Investigation of the adaptability, feasibility and utility of a Patient Encounter Tracking and Learning (PETAL) tool

Executive Summary

Aims and Objectives

The primary purpose of this project was to examine the adaptability, feasibility and utility of a PETAL tool* within Australian General Practice training contexts. A secondary purpose was to assess whether a PETAL tool is an acceptable and useful tool for GPs more generally to monitor and reflect on their practice. *NOTE: The PETAL tool being used in this project is GP Explore.

Method

Phase 1: Registrar and supervisor pilot and interviews- Registrars (n=8) and supervisors (n=7) were invited to enter consultation data into GP Explore, reflect on their data and participate in a semi-structured interview. Responses were thematically analysed and interrater agreement was reached by two independent coders.

Phase 2: GP Explore implementation- GP Explore was implemented for registrars at both GPEx and RVTS during semester 2 2020. At GPEx the activity was included as a part of the programmatic assessment framework for all GP based registrars (n=235). A nominated period was given for registrars to capture GP Explore data and complete a written reflection. At RVTS registrars were invited to opt in to complete the activity voluntarily (n=20). This provided two different training contexts, representing both onsite and remote supervision. Supervisors at GPEx were also offered access to GP Explore. Registrars who opted into this research needed to add a minimum of 60 consecutive consultations to GP Explore and complete a written reflection. The Table below shows the uptake of registrars in the different stages of the GP Explore activity.

	GPEx	RVTS
Total registrars offered GP Explore	235	20
Registrars who entered more than 60 records	179	12
% of registrars who entered more than 60 records	76%	60%
Number of written reflections completed	88	0
% of eligible registrars who completed a written reflection	49%	0%
% of total registrars who completed a written reflection	37%	0%

Upon completion of the written reflection, registrars were invited to share their written reflection with the Research Team for analysis and complete an online survey, which was developed with reference to the themes that emerged from the interviews in Phase 1.

The following data analysis was completed:

- ***Review of written reflections:*** To understand how registrars reflect using GP Explore, a content analysis was completed on all submitted reflections (n=51). A response rate of 49% was achieved. In addition, the REFLECT rubric was used to assess the quality of the written reflections (Aukes et al., 2007).
- ***Analysis of survey:*** Descriptive and inferential analyses were conducted on the survey data (n=31; a response rate of 35%).

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

Phase 3: Feasibility analysis and interviews: Interviews were conducted with key staff at GPEx (n=4) and RVTS (n=3) to examine the processes, resources investment, barriers and enablers associated with the implementation of GP Explore. Analytics were also captured from the GP Explore system to support the analysis.

Summary of Results

The Table below shows a summary of findings against each of the research questions.

Research Questions	Key findings

1. How feasible is the use of a PETAL tool within Australian General Practice Training for assessment?
a) How can a PETAL tool be adapted for use in a remote supervision context?
b) How acceptable is a PETAL tool for stakeholders across different contexts?
c) What are the costs of the implementation of a PETAL tool?
	• A PETAL tool can be feasibly implemented within a GP training context from a technical, economic, legal, operational and scheduling perspective.
	• It can be successfully adapted and implemented within a remote supervision context.
	• From a technical perspective a PETAL tool can be used for:
	  ○ Consultation data capture
	  ○ Access to automated reports and submission of written reflection
	• From an economic perspective a PETAL tool requires investment of time from the GP training organisation, registrars, practices and supervisors to support implementation and maintenance.
	• From a legal perspective a PETAL tool can comply with relevant standards and legislation.
	• From an operational and scheduling perspective a PETAL tool can be integrated with existing GP training processes and infrastructure, but requires a clear training and communication plan and a robust project management process.
	• A PETAL tool can be acceptable to registrars, supervisors and training organisations, and serves a number of purposes:
	  ○ Registrars find the tool useful to: compare their consultation profile with that of their peers and to identify gaps in practice/learning opportunities
	  ○ Supervisors can use a PETAL tool for educational purposes.
	  ○ GP training organisations perceive a PETAL tool as having benefit for registrar education, training organisation compliance, planning, decision-making and workload
	• The current PETAL tool, GP Explore, requires further development in regards to ease of use- particularly in respect to data entry and use in areas of poor internet coverage.

2. What role can a PETAL tool serve within an assessment portfolio for promoting and assessing reflective practice?	• A PETAL tool can be used by registrars to support experiential learning through:
	  ○ capturing data to inform reflection;
	  ○ promoting quality reflection;

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

Research Questions	Key findings
a) How do registrars use a PETAL tool to reflect on their practice? b) What aspects of practice do registrars use a PETAL tool to reflect on? c) How do the above change when supervisors also use a PETAL tool?	○ enabling identification of learning goals and actions from reflection; and ○ leading to intended action to progress learning goals identified • The novelty of the data may influence registrar engagement and actioning learning. • A central element of registrars' reflective process when using a PETAL tool is comparing their data with others' data. • Supervisor involvement can help registrars prioritise gaps and action learning opportunities. • Further training for supervisors in regards to their role in debriefing reflections on a PETAL tool is recommended to improve outcomes and improve efficiency of time invested. • The submission of a written reflection may be a useful activity for junior registrars who are developing awareness of the importance of and strategies for reflecting on consulting. • The written reflection process should be reviewed to take into consideration the changing needs of registrars across training.
3. How useful is a PETAL tool for General Practitioner reflection and planning professional development?	• A PETAL tool may be useful for supervisors as an educational tool, to to identify the gaps in their registrar's exposure and gain insight into their practising style. • Supervisors did not feel a PETAL tool would be useful to support their ongoing professional development.

Discussion

In response to the RACGP Workplace-based Assessment Framework report (GPEx, 2019) this project has demonstrated that a PETAL tool can be adapted and implemented across GP training environments. A number of learnings have been documented to enable the success of this process.

In addition, this project has provided evidence that a PETAL tool is used by registrars to support experiential learning (Kolb, 1984). This finding fills a gap in the literature and reinforces the utility of a PETAL tool as not just a method for documenting the diversity of registrar experience to satisfy requirements, but also as a tool which can promote reflective practice and learning. Comparison of data with others' data is a central element of the reflective process when using a PETAL tool.

While quality reflections could be produced using a PETAL tool, it is likely that data novelty influences engagement and actioning learning. While it seems there are benefits of the written reflection for some registrars regarding guiding and motivating their reflective thinking, such benefits are unlikely to be realised if a registrar does not perceive the data as novel. This raises the question of the value of registrars completing the same written PETAL reflections each semester. Training providers should consider the benefits of submission of a written reflection across all GP training terms and weigh this up against the time investment and overall assessment burden. It may be that registrars can continue to reflect on their consultation data throughout training and discuss their insights and learning strategies with supervisors without submitting a standardised written reflection every 6 months. The current model for submission of written reflections should be reviewed, taking into consideration the registrars, supervisors and training provider needs.

