Training in priority assistive products: report from the first pilot

Bangalore, India, 27th February – 2nd March 2018

The **GATE** Initiative

Summary

The first pilot of the training in priority assistive products package (TAP) was carried out in Bangalore, India in partnership with Mobility India and the Bangalore Baptist Hospital's Community Health Division in collaboration with Motivation Australia, LV Prasad Eye Institute, and the University College London between the 27th February and the 2nd March 2018.

The scope of the pilot was to identify potential barriers and facilitators to the future implementation of TAP; gather feedback from representative TAP users to inform ongoing development of TAP; as well as to pilot the evaluation methodology for future TAP pilots.

This report aims to presents an overview of TAP and of the pilot, illustrate the key pilot findings, and highlights key recommendations going forward.

Background

Currently, more than one billion people worldwide need assistive products; a number projected to more than double by 2050 due to shifting demographic and health trends, including a rapidly ageing global population and a rise in noncommunicable diseases.

However, only 1 in 10 people worldwide have access to appropriate assistive products. High cost, lack of national policies and workforce shortages have been identified as some of the main reasons for such poor access [1].

WHO recognizes that trained personnel are essential for the proper assessment, fitting, user training, and follow-up of assistive products. Without these four key steps, assistive products are often of no benefit or abandoned, and may cause physical harm [1]. Many countries however face significant challenges in deploying a workforce to implement these four steps.

An estimated 400 million people worldwide lack access to quality health services, due to a range of health workforce constraints including: insufficient personnel, imbalanced mix of skills and competencies, and uneven geographical distribution of nurses, midwifes and doctors [2]. Health-related and rehabilitation professionals such as physiotherapists, audiologists, optometrists and speech and language therapists are almost non-existent in some countries, and are often a neglected component in national health policy human resource planning [3]. Furthermore, health and rehabilitation professionals working across the health system might only have skills to provide assistive products directly related to their area of practice. For example, physiotherapists may provide walking aids, but not hearing aids or reading glasses.

One of the most effective ways to tackle health workforce shortages is through task shifting, defined as "the delegation of tasks to existing or new cadres with either less training or narrowly tailored training" [4]. Task shifting enhances access to healthcare by increasing the workforce able to deliver a certain health intervention. It does not reduce or remove the role of traditional health professions, but frees them to focus on people who have more complex needs. Using the principles of task shifting, primary healthcare and other community-level workers are an incredibly important resource in delivering sustainable interventions to a widespread audience [5]. These front-line health care workers have often received general healthcare training and with additional training, could acquire the competencies needed for provision of basic assistive products.

To support effective provision of basic assistive products by primary healthcare and other community-level workforce, WHO's Global Cooperation on Assistive Technology (GATE) is developing TAP. TAP will be an open access training package and will be available via an e-learning platform. In a sector that is developing rapidly, the use of a digital platform has several advantages when compared to more traditional training approaches [6], including:

- Implementation of interactive learning in a cost-effective manner, thus extending the reach;

- The ready adaptability of the platform to meet the changing needs of learners;

- Ease of updating content as new information and best practice emerges;

- Opportunities for robust evaluation across implementation sites that are in different settings.

Introducing TAP

Training in Priority Assistive Products (TAP) aims to be a comprehensive package that provides and supports localised training for primary healthcare and other community-level workers. In conjunction with other GATE initiatives, the purpose of TAP is to increase effective community-level access to a range of basic assistive products for people living in a broad range of contexts.

TAP will facilitate task shifting to a broader workforce; building the skills and capacity of personnel to safely and effectively provide basic assistive products. TAP also has the potential for a paradigm shift in assistive products service provision, away from stand-alone services (for hearing, vision etc.) and towards a model of integrated assistive products service provision. This model has the potential to offer service delivery cost savings; and to be more person-centred by reduced appointments and less duplication.

