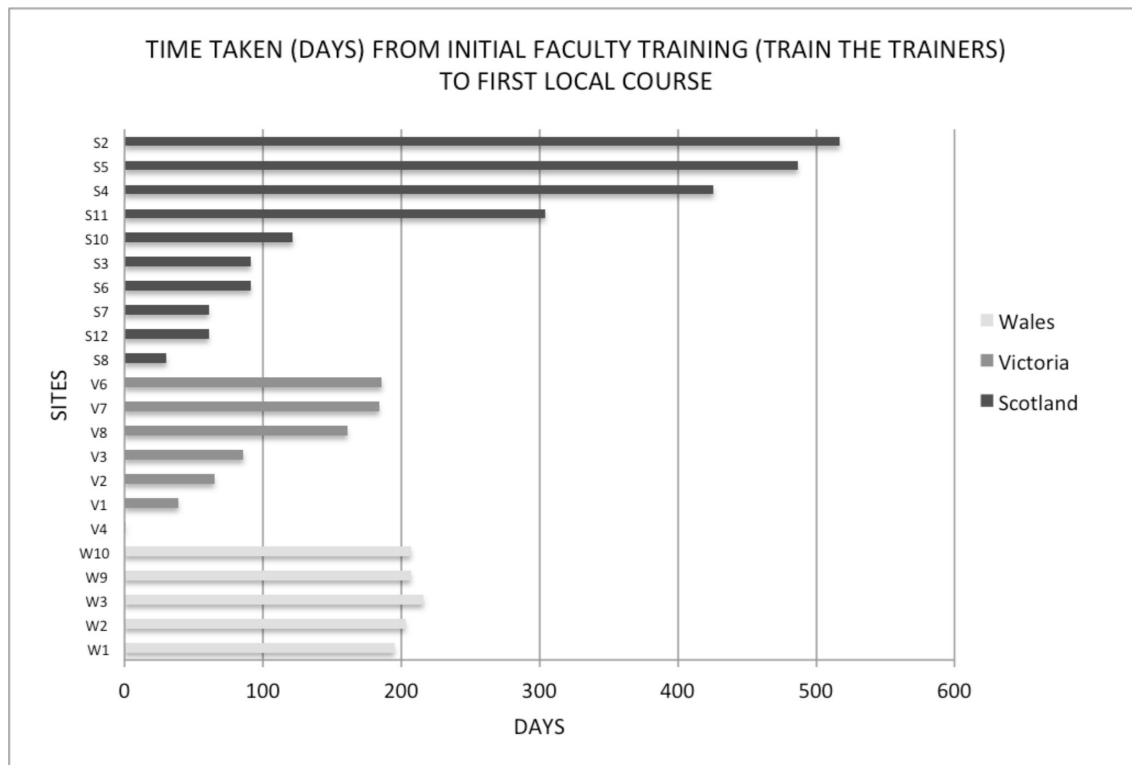
In Wales, there was a reduction in variation of time taken for units new to PROMPT to initiate training; the range for the five units was 21 days (195–216), compared with 186 days (1–186) in Victoria<sup>30</sup> and 487 days (30–517) in Scotland (figure 3).<sup>32 33</sup> In both Victoria and Scotland, there was significant variation in the number of trained faculty, number of staff trained and course frequency per unit. In Victoria, trained faculty varied from 1 to

13 per unit, and course frequency was 0–6 per annum (mean 3.5). Only 51% of all possible staff were trained in the first year of the programme (21%–100% across sites, with one site not initiating training).<sup>33</sup> In Scotland, course frequency was 1–20 per annum, number of staff trained per course 6–30 participants (mean 20.75) and total number of staff trained per unit 24–365 in the first year. There are no data available on what proportion of eligible staff this represents, however, all maternity units will have >24 staff, so we may assume some units had a low proportion trained.<sup>33</sup> Although initiation of training took longer for some PROMPT Wales units (figure 3), the main barrier was the requirement for additional faculty

**Table 1** Authenticity of Practical Obstetric Multi-Professional Training Wales training

Obstetric unit	Faculty multi-professional on each training day	Participants multi-professional on each training day	Training delivered in clinical area	Formal teamwork and human factors lecture and integrated training	Shoulder dystocia using high fidelity mannequin
1	Yes	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes
6	Yes	Yes	Yes	Yes	Yes
7	Yes	Yes	Yes	Yes	Yes
8	Yes	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes
11	Yes	Yes	No*	Yes	Yes
12	Yes	Yes	No*	Yes	Yes
Total	12/12	12/12	10/12	12/12	12/12

\*Unit 11 and 12 underwent their training together in a simulation centre as a temporary measure due to planned changes for unit 12 to become a midwifery led unit. After November 2019, training took place on site.