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

Supervisor discussion of PETAL results with registrars seems to help registrars prioritise gaps and action learning opportunities. However, it is recommended that there be further communication and training with registrars and supervisors to identify the benefit of this conversation. Likewise, additional efforts should be made to help maximise the efficiency of these conversations by focusing them on prioritisation of gaps and enabling learning strategies.

While a PETAL tool was perceived as a useful teaching tool for supervisors, it may not be a useful tool for a general practitioner to use to aid their own professional development. Interviewed supervisors felt that the benefit did not outweigh the investment.

Implications

Findings from this project support the notion of adapting and implementing PETAL tools to support experiential learning within GP training. Results also provide practical insights into essential elements to include in the project planning for this to occur. The project suggests that the involvement of supervisors within the reflective process is beneficial, but training is important to ensure their time can be used efficiently. The process for supporting registrar reflection should be further explored. The reflective process is useful when data is novel. The registrar's investment in developing a written reflection if the data is not novel is questioned- flexibility in the process is recommended.

Future Research

The current project indicates that it may be beneficial for registrars to discuss their PETAL results with their supervisor, if the data is novel. However, there was no statistically significant association observed. With improved supervisor training, further research into the role of the supervisor in supporting implementation of PETAL learning strategies is required. In addition, objective research into factors associated with actual implementation of learning strategies (not self-reported) and behaviour change would assist to identify the critical elements of the PETAL process.

References

Kolb, D.A. (1984). *Experiential learning: experience as the source of learning and development*.

Englewood Cliffs, NJ: Prentice Hall.

GPEx. (2019). *Workplace-Based Assessment Framework for General Practice Training and Education*.

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

Investigation of the adaptability, feasibility and utility of a Patient Encounter Tracking and Learning (PETAL) tool

Summary Report (April 2021)

Introduction

Reflective practice has long been identified as fundamental to high-quality medical practice (e.g. Boud, Keogh & Walker, 2013; Epstein, 1999; Bethune & Brown, 2007) and is seen as an essential component of effective learning (Kolb, 2014).

Experiential learning is a core element of GP training. Kolb's (1984) model of experiential learning outlines the theoretical stages which need to occur to prompt learning from experience. Kolb's (1984) experiential learning theory discusses a four-stage learning cycle:

- Experience: a new experience or situation presents to the learner.
- Reflection: the learner reflects to determine if there are inconsistencies between experience and understanding.
- Conceptualisation: the learner's reflection results in a conclusion about what learning can be taken from that experience (eg. learning goals).
- Experimentation: the learner applies their learning to the real world.

Learning occurs when a registrar progresses through each of these stages. Thus, to master skills across the RACGP curricula, trainees must experience, reflect on and learn from a broad range of consultations. RACGP standards require documentation of registrar consultation diversity, and evidence of reflective practice.

The RACGP WBA Framework report (GPEx, 2019), recommends all Regional Training Organisations (RTOs) provide a Patient Encounter Tracking and Learning (PETAL) tool so that registrars may regularly map and reflect on their breadth and depth of practice. The report showed that only four of nine RTOs/RVTS currently used PETAL tools. There may be potential to expand the use of PETAL tools to positively contribute to GP registrar training nationally however there was limited evidence of the adaptability, feasibility and utility of the tools.

Given the great diversity identified in general practice training across Australia (GPEx, 2019), we are cognisant of the importance of adapting tools to local contexts. However, based on our review of the

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

literature there were no published evaluations regarding the feasibility of implementing such tools across different general practice training contexts.

From those RTOs who used a PETAL tool, there was limited understanding about how useful these tools were to promote reflection and learning. This gap was also present in the broader literature. Such knowledge is essential to ensure PETAL tools can be used to promote reflection and learning. Additionally, research suggests that the involvement of supervisors in trainees' reflections may enhance the quality of the trainees' reflective practices (Mann, Gordon & MacLeod, 2009). With reference to the Kolb's (1984) model, while PETAL tools may help make registrars aware of gaps, they can only present registrars with data – they cannot provide interpretations of this data. Given the above evidence, the involvement of supervisors in registrars' reflections may help registrars improve the quality of their reflections by considering different hypotheses and implications, as well as encouraging reflection and helping registrars to hone their meta-reasoning skills.

Thus, the primary purpose of this RACGP Education Research Grant (ERG) project was to examine the feasibility, acceptability and utility of a Patient Encounter Tracking and Learning tool (PETAL tool*) within GP training organisations. The secondary purpose was to assess whether a PETAL tool is an acceptable and useful tool for GPs more generally to monitor and reflect on their practice. Within this context, the following three research questions were posed:

1. How feasible is the use of a PETAL tool within Australian General Practice Training for assessment?
    a. How can a PETAL tool be adapted for use in a remote supervision context?
    b. How acceptable is a PETAL tool for stakeholders across different contexts?
    c. What are the economic costs of the implementation of a PETAL tool?

2. What role can a PETAL tool serve within an assessment portfolio for promoting and assessing reflective practice?
    a. How do registrars use a PETAL tool to reflect on their practice?
    b. What aspects of practice do registrars use a PETAL tool to reflect on?
    c. How do the above change when supervisors also use a PETAL tool and compare their data with their registrars' data?

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

3. How useful is a PETAL tool for General Practitioner reflection and planning professional development?

This ERG was granted to GPEx to complete this project in partnership with Flinders University and Remote Vocational Training Scheme (RVTS) during 2020, with a project extension granted until end of April 2021 to enable a project pivot required in response to the disruption cause by the COVID 19 pandemic.

*NOTE: The PETAL tool being used in this project is GP Explore.

Method

To address the above research questions, the following research activities were undertaken:

- **Phase 1: Registrar and supervisor pilot and interviews**- Registrars (n=8) and supervisors (n=7) were invited to complete GP Explore (i.e. independent of assessment requirements), reflect on their data and participate in a semi-structured interview. Responses were thematically analysed and interrater agreement was reached by two independent coders.
- **Phase 2: GP Explore implementation**- GP Explore was implemented for registrars at both GPEx and RVTS during semester 2 2020. At GPEx the activity was included as a part of the programmatic assessment framework for all GP based registrars (n=235). A nominated period was given for registrars to capture GP Explore data and complete a written reflection. However, completion of GP Explore was not followed up as a mandatory assessment item. At RVTS registrars were invited to opt in to complete the activity voluntarily (n=20). This provided two different training contexts, representing both onsite and remote supervision. Supervisors at GPEx were also offered access to GP Explore. To participate in this research registrars needed to add a minimum of 60 consecutive consultations to GP Explore and complete a written reflection.

This research project is supported by The Royal Australian College of General Practitioners with funding from the Australian General Practice Training Program: An Australian Government initiative.