Twenty-five products from the priority Assistive Product List (APL) [7] have been selected for inclusion in TAP, focusing on those with the greatest potential to be safely and effectively provided at community level. For each assistive product, an introductory module and a product-specific module will together cover key learning content to support the acquisition of skills to safely and effectively provide that product using a simple four step process. The figure on page 5 shows the overall structure of TAP modules.
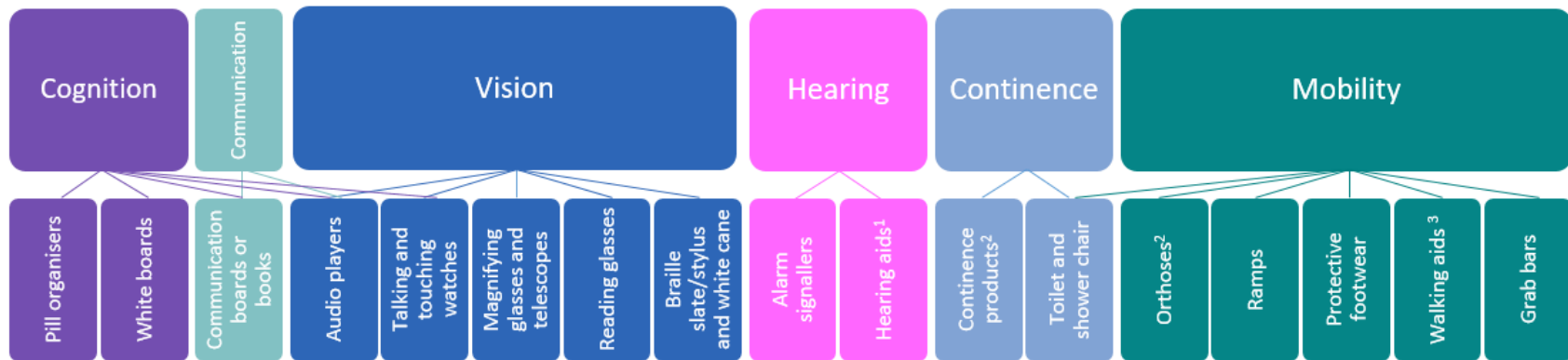
TAP pilot aims

The aims of this first TAP pilot were to evaluate:

- **TAP learning materials**: The first three TAP modules and first iteration of the e-learning platform were evaluated, in relation to: usability of the platform, appropriateness of the module content, and learners' engagement with the materials.

- **TAP knowledge into practice**: The effectiveness of each module in facilitating skills uptake was evaluated and key barriers and facilitators identified.

- **The acceptability of TAP**: Participant perspectives were gathered on the potential usefulness and relevance of TAP to their everyday work.

- **The feasibility of TAP**: The perceived feasibility of TAP was evaluated against: time and resources needed to undertake each module.

- **TAP pilot methodology**: This pilot was the first of a series planned in the development and validation of TAP. Therefore, the pilot methodology itself was evaluated including the evaluation methods and the pilot schedule.

Introduction to assistive technology

Cognition
- Pill organisers
- White boards

Communication
- Communication boards or books

Vision
- Audio players
- Talking and touching watches
- Magnifying glasses and telescopes
- Reading glasses
- Braille slate/stylus and white cane

Hearing
- Alarm signallers
- Hearing aids[1]

Continence
- Continence products[2]
- Toilet and shower chair

Mobility
- Orthoses[2]
- Ramps
- Protective footwear
- Walking aids [3]
- Grab bars

[1]Hearing aids include: pre-programmed, behind-the-ear hearing aids and personal sound amplifiers
[2]Specific products have not yet been selected
[3]Walking aids include: sticks, quadripods/tripods, elbow crutches, axillary crutches, walking frames and rollators

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Overview of the pilot

Three modules were tested during the first pilot: Introduction to Vision, Reading glasses and Walking aids.

Learners included 24 primary healthcare workers of different backgrounds recruited from Mobility India, the Bangalore Baptist Hospital and the State Government's primary healthcare service. Learners recruited from the three institutions included a balanced group of clinic and community-based healthcare workers, who were evenly distributed between urban and rural settings. Learners reported mixed levels of computer literacy, from frequent to rare desktop use, and most had no previous experience of assistive products' provision. Managers from Bangalore Baptist Hospital and Mobility India also participated to more comprehensively investigate the potential barriers and facilitators to the future implementation of TAP in community settings.

 Pilot activities were carried out across four days:

- **Day 1:** Both learners and managers took either the Walking aids module or the Introduction to vision and the Reading glasses modules. Learners completed a pre-and post-module quiz to test theoretical knowledge. At the end of the day, managers gave feedback on the modules, including their thoughts on potential barriers and facilitators for future implementation of TAP (via a focus group).