**Figure 3** Comparison of time take to initiate local Practical Obstetric Multi-Professional Training following train the trainers course for Wales, Victoria and Scotland.

to meet the PROMPT Wales standards; training 100% of staff annually and maintaining a multi-professional faculty on every training course. Once additional faculty were trained, local initiation was accomplished within a comparatively short period of time; 43–84 days (mean 63.6). Additionally, in Scotland, the researchers identified variation in course content, and therefore, intervention fidelity.<sup>33</sup> In Wales, all units included the core elements of PROMPT and authenticity of intervention was monitored by the implementation team.

The insights offered by Rogers ‘Diffusion of Interventions’ mentioned in section 01.2 may be a useful heuristic to understand the implementation of PROMPT.<sup>27</sup> Standard dissemination at scale has previously resulted in a heterogeneous and variable intervention adoption, perhaps due to lack of additional support or motivation for units who may be late majority or laggards.<sup>50</sup> The scaling method used for PROMPT Wales, including national level system implementation and support, reduced variety in implementation process measures between units. Although the aspiration for 100% of all relevant staff attending a local PROMPT Wales course by March 2020 was not achieved, all health boards were close to this achievement (82.5%–100%).

### Barriers and facilitators to implementation

The consolidated framework for implementation research (CFIR)<sup>29</sup> provides a pragmatic framework for considering influencers of implementation. In table 2, the domains of the CFIR are used to describe the facilitators to PROMPT

Wales implementation identified by the implementation team, which will be of benefit to other groups designing their scaling strategy. Despite working with units with varying prior experience of PROMPT, we did not find significant additional challenges in ‘brownfield’ sites compared with ‘greenfield’ sites, perhaps helped by our early engagement with key leaders from existing PROMPT units, and invitation for them to join the national implementation team as peer educators.

The key barriers to implementation were:

1. Release of obstetric and anaesthetic faculty from clinical duties, as there was no centralised funding available to units for staff time. Although the implementation team communicated the value of financially supporting the training to management, the pressure on clinicians not to cancel activities varied between sites.
2. Requirement to train additional faculty to meet PROMPT Wales standards due to difficulty releasing staff—if we had investigated the number of local facilitators required to achieve the PROMPT Wales standards pre-T3, we could have trained more faculty, thereby preventing delay.
3. Availability of training rooms for lecture elements of the course—often these were booked out months in advance, leading to delays in getting training courses organised.

There were a number of limitations to the project; first, research design meant we were unable to provide a control group for comparison of scaling methodology.