The Table below shows the uptake of registrars in the different stages of the GP Explore activity.

Table 1. Description of GP Explore participation (during nominated data collection period).

	GPEx	**RVTS**
Total registrars offered GP Explore	235	20
Registrars who entered more than 60 records	179	12
% of registrars who entered more than 60 records	76%	60%
Number of written reflections completed	88	0
% of eligible registrars who completed a written reflection	49%	0%
% of total registrars who completed a written reflection	37%	0%

Upon completion of the written reflection, registrars were invited to share their written reflection with the Research Team for analysis and complete an online survey, which was developed with reference to the themes that emerged from the interviews in Phase 1.

The following data analysis was completed:

- ***Review of written reflections:*** To understand how registrars reflect using GP Explore, a content analysis was completed on all submitted reflections (n=51). A response rate of 49% was achieved. In addition, the REFLECT rubric was used to assess the quality of the written reflections (Aukes et al., 2007).
- ***Analysis of survey:*** Descriptive and inferential analyses were conducted on the survey data (n=31; a response rate of 35%).

- **Phase 3: Feasibility analysis and interviews:** Interviews were conducted with key staff at GPEx (n=4) and RVTS (n=3) to examine the processes, resources investment, barriers and enablers associated with the implementation of GP Explore. Analytics were also captured from the GP Explore system to support the analysis.

  The table overleaf shows how each of the research questions were addressed by the research techniques.

Table 2. Overview of research questions mapped against data sources

	Research Question						
Data source	**How registrars use a PETAL tool to reflect**	**What registrars reflect on**	**Changes associated with supervisor involvement**	**Usefulness of a PETAL tool for practising GPs**	**How a PETAL tool can be adapted to a remote supervision context**	**Acceptability of a PETAL tool**	**Feasibility**
Pilot and interviews with registrars and supervisors	Y	Y	Y	Y		Y	Y
Registrar written reflections	Y	Y	Y		Y		
Registrar survey	Y		Y			Y	Y
Training organisation staff interviews / analytics	Y				Y	Y	Y

In order to answer each of the research questions results were triangulated across phases.

Summary of Findings

Table 3, overleaf, shows a summary of findings against each of the research questions. These are expanded on in the summary report following.

Table 3. Summary of key findings against research questions

Research Questions	Key findings

4. How feasible is the use of a PETAL tool within Australian General Practice Training for assessment?
d) How can a PETAL tool be adapted for use in a remote supervision context?
e) How acceptable is a PETAL tool for stakeholders across different contexts?
f) What are the costs of the implementation of a PETAL tool?
	• A PETAL tool can be feasibly implemented within the GP training context from a technical, economic, legal, operational and scheduling perspective.
	• It can be successfully adapted and implemented within a remote supervision context.
	• From a technical perspective a PETAL tool can be used for:
	  ○ Consultation data capture
	  ○ Access to automated reports and submission of written reflection
	• From an economic perspective a PETAL tool requires investment of time from the GP training organisation, registrars, practices and supervisors to support implementation and maintenance.
	• From a legal perspective a PETAL tool can comply with relevant standards and legislation.
	• From an operational and scheduling perspective a PETAL tool can be integrated with existing GP training processes and infrastructure, but requires a clear training and communication plan and a robust project management process.
	• A PETAL tool can be acceptable to registrars, supervisors and training organisations, and serves a number of purposes:
	  ○ Registrars find the tool useful to: compare their consultation profile with that of their peers and to identify gaps in practice/learning opportunities
	  ○ Supervisors can use a PETAL tool for educational purposes.
	  ○ GP training organisations perceive a PETAL tool as having benefit for registrar education, training organisation compliance, planning, decision-making and workload
	• The current PETAL tool, GP Explore, requires further development in regards to ease of use- particularly in respect to data entry and use in areas of poor internet coverage.

5. What role can a PETAL tool serve within an assessment portfolio for promoting and assessing reflective practice?
d) How do registrars use a PETAL tool to reflect on their practice?
e) What aspects of practice do registrars use a PETAL tool to reflect on?
f) How do the above change when supervisors also use a PETAL tool?
	• A PETAL tool can be used by registrars to support experiential learning through:
	  ○ capturing data to inform reflection;
	  ○ promoting quality reflection;
	  ○ enabling identification of learning goals and actions from reflection; and
	  ○ leading to intended action to progress learning goals identified
	• The novelty of the data may influence registrar engagement and actioning learning.
	• A central element of registrars' reflective process when using a PETAL tool is comparing their data with others' data.
	• Supervisor involvement can help registrars prioritise gaps and action learning opportunities.
	• Further training for supervisors in regards to their role in debriefing reflections on a PETAL tool is recommended to improve outcomes and improve efficiency of time invested.

Research Questions	Key findings
	• The submission of a written reflection may be a useful activity for junior registrars who are developing awareness of the importance of and strategies for reflecting on consulting. • The written reflection process should be reviewed to take into consideration the changing needs of registrars across training.
6. How useful is a PETAL tool for General Practitioner reflection and planning professional development?	• A PETAL tool may be useful for supervisors as an educational tool, to identify the gaps in their registrar's exposure and gain insight into their practising style. • Supervisors did not feel a PETAL tool would be useful to support their ongoing professional development.

1. Feasibility Evaluation- Summary and Discussion

Description of GP Explore Implementation Process

In order to implement GP Explore in both GPEx and RVTS, a Project Manager was appointed to oversee and co-ordinate the process. The GPEx Project Manager worked closely with the GPEx Systems Manager and a Medical Educator to ensure that the planning and implementation was feasible from a technical perspective, a medical education perspective and a project management perspective (ie. economic, legal, operational and scheduling).

Two working groups were established to oversee the planning and implementation process across each site. These groups included key staff representatives from each site who would be involved in the communication, training and administrative implementation of the tool. Working groups met regularly through the project in order to enable open communication and facilitate an ongoing flexible response to the ever changing environment we encountered during the COVID pandemic. The working groups identified the modifications that would be required to the existing GP Explore tool to enable implementation at RVTS and access for supervisors. Required technical modifications included creation of: a written reflection attached to the GP Explore tool (previously embedded in a GPEx mid semester report), an RVTS-specific user environment and reporting function, supervisor accounts and access options, and a modified automated communication tool. Other training and resources developed included: updated FAQs (Frequently Asked Questions) short information and training videos, train-the-trainer training for RVTS and a training webinar for supervisors.

Shared documents used to ensure a co-ordinated approach to roll out included: a communication and training plan, a detailed timeline and schedule of activities and associated communication and information templates. A communication plan was implemented across both sites to raise registrar, supervisor and medical educator awareness of the GP Explore tool, including provision of short information and training videos and online FAQs. An optional training webinar was held for supervisors and uploaded for later viewing.

At GPEx, GP Explore was implemented as a part of the programmatic assessment framework for all registrars in general practice (GP) placements. However, due to the COVID pandemic, which placed additional burden on practices and registrars, it was made an optional activity for Semester One. At RVTS, GP Explore was offered via an opt-in process, and not included as a part of the programmatic assessment framework. At GPEx, GP Explore was offered to supervisors as an opt-in process.

The TELOS feasibility model was used to support planning, implementation and feasibility evaluation of the project. The TELOS model is used in business to assess the feasibility of a new initiative (Taylor 2007). The TELOS model covers the following layers of enquiry:

- T - Technical - Is the project technically possible?
- E - Economic - Can the project be afforded?
- L - Legal - Is the project legal?
- O - Operational - How will the current operations support the change?
- S - Scheduling - Can the project be done in time?

This project also considered stakeholder acceptability. The results from the feasibility evaluation are presented under these headings.

Technical Feasibility

GP Explore was able to be technically modified and successfully piloted at both GPEx and RVTS within the agreed budget and timelines. The technical functions required from GP Explore were that:

- Consultation data could be entered into the tool
- Automated reporting of consultation data could be viewed to inform reflection
- Written reflections could be submitted

Evidence from the pilot and main data collection indicated that these key functions could be achieved through use of the tool, see Table 4.

Table 4. Data indicating that GP Explore intended tasks could be completed by users

Task supported by GP Explore	**Outcomes**
Entering consultation data into GP Explore	94% of registrars entered records into GP Explore during semester 2 2020. The number of records entered ranged from 1-1018 with an average of 136 (SD = 92). During the GPEx nominated data collection period (three weeks) 76% of registrars entered more than 60 consultations, which was the amount required to submit a written reflection.
Reviewing results and submitting a reflection	Eighty eight registrars submitted a written reflection (this represented 49% of eligible registrars).

In order to adapt the tool for implementation at an RVTS environment a technical update process was required. This was able to be rolled out to existing GPEx users simultaneously. It is important to note that, as continuous feedback and opportunities for improvement are noted that further technical updates would be required and this needs to be factored into resource investment and timelines.

Overall, GP Explore can support users to achieve the intended technical functions. However, uptake and acceptability of GP Explore was variable, which is discussed later under *stakeholder acceptability*.

Economic Feasibility

GP Explore was able to be adapted within the budget allocated for this education research grant. As a part of this project, a summary of the ongoing economic investment required to enable use of this tool across different environments was developed based on feasibility staff interviews and document analysis. Based on a review of the implementation of GP Explore at RVTS and the feasibility interviews, the project team documented the required resource investment for the ongoing use of a PETAL tool at RVTS (assuming n=30) and this is documented in Table 5.

Table 5. Ongoing resource investments for GP Explore implementation and maintenance.

Resource/role	Description
Project management time (time estimated = 30 hours) Project management time	Project manager time to enable: • Facilitation of the initial planning meeting and working group meetings • Development and co-ordination of the implementation plan • Facilitation of the communication plan* • Co-ordination of training and resource updates and implementation • Project troubleshooting* • Evaluation and reporting • Contracting and budget management For the initial roll out at a new site the following additional activities are required: • Adaptation of training and communication resources • Managing the pilot* • Managing initial training activities (including train the trainer)*
Technical management time (time estimated from this project= 26 hours)	Technical manager time to: • Participate in initial planning meeting and working group meetings • Complete user enrolment* • Complete automated communication set-up • Provide technical support and troubleshooting* • Manage updates to the tool as required. For the initial roll out at a new site the following additional activities are required: • Adaptation of training and communication resources • Technical support to the pilot* • Delivering initial training activities (including train the trainer)*
Medical Educator time (time estimated= 15 hours)	Medical educator time to: • Participate in the initial planning meeting and working group meetings • Support the communication plan • Facilitate training for new users * For the initial roll out at a new site the following additional activities are required: • Facilitating initial training activities
Local administrator time (time estimated= 15 hours)	A local administrator from the site in which GP Explore is being deployed to: • Participate in the initial planning meeting and working group meetings • Ensure implementation plan and communication plan fits the requirements of the local context • Local co-ordination of training and resource updates and implementation • Local project troubleshooting* For the initial roll out at a new site the following additional activities are required: • Adaptation of training and communication resources

Resource/role	Description
	• Managing the pilot* • Managing initial training activities (including train the trainer)*
Hosting cost	GP Explore is an online tool which requires hosting.

* Note: The actual time investment would vary for these items depending on the number of users.

In addition to GP training organisation staff time investment, the perceived time taken for stakeholders to complete the tasks associated with GP Explore was captured via the registrar survey and is shown in the Table below.

Table 6. Stakeholder time investment to complete GP Explore and written reflection (as reported by registrars).

Task	Time investment reported
Data entry	• 67% reported data entry took less than 1 minute per consultation. • 26% reported 1-2 minutes. • 7% reported it took longer than 2 minutes.
Written reflection	• 72% of registrars reported that the written reflection took less than 30 minutes. • 52% reporting it took less than 15 minutes.
Discussion with supervisor	• 75% of registrars reported it took less than 20 minutes to discuss GP Explore with their supervisor. • 100% of registrars reporting that it took less than 30 minutes.

This can be used to inform future resource planning and budgeting for future implementation.

Legal Feasibility

Feasibility interviews discussed the legal framework within which the tool and process was set up. Data privacy was a key consideration. The tool and process was developed in line with the Australian Privacy policy. It also considered the Royal Australian College of General Practitioners (RACGP) Practice Standards and the RACGP Guiding principles for managing requests for secondary use of de-identified data. All data entered into the tool is de-identified and a patient information process was implemented.

In addition, another primary purpose identified from the GP training organisation's perspective for the use of GP Explore was to meet the requirements set through both the RACGP and Australian College of Rural and Remote Medicine (ACRRM)

Standards for Training Organisations. Standards required evidence to be captured by the GP training organisation describing patient load and diversity (RACGP Training Provider Standards; Standard 1.1 / Outcome 1.1.2 / criterion 1.1.2.2, Standard 1.1 / Outcome 1.1.2 / criterion 1.1.2.3, Standard 2.2 / outcome 2.2.2 / criterion 2.2.2.2; ACRRM Training Organisation standards 4.1.1, 4.4.3; ACRRM Training Post Standards 8.5.1 and 8.5.3). GP Explore is able to capture and provide evidence of patient load and diversity.

Operational Feasibility

GP Explore used existing staff and infrastructure to facilitate roll out across both sites. It was able to be accessed through existing online learning platforms at both GPEx and RVTS. Short information and training videos and tailored FAQs were developed to increase efficiency of communication and training. While there was additional staff load required to adapt and implement the tool (as per the roles and responsibilities detailed in Table 5 above)- this was managed within the estimates of the project budget.

Feasibility interviews confirmed critical project management aspects associated with a successful roll out of the tool included:

- Organised, flexible approach to project management
- Clear timelines
- Documentation/templates provided (eg. FAQs, training material templates)
- Open communication within the project team and working group
- Inclusion of an initial pilot
- Availability and approachability of technical support personnel
- Responsiveness to feedback and a solution-focus

Clear communication for stakeholders and a systematic training plan was deemed to be essential for the uptake of GP Explore. A communication plan was used during the project which mapped out required messaging across all key stakeholder groups, including registrars, supervisors, practice managers, medical educators and GPEx and RVTS staff. Medical Educator champions were involved in training and communication. Short bite-sized videos were developed and disseminated to assist in the communication of what GP Explore was, why it was of benefit to registrars and supervisors and how to use it. In addition, a webinar was held and recorded for GP supervisors, facilitated by the GPEx SLO and Medical Educator

focussing on how supervisors could use GP Explore to maximise experiential learning in practice with their registrar. These resources would be recommended for future roll out.

Key risks associated with operational feasibility discussed in the feasibility interviews included the risk of limited uptake due to overloading the registrars with more activities (assessment burden) and the timing of the roll out within a COVID year resulting in low uptake. While the process and tool were designed to minimise the time investment, there was minimal control the team could have on the impact of the COVID pandemic.

Scheduling Feasibility

The timeline was able to be managed for roll out of GP Explore across both sites. The major impact on the timeline was the uncertainty and additional stakeholder burden created through the COVID pandemic. Flexibility and adaptability were key to overcoming this barrier.

Stakeholder Acceptability

GP Training Organisations

Stakeholder feasibility interviews with staff discussed a range of perceived benefits associated with the use of GP Explore, which are detailed in Table 7. The staff saw benefits for registrar education, organisational planning, decision-making and compliance and workload.

Table 7. Benefits of GP Explore identified from the training organisation perspective (feasibility interviews)

Benefit type	**Benefits identified**
Education	• Registrars, Supervisors and Medical Educators have access to data on consultation practices, knowledge/skills gaps, time management skills etc to inform reflection and tailoring training. • Perceived to help registrars develop their reflective skills
Training organisation planning, decision-making and compliance	• Produces data to support training organisation accreditation standards • Data can inform training organisation processes such as practice feedback, accreditation and placement • Provides information for tailoring registrar training

Training organisation workload	• Automated reporting enables timely training organisation use of data while reducing burden on staff (who do not need to synthesise individualised data for each registrar and training post) • GP Explore was an existing tested tool which could be adapted to meet local needs

Registrars and Supervisors

Stakeholder acceptability was investigated through exploring users' uptake and satisfaction.

At GPEx in semester 2 2020, 76% of registrars completed the data entry component of GP Explore, with 60% of RVTS registrars who opted to undertake GP Explore doing so. While we are unable to measure how many informally reflected on their own results without providing a written reflection, 49% of GPEx registrars did submit a written reflection. The tables below show the uptake of GP Explore by GPEx and RVTS registrars. Supervisors did not choose to use GP Explore to capture and reflect on their own data during the pandemic.

Table 8. GP Explore uptake - GPEx registrars (semester 2 2020)

	N	%
Total registrars asked to complete GP Explore	235	100%
Entered more than 60 consultations during nominated data collection period	179	76%
Number of written reflections completed by eligible registrars*	88	49%

Table 9. GP Explore uptake - RVTS registrars (semester 2 2020)

	N	%
Total registrars asked to complete GP Explore- RVTS	**20**	**100%**
Entered more than 60 consultations during nominated data collection period	12	60%
Number of written reflections completed*	0	0%

*To complete a written reflection registrars must enter data for a minimum of 60 consecutive consultations.

While uptake of the GP Explore data collection and submission of a written reflection was higher at GPEx, it should be noted that the tool was implemented differently across the two sites. At GPEx it was implemented as a part of the existing

formative assessment framework, and had previously been an assessment completed by registrars and supervisors. At RVTS it was implemented for the first time as an opt-in activity.

Within the pandemic, this was considered a high rate of registrar uptake for use of the GP Explore tool to capture consultation data. Submission of a written reflection using the GP Explore tool had a lower rate of uptake, particularly at RVTS, where no written reflections were submitted. Feasibility interviews with RVTS staff suggested that, despite most RVTS registrars not submitting a written reflection, they did report reviewing and reflecting on their reports to identify gaps. Potential reasons for this are explored in the next section.

User satisfaction with the GP Explore tool, from a registrar perspective, was moderate (61% agreed that GP Explore was a useful activity). There was stronger agreement that GP Explore performed its intended functions including:

- Develops a report that is representative of the registrar's typical practice (75%)
- Enabling registrars to compare consultation profile with that of their peers (72%), and
- Identifies gaps in registrars practice/learning opportunities (72%)

This aligns with the main themes identified within registrars' interviews regarding what they aimed to achieve by using GP Explore (e.g. identifying gaps in practice, comparing their profile with their peers'). In the registrar interviews, participants noted that the reporting function was particularly useful and made the process worthwhile.

The GP training organisation perception that GP Explore may help registrars develop their reflective skills did not align with data collected from registrars in the survey. Notably, survey respondents demonstrated a high level of habitual reflective skills (according to scores on the Groningen Reflection Ability Scale), and only 32% of participants agreed that GP Explore had helped them to develop their reflective skills.

Only 44% of registrars agreed that GP Explore was easy to use. Feedback from the survey and interviews primarily focussed on the time invested in selecting the correct diagnosis code, and the slowness of internet in some sites impacting on the time taken for data entry. Both of these issues are logged for exploration and improvement with future iterations of the tool.

Supervisors who were interviewed commented on the benefits of GP Explore as an educational tool to assist supervisors to support registrars. They saw it as a unique assessment that enabled them to better understand registrar patient mix, provide insight into registrar's consulting style at a broad level and identify opportunities for education and skill development.

Summary of Feasibility Evaluation

Overall, a PETAL tool can be feasibly implemented within a GP training context from a technical, economic, legal, operational and scheduling perspective. From a technical perspective, a PETAL tool can be used for: consultation data capture, access to automated reports and submission of written reflection. However, there is room for improvement in regards to the usability of the GP Explore PETAL tool; particularly associated with simplified entry of diagnosis codes and exploration of strategies to reduce time taken to enter consultation data.

From an economic perspective, a PETAL tool requires investment of time from the GP training organisation, registrars, practices and supervisors to support implementation. Investment of time for registrars and supervisors to use the tool varied and further technical development and training may enable a reduction in time invested. In addition, the lower compliance in submission of written reflections should be further explored in regards to the benefit of the written reflection activity (discussed in the next section).

From a legal perspective, a PETAL tool can comply with relevant standards and legislation. From an operational and scheduling perspective, implementing a PETAL tool within a GP training context can integrate with existing processes and infrastructure, but requires a clear training and communication plan and a robust project management process.

A PETAL tool can be acceptable to registrars, supervisors and GP training organisations, and serves a number of purposes.

- Training organisations perceive a PETAL tool as having benefit for registrar education, training organisation compliance, planning, decision-making and workload.
- Supervisors can use a PETAL tool for educational purposes.
- Registrars find the tool useful to compare their consultation profile with that of their peers and to identify gaps in practice/learning opportunities.

Lower uptake of the written reflection was noted as a limitation. Perceived benefits and opportunities for the written

reflection will be further explored in the following section - *Role of PETAL tools within the assessment portfolio.*

2. Role of PETAL tools within the assessment portfolio- Summary and Discussion

This project showed that a PETAL tool can be used within an assessment portfolio to promote reflective practice. The evidence from this project indicates that registrars were able to demonstrate each stage of experiential learning, as described by Kolb (1984). Kolb's (1984) experiential learning theory discusses a four-stage learning cycle:

- Experience: a new experience or situation presents to the learner.
- Reflection: the learner reflects to determine if there are inconsistencies between experience and understanding.
- Conceptualisation: the learner's reflection results in a conclusion about what learning can be taken from that experience (eg. learning goals).
- Experimentation: the learner applies their learning to the real world.

Learning occurs when a person progresses through each of these stages. In line with Kolb's learning cycle, results from the current project supported that registrars could: capture their consulting experience, reflect on that experience, generate learning goals/actions and implement these actions. Table 9 summarises how evidence from the current project mapped against each stage of Kolb's (1984) learning cycle. The evidence supports the notion that a PETAL tool can be used to foster reflective practice and experiential learning, however, there are some conditions that seem to impact on the usefulness of a PETAL tool for this purpose. This is expanded upon in the discussion below.

Table 10. Data supporting the ability of a PETAL tool to support each stage of Kolb's learning cycle.

Stage of Kolb's learning cycle	Evidence from current project
Experience	The PETAL tool was seen by the majority of respondents to capture realistic data, aligned with a registrar's consulting experience.
Reflection	Registrars were able to produce a quality reflection based on their PETAL data.
Conceptualisation	The PETAL tool was able to prompt identification of gaps and learning opportunities and documented actions.
Experimentation	A PETAL tool can lead to actioning learning goals or opportunities identified.

Experience

The PETAL tool supported the first element of Kolb's learning cycle (experience), by capturing and visually reporting a registrar's aggregated consultation experience. Most (75%, N = 38) registrars who submitted a reflection to this project endorsed the representativeness of their GP Explore report. Indeed, considering that this research was completed in the middle of the COVID pandemic and that the resultant changes in presentation patterns likely would have skewed the GP Explore data, this provides support for the contention that a PETAL tool can provide realistic experiential data for the majority of registrars.

Reflection

The PETAL tool was able to prompt reflection on experience, in line with Kolb's second learning stage (reflection). While we have no data on how many registrars informally reflected on their PETAL data, 88/179 (49%) submitted written reflections.[1] Interviews with registrars also highlighted that the PETAL tool prompted reflection on clinical practice that may not have otherwise occurred.

"...it certainly got me to do something that I wouldn't otherwise have done, which is reflected on my clinical practice." (registrar)

[1] In the context of the increased burden placed on registrars and practices by the COVID pandemic in 2020 the GP Explore reflection was not mandatory.

"...[it] just makes you more cognisant of these things [patient diversity] ... and therefore ... I think makes me more naturally reflective of those thing ... because I have thought about it from ... using GP Explore." (registrar)

" Well, I suppose it's good to have it formalised ... to make sure that you do reflect on it properly because there might be a tendency in some people to just kind of have a brief cursory look at the graphs and go 'that's nice' and then move on, so it actually makes you think about it a bit more deeply." (registrar)

Using a PETAL tool, registrars reflected on their clinical practice (primarily patient demographics and conditions seen), and were typically aware of how their own personal characteristics may influence their consulting experience. They made sense of their data through comparing it against their cohort's data or by consulting with others (e.g. supervisors, other doctors in the practice) about their presentation diversity. Comparison seems to be a fundamental part of the PETAL reflective process with 80% of registrars mentioning this in their written reflection; 73% compared their data with peers, 41% made a comparison with colleagues and 10% compared their current data with that of a previous placement. Registrars also reported via the survey that they felt that peer comparison was useful to inform their reflection and interpretation of the data (74%). Interviews showed that one of the goals registrars had for using a PETAL tool was to see how their data compared with their peers.

"...it was great to have the benchmarks of my colleagues to see the areas that, compared to my colleagues, what am I seeing and what... is my practice looking like? Because... I haven't had the opportunity to debrief with other registrars at my level. So, to know what other people have seen and doing, is really, really good when you're an individual practitioner." (registrar)

Because GP registrars within the same training term are distributed across different general practices, they do not always have easy access to peer comparison. Consequently, they do not know whether their profile is 'normal' or if they aren't seeing the patient diversity they could be seeing. This is particularly the case for junior trainees. Thus, this opportunity for peer comparison is paramount.

It follows that incorporating a mechanism for making comparisons into a PETAL tool is fundamental to its success. The PETAL tool used within this project had peer comparison built into the automated reporting. However, it did not provide an easy function for registrars to compare their current profile with their profile in previous placements,

which could be considered in future tool development. In addition, while comparisons with other colleagues were discussed by 41% of respondents, this kind of comparison would require an understanding of what consulting profiles other colleagues within the practice had, which would likely require a conversation with the supervisor. This is discussed more broadly below- *Supervisor involvement with a PETAL tool*.

Assessment of the submitted reflections indicated that registrars could produce a quality reflection by using a PETAL tool. The highest quality reflection within this project scored 17 – out of a possible 18 – points on the REFLECT rubric (Wald et al, 2012), the tool which was used to assess the quality of written reflections. REFLECT scores indicated a variable range in quality across the reflections submitted. Scores ranged from 1-17, with an average of 7.67 and a standard deviation of 4.81 (N = 49).

The total REFLECT scores were influenced by the overall poor performance on the empathy sub-scale[2]. It is plausible that this subscale is of minimal relevance to a reflection on aggregated consultation data as compared with a reflection on an individual clinical case, which may provoke a more emotional response. Accordingly, it may be useful to tailor the REFLECT rubric if it were used in the future to assess reflection quality based on aggregated experiential data.

The variation in reflection quality could not be accounted for statistically by registrars' perceptions of the PETAL tool (i.e. satisfaction with data representativeness, ease of use, usefulness) or registrar training level. It is pondered whether the novelty of the data being reflected on may impact on quality of reflection. Kolb's learning model posits that the experience being reflected on must be new or novel in order to trigger useful reflection and learning. Themes from the registrar interviews supported this notion. Interviewees believed that, for a reflection to be useful, there needs to be something new to reflect upon and that the degree of novelty influences their engagement with the reflective activity and their likelihood of actioning any learnings. The survey also indicated that 75% of registrars who had not, and did not, plan on discussing their results with their supervisor identified lack of data novelty as a reason. A related consideration is the observation from the interviews that registrars may become more conscious of their patient breadth, depth and consulting practices as they progress through their training. Accordingly, junior registrars may be less aware of such matters and so the information provided by a PETAL tool would be more novel to them compared to senior registrars.

[2] Referred to as 'Attending to Emotions' in the REFLECT Rubric

While it seems there are potential benefits of the written reflection for some registrars regarding guidance of, and motivation for, their reflective thinking, such benefits may not be apparent to registrars if the data is not perceived to be yielding novel information. In addition, our survey data suggested that registrars already have quite high habitual reflective tendencies, with no statistical difference between junior and senior registrars. Thus, it is likely that once registrars are aware of the importance of, and strategies for, reflecting on patient, breadth, depth and consulting during their junior registrar training, that they can begin to habitually reflect and action gaps as they arise. This raises the question of the value of registrars completing the same written PETAL reflections each semester. GP training organisations should consider the benefits of submission of a written reflection across all GP training terms and weigh this up against the time investment and overall assessment burden. It may be that registrars can continue to reflect on their consultation data throughout training and discuss their insights and learning strategies with supervisors without submitting a standardised written reflection every 6 months. It may be that learning strategies identified through PETAL reflection could be integrated in registrars' learning plans. The current model for submission of written reflections should be reviewed take into consideration the registrars, supervisors and training organisation's needs.

Conceptualisation

The PETAL tool was able to prompt identification of gaps and learning opportunities, as well as prompt consideration of proposed actions, in line with Kolb's third learning stage (conceptualisation). From the survey data, 73% respondents reported the PETAL tool was useful to identify gaps and learning opportunities. Interview data supported this, with registrars reporting a key aim of theirs for the PETAL tool was to identify gaps in their exposure to specific conditions in order to target their learning.

From the analysis of the written reflections, 90% of registrars documented proposed actions that they would take in response to the reflection. The most common code for proposed action was engaging in individualised learning (61% e.g. reviewing guidelines). Interviews and survey data suggested that supervisor involvement could help registrars identify more gaps in the data and learning opportunities. Supervisors spoke in the interviews about how they drew on their teaching and consulting experience to assist registrars to make sense of the data and reflect on their results.

Experimentation

A PETAL tool can lead to actioning learning goals or opportunities identified, in line with the fourth stage of Kolb's learning cycle (experimentation). However, it seems that there were some barriers between proposing actions within

the written reflection and being able to, or motivated to implement these actions. Despite 90% of reflections containing documented 'proposed' actions, from the survey we found that only 41% of registrars reported that they had already implemented, or planned to implement, the actions identified in their reflection.

The survey found that 69% of registrars who did neither made, nor planned to make, any changes cited "lack of data novelty" as the main reason. This aligns with the discussion earlier in regards to the importance of data novelty to make reflection valuable and learning possible.

The other key reason cited for not making changes was that registrars believed the issues identified were outside of their control (31%). This was also a theme observed in the interviews:

"... even knowing the data can't necessarily change your experience - for example, like seeing more Indigenous patients…at the moment, isn't necessarily ...very feasible." (registrar)

While an essential part of learning is putting our learning into practice, if something is perceived as outside of one's control, it will not be actioned. Potential actions identified from PETAL reflections, including broadening patient exposure within the practice (55%) and incorporating a learning gap into supervisor teaching (12%), may be perceived as outside of a registrar's control and would require discussion and enabling from the supervisor and practice.

Supervisor involvement with a PETAL tool

During interviews, supervisors and registrars discussed the benefits of a registrar having a conversation with their supervisor in relation to their PETAL results and reflection. Table 11 summarises the ways in which these stakeholder groups believed that supervisors could contribute to the PETAL experiential learning process.

Table 11. Stakeholder perspectives about supervisor contributions to PETAL reflection (interviews).

Learning stage	**Potential supervisor contribution to the PETAL experiential learning process**	**Supervisor discussed contribution**	**Registrar discussed contribution**
Reflection	Supervisor assists to consider how registrar data compares with established GPs, including the supervisor.	✓	
Conceptualisation	Supervisors assists to identify gaps in exposure.	✓	
Experimentation	Supervisor provides perspective on whether gaps identified are important and deserving of interventions.	✓	✓
	Supervisor assists registrar to implement learning strategies.	✓	✓

Supervisors identified benefits associated with them being involved in the reflection and conceptualisation process through offering comparison with other GPs and themselves, and assisting with identification of gaps. Interestingly, while registrars in the interviews did not discuss benefits of supervisor involvement in the reflection and conceptualisation stages, 41% of registrars within their written reflections discussed comparing their PETAL data with consulting profiles of other colleagues. This kind of comparison would require an understanding of what consulting profiles other colleagues, which would likely require a conversation with the supervisor. However, in the current dataset, supervisor involvement is not statistically associated with reflection quality or content.

Both registrars and supervisors saw benefits in supervisors being involved in the experimentation stage of experiential learning, with the supervisor assisting to provide perspective on whether the gaps identified needed an intervention and also in assisting registrars to implement interventions. This was supported in the survey, where 25% of respondents who had discussed their PETAL data with their supervisor reporting that this had helped them to put learning strategies into place. Survey data also showed that the majority of registrars who reported they did not plan to make changes based on their reflection had not discussed their reflection with their supervisor (69%).

Registrars also indicated through the survey data that a PETAL tool provided a useful process to raise concerns about their consultation profile with their supervisor (30%). This aligned with the finding from previous ERG research that explored workplace-based assessments (GPEx, 2019), which found that registrars wanted more opportunities to be empowered to open up discussions with supervisors about learning gaps. This indicates that having the tool available to registrars to facilitate discussions with supervisors may be useful.

Overall, the proportion of registrars who reported discussing PETAL results and reflection with their supervisors was only 39% despite the potential benefits described through the interviews and indicated through the data. We understand from the survey that some barriers to the discussion from the registrar point of view included: their data did not provide them with any new information or learning opportunities, they felt that their supervisor could not add any further value to their own reflection or, they wanted to prioritise their teaching time with their supervisor for other activities.

The importance of data novelty has been discussed above as a pre-requisite for a learning opportunity. It follows that if data is not perceived as novel, discussion with the supervisor is not useful. It may be that if written reflections are only required for junior registrars, that senior registrars should still be encouraged to reflect on their data and, if data is novel and learning opportunities emerge, these should be documented in their learning plan for discussion with their supervisor where appropriate.