- **Day 2:** Learners were divided in small groups and carried out role play activities; to practise competencies including performing a vision screening; or walking aid assessment and selection.

- **Day 3 & 4:** Learners performed vision screening or assessment for provision of walking aids with real service users. All learners were assigned an overall competency score based on their performance. At the end of the 4th day, learners gave feedback on both the e-learning modules and the practical components of TAP pilot (via focus groups).

Six evaluators observed and supported learners throughout the pilot. Evaluators had collective expertise of assistive products service provision, evaluation methodology, primary healthcare, and delivery of training to community-level workforce.

Data collected throughout the pilot included: demographic and background information from learners and managers; pre-and post-module quiz scores; satisfaction and usability questionnaires; field notes compiled from evaluators, based on their observations; and transcripts from focus groups conducted with learners and managers.

A mixed-method approach, featuring both quantitative and qualitative methods, was used to perform a comprehensive analysis. Firstly, descriptive statistics and more specific tests were used to outline the characteristics of the group of learners, evaluate the effectiveness of TAP and identify patterns in field notes. Secondly a qualitative content analysis [8] was carried out on focus group transcripts and field notes to further explore issues of acceptability, feasibility and the appropriateness of the TAP pilot methodology.

Key findings and recommendations

TAP learning material

Objective 1: Assessing the usability of the TAP e-learning platform	
Findings	**Resulting recommendations**
• Over 60% of learners found the modules very easy to navigate. • Learners with no previous experience with e-learning and/or low computer literacy encountered only minor challenges in accessing TAP. • Learners and managers felt that language could represent a barrier to the future implementation of TAP.	The TAP platform and navigation through each module is intended to be highly intuitive and easily used by learners with limited formal learning experience and/or computer literacy. The TAP team will therefore continue to engage with a range of end-users throughout the development of TAP, to test and modify the platform against a high standard of usability. To further support learners, the next iteration of the platform will include: • A video tutorial demonstrating how to navigate the platform • As TAP modules are finalised, translation of the content will be explored.

Objective 2: Assessing the appropriateness of the module content	
Findings	**Resulting recommendations**
• Learners had difficulties understanding some of the terms used in the modules. • Learners found some of the pre- and post-module quiz questions difficult to understand. • Learners highlighted the need for printable forms to be as simple as possible (for example assessment or follow-up forms).	TAP is written using simple language, however some terms create challenges for non-native English speakers. To help overcome this, a short, illustrated glossary of key definitions will be developed for each module. Quiz questions will be further developed and tested with end-users, ensuring questions are written using simple language and are not context or culture specific. The TAP team will ensure all supporting forms are streamlined to include only the most essential information and prompts to support easy use.

Objective 3: Assessing learner engagement when interacting with the e-learning platform	
Findings	**Resulting recommendations**
• Learners described the modules as extremely engaging. • Learners reported that the short video tutorials on specific competencies helped them gain a better understanding and increased their confidence for practical sessions. • Learners identified the first introductory lesson of each module as the least engaging as information is delivered through text.	Continue to build on the positive response to how engaging the modules and e-learning platform are. Recognise the importance of strong engagement with the modules from the beginning. Introductory lessons will be reviewed; text-based components reduced and supplemented with visual and/or interactive components.

TAP knowledge into practice

Objective 1: Evaluating acquisition of practical skills	
Findings	**Resulting recommendations**
• Over 60% of learners acquired sufficient practical skills by the end of the pilot. • Evaluators noted that where desired skills were less complex and required less clinical reasoning, learners gained competency faster.	Skills practise: TAP will highlight and support the importance of clinical practice for the successful acquisition of new skills through: • Encouraging skill practice while taking modules, with practice activities embedded in modules • Encouraging managers of personnel accessing TAP modules to provide opportunities for role play and mentored practice with service users • Providing managers and/or trainers with simple tools to support and measure skills acquisition Managing complexity: TAP is designed to support provision of basic assistive products. However even 'basic' assistive products represent a range of complexity. To manage this complexity: • TAP will introduce a hierarchy of 'easy', 'medium' and 'difficult' modules reflecting the complexity in provision of specific assistive products. • TAP will work with experts in the field to develop, with the input of content specialists, the safest, least complex protocol for provision of each product; as well as identifying clear 'referral on' points for service users with more complex needs.