**Table 2** Facilitators to the PROMPT intervention based on the consolidated framework for implementation research

Domain	Constructs	PROMPT Wales facilitating factors
Characteristics of the intervention	<ol style="list-style-type: none"> <li>1. Intervention source.</li> <li>2. Evidence strength and quality.</li> <li>3. Relative advantage.</li> <li>4. Adaptability.</li> <li>5. Trialability.</li> <li>6. Complexity.</li> <li>7. Design, quality and packaging.</li> <li>8. Cost.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Local adaption on the intervention—to encourage local ownership.</li> <li>▶ Robust evidence for intervention—multiple publications showing PROMPT effect on clinical outcomes.</li> <li>▶ Peer endorsement—anecdotal stories from PROMPT Wales implementation team who had prior experience with PROMPT, benefit of engaging 'peer educators'.</li> <li>▶ Professional branding of tools and resources.</li> <li>▶ Standardised implementation tools and guidance.</li> <li>▶ Funding—'Starter pack' training and resources funded by the Welsh Risk Pool.</li> </ul>
Outer setting	<ol style="list-style-type: none"> <li>1. Patient needs and resources.</li> <li>2. Cosmopolitanism.</li> <li>3. Peer pressure.</li> <li>4. External policies and incentives.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Choosing intervention of national interest—improving safety in maternity is a nationally important issue for families and staff (Each Baby Counts, MBBRACE, Kirkup report).</li> <li>▶ Utilising pre-existing leadership meetings to gain support for programme (HoMAG and NSAG).</li> <li>▶ Benchmarking of implementation progress by sharing information between units (networking facilitated by NI team; newsletters, social media, events).</li> <li>▶ Obtaining visual government support and clearly defining targets—PROMPT Wales standards from Welsh government to implement PROMPT.</li> </ul>
Inner setting	<ol style="list-style-type: none"> <li>1. Structural characteristics.</li> <li>2. Networks and communications.</li> <li>3. Culture.</li> <li>4. Implementation climate.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Supporting local team working and communication—the implementation team organised and chaired local team meetings and phone calls, supporting the team to bond and work together more effectively. Communication channels between local teams were encouraged (PROMPT Wales team text and email groups).</li> <li>▶ Implementation support tailored to unit needs—culture assessed by SAQs and planning discussions with local teams to identify local issues, tailoring of support to address these.</li> <li>▶ Course observations and structure feedback—to provide praise as well as clear and measurable improvement goals during implementation process.</li> </ul>
Individuals involved	<ol style="list-style-type: none"> <li>1. Knowledge and beliefs about the intervention.</li> <li>2. Self-efficacy.</li> </ol> <p>Individual stage of change</p> <ol style="list-style-type: none"> <li>1. Individual identification with organisation.</li> <li>2. Other personal attributes.</li> </ol>	<ul style="list-style-type: none"> <li>▶ Careful selection of local champions—local faculty were nominated by management, those who showed enthusiasm and had prior experience of training were put forward.</li> <li>▶ Building a partnership between implementation team and maternity unit—via face-to-face support and regular check-ins.</li> <li>▶ Assessing readiness for change—this was assessed by implementation planning session on T3 and at initial unit visits.</li> <li>▶ Troubleshooting—implementation team listened and acknowledged concerns about achieving implementation goals and tailored support to local teams. They shared learning and acted as the 'go between' for local teams, their managers and the executive committee.</li> <li>▶ Positive reinforcement—use of 'PROMPT Stars' to recognise individual contributions and excellence.</li> </ul>
Implementation process	<ol style="list-style-type: none"> <li>1. Planning.</li> <li>2. Engaging.</li> <li>3. Executing.</li> <li>4. Reflecting and evaluating.</li> </ol>	<ul style="list-style-type: none"> <li>▶ An incremental approach to implementation—ongoing support and reinforcement was crucial due to the complexity of the intervention.</li> <li>▶ Site visits—for planning and support, face-to-face was valued by local teams.</li> <li>▶ Engaging local leaders for example, heads of midwifery—invited to observe T3 course to understand intervention and resources required.</li> <li>▶ Engaging and motivating the local implementation delivery team—close relationships formed between the implementation team and practice development midwives who were instrumental in leading the organisation of training and coordinating the team.</li> <li>▶ Pacing—providing implementation timeline and regular check-ins.</li> <li>▶ Organic modification of the implementation plan based on trialling and local feedback.</li> <li>▶ Clear governance structure of Implementation team with MDT input—regular debriefing of the implementation team with the executive committee.</li> <li>▶ Evaluation plan—process and outcome measures decided in planning phase of project. Information gathered from multiple sources (course evaluation forms, structured observations, programme evaluations, informal and formal feedback).</li> </ul>

NI team (National Implementation team)—a multiprofessional team of obstetricians midwives and anaesthetists from the PROMPT Maternity Foundation and NHS Wales hospitals who supported local teams with implementation.  
 HoMAG, Head of Midwifery Advisory Group; NSAG, National Specialist Advisory Group; PROMPT, Practical Obstetric Multi-Professional Training; SAQ, Sexton Safety Attitude Questionnaire; T3, train-the-trainer.

Furthermore, process data was self-reported, however units had to submit evaluation forms as proof of staff attendance.

## CONCLUSIONS

This national scaling project led to the successful implementation of PROMPT across all health boards in NHS Wales, with 82.5%–100% of all eligible midwives, obstetricians and anaesthetists trained between January 2019 and March 2020. Additionally, the scaling methods reduced the variation in adoption, reach, timescale and authenticity of implementation between units, previously identified as a challenge in large-scale PROMPT implementation projects. The authors feel this was driven by

a deliberate and structured scaling approach, with an implementation team providing longitudinal support, monitoring and networking for maternity units, accountability with national standards and sponsorship by Welsh Government. WRP continues to fund a smaller sustainability team and PROMPT Wales remains high on the national agenda; recognised in the Welsh Governments' 'Five year vision for the future' (2019–2024).

We recommend that future scaling projects should include funded time for implementation champions at sites. Additionally, comprehensive planning pre-implementation is crucial for efficient and effective scaling. This project has provided valuable insight into the organisational structures and processes required to



implement a complex intervention on a national scale in maternity, and lessons learnt could assist future scaling projects for complex interventions.

**Correction notice** This article has been corrected since it first published. The contributors statement has been updated.

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**Collaborators** Jonathan Webb Sarah Morris.

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