The prioritisation of the other activities over the discussion of PETAL results or the perception that the supervisor did not add additional value are also important to consider. Registrars only have limited time available for in-practice teaching. Therefore, activities need to be time-efficient, and perceived as relevant, to enable prioritisation. Data collected in this project indicated that the conversation with the supervisor in regards to PETAL results and reflection ranged from less than 10 minutes in duration to up to 30 minutes in duration. It may be that the time invested could be reduced by focusing the conversation. The supervisor discussion may be most valuable if it is focused on assisting the registrars to prioritise gaps for action and develop and implement learning strategies. It is also suggested that improved supervisor training and communication regarding their role within the PETAL reflective process and the suggested focus for the discussion would be beneficial. In addition, the benefits of discussing novel PETAL data and reflections with supervisors should be better communicated to registrars.

Summary of the role of PETAL tools within the assessment portfolio

Overall, this project indicates that a PETAL tool can be used by registrars to support experiential learning according to Kolb's model through:

- capturing data to inform reflection (experience)
- promoting quality reflection (reflection)
- enabling identification of learning goals and actions from reflection (conceptualisation)
- leading to intended action to progress learning goals identified (experimentation)

Comparison of data with others' data is a central element of the reflective process when using a PETAL tool. Registrars are already able to compare their data directly with their peers by using the PETAL tool used within this project (GP Explore). However, registrars also spoke about comparing their data with previous placements and other GPs. Mechanisms to facilitate these comparisons should be considered.

While quality reflections could be produced using a PETAL tool, it is likely that data novelty influences engagement and actioning learning. While it seems there are benefits of the written reflection for some registrars regarding guiding and motivating their reflective thinking, such benefits are unlikely to be realised if a registrar does not perceive the data as novel. This raises the question of the value of registrars completing the same written PETAL reflections each semester. GP training organisations should consider the benefits of submission of a written reflection across all GP training terms and weigh this up against the time investment and overall assessment burden. It may be that registrars can continue to reflect on their consultation data throughout training and discuss their insights and learning strategies with supervisors without submitting a standardised written reflection every 6 months. The current model for submission of written reflections should be reviewed take into consideration the registrars, supervisors and GP training organisation needs.

Supervisor discussion of PETAL results with registrars seems to help registrars prioritise gaps and action learning opportunities. However, it is recommended that there be further communication and training with registrars and supervisors to identify the benefit of this conversation. Likewise, additional efforts should be made to help maximise the efficiency of these conversations by focusing them on prioritisation of gaps and enabling learning strategies.

Finally the REFLECT empathy sub-scale resulted in lower ratings and it is pondered whether this is less relevant to a PETAL reflection which assesses aggregated consultation data. It may be useful to tailor the REFLECT rubric if it were used in the future to assess reflection quality based on aggregated experiential data.

3. PETAL tools for General Practitioner reflection and planning professional development

While a PETAL tool was perceived as a useful teaching tool for supervisors, it may not be a useful tool for a GP to use to aid their own professional development. Interviewed supervisors felt that the benefit did not outweigh the investment. They reported no surprises in the PETAL data reports. Indeed, they were comfortable with their consulting style and felt they already had established a patient profiles and areas of specialty that they were aware of without needing to capture additional data.

While seven supervisors used the tool in the pilot, the uptake of the tool by supervisors during the main roll out was limited (n=4) and no reflections or surveys were submitted. While the COVID pandemic is likely to have impacted this, it is considered from both the interviews and the lack of uptake of the tool that PETAL may have limited value to GPs. It should continue to be available to supervisors to use as a teaching tool and to generate a point of comparison for their registrars if desired.

Limitations

While the participation in the survey and submission of the written reflection for research purposes was low for this research, it can be argued that when we study an educational intervention we expect that there will be an effect or impact at the individual level (n=1). Therefore, the sample size was deemed satisfactory to describe the acceptability, and how a PETAL tool is used within an assessment framework. Additionally, to mitigate the low response rates for each arm of this research, data from qualitative interviews, GP Explore analytics, and analysis of written reflections and surveys were triangulated to draw more robust insights. Nevertheless, the low response rate does potentially threaten the generalisability of these results and, as such, these findings should be interpreted cautiously.

Limitations associated with this research included:

- Studies were conducted during a pandemic, which may further bias the types of individuals who participated. On the one hand, it is likely that only those who were *exceptionally* eager to participate in this research did so rather than those who were 'just' eager because of the extra demands they faced. Alternatively, those who became less busy as a result of the pandemic would have had extra time in which they could have participated. Both of these factors would have skewed the results.
- A further implication of conducting these studies in the pandemic was that participants' views may have been skewed by a higher workload and a highly dynamic situation (e.g. viewing GP Explore more negatively because they lacked additional time to engage)
- The quality of the written reflection was assessed within this project as a proxy for reflection quality. It is acknowledged that this is an imperfect proxy.
- We are basing our observations on registrars' self-reported behaviours (such as discussing their results with their supervisor and auctioning learning goals). This may not align with actual behaviour.

It is also important to acknowledge that within this project we are assuming that GP Explore is an example of a PETAL tool and that findings can be applied more broadly to other similar tools.

Future Research

The current project indicates it may be beneficial for registrars to discuss their PETAL results with their supervisor, if the data is novel. However, there was no statistically significant association observed. With improved supervisor training, further research into the role of the supervisor in supporting implementation of PETAL learning strategies is required. In addition, objective research into factors associated with actual implementation of learning strategies (not self-reported) and behaviour change would assist to identify the critical elements of the PETAL process. Finally, further research into the use of the REFLECT scale on aggregated consultation data and the usefulness of the empathy scale is warranted.

Practical Recommendations

- A PETAL tool is feasible for use within a GP training context and can be adapted across different environments if:
    - time invested by staff, registrars, supervisors and practice managers is considered and acknowledged; and
    - a clear training and communication plan and a robust, flexible project management process is used.
- Data regarding staff roles and responsibilities and stakeholder time investment from this project should be used to inform resource planning and budgeting for future implementation.
- To increase the value of a PETAL tool, GP training organisations should consider using it not only as an educational tool, but also to inform practice feedback, accreditation and placement.
- PETAL data should be captured and reflected on (if novel) across training.
- Submission of a standard written reflection based on PETAL data should not be mandated across training. The current model for submission of written reflections should be reviewed take into consideration the registrars, supervisors and GP training organisation needs.
- Learning strategies identified through PETAL reflection could be integrated in registrars' learning plans.
- Supervisors should receive communication and training to increase the efficiency and effectiveness of their involvement in the PETAL reflective process.
- Registrars should receive communication regarding the benefit