Objectives 2: Identifying the most common difficulties observed during practical activities

Findings	Resulting recommendations
• During the vision screening, participants had difficulties remembering some details of each test (distance, near and field of vision). For example, whether a test should be carried out with one eye or both. • During the provision of walking aids, participants had difficulties summarising information gathered during assessment and using this information to select the most appropriate walking aid (from a range of four options).	To assist learners to gain competency in step-by-step processes (such as vision screen tests), memory prompts will be built into TAP such as: • Visual and or text prompts within forms • Printable key point summaries To support summarising, analysing and using information to make decisions: • Stream-line and simplify decision processes through provision of clear guidelines and/or protocols; • Provide information prompts within tools used at key decision points, for example prescription guides embedded in assessment forms.

Acceptability of TAP

Objective 1: Assessing the perceived usefulness and relevance of TAP

Findings	Resulting recommendation
• **Learners and managers described TAP as a much-needed resource that could help them provide better care for their service users.** • **All learners and managers rated the content of the modules as relevant to their everyday work.**	The TAP team will continue to engage representative TAP users in development and testing, to ensure the modules and the platform are useful and relevant across a range of contexts.

Objective 2: Identifying additional factors that will affect the acceptability of TAP

Findings	Resulting recommendations
• **Learners and managers all stated that they would only take the e-learning modules if TAP was part of a training initiative within their workplace where they could receive support and guidance.**	High visibility of GATE and TAP will increase the likelihood that service managers support their workforce to use TAP and incorporate provision of assistive products into their roles. In addition, a 'mentor's corner' will be added to the e-learning platform, to provide specific tools, guidance and support for service managers and policy makers in making effective use of TAP.

Feasibility of TAP

Objective 1: Assessing feasibility of TAP in relation to the time needed to carry out training

Findings	Resulting recommendations
• Managers confirmed that the modular and self-directed structure of TAP reduces time-related barriers for learners; as the learner can access training at their convenience, over time.	Maintain the modular structure of TAP.

Objective 2: Assessing the feasibility of TAP in relation to the resources required

Findings	Resulting recommendations
• Managers did not consider the availability of laptops or desktop computers to be a barrier for learners. • Managers identified the importance of learners having access to mentors to practise and consolidate skills. They identified this as a barrier, noting that it may not always be possible to provide mentors.	It is recognised that ready access to laptops, desktop computers, tablets and phones varies from context to context; and may present a barrier in some locations. Recognising that access to mentors will vary in different locations, TAP will build support into the platform wherever possible, including: • Use of instructional videos that learners can replay as required to support skill acquisition • Activate an online 'discussion forum' before the next pilot, and test its efficacy as a remote mentoring support for learners As noted above, TAP will also include a 'mentor's corner' to support local mentors.

TAP pilot methodology

Objective 1: Evaluating the appropriateness of data collection methods used for the pilot

Findings	Resulting recommendations
Several data collection tools were tested during this pilot including focus group questions, learner questionnaires, a knowledge quiz and a 5-point competency scale. Evaluators were particularly interested in measuring acquisition of competencies; the effect on learner skill and confidence of skills practice and/or mentoring; and correlations between knowledge gained and skills competency. • The generic 5-point performance scale lacked specificity and was too subjective.	A competency checklist will be developed for each module, to replace the 5-point performance scale. This tool will be trialled at future pilots and will have long term potential as a useful tool for mentors. To increase reliability, evaluators at future pilots will receive training on use of the competency checklist.

Objective 2: Evaluating the appropriateness of the pilot schedule

Findings	Resulting recommendations
• Evaluators, learners and managers found the combination of theory (e-modules), role play and practice with service users an appropriate pilot approach. • Some learners reported that they found it difficult to complete the module/s in one sitting on day 1. • Some learners recommended using a 'real life' clinic or community setting for the practice sessions with service users.	Future pilots will: • Maintain the current combination of theory, role-play and practice with service users • Give learners time to take the modules before the pilot, at their own pace, which will mirror the planned application of TAP in the future • Seek opportunities to integrate practical sessions into real service settings.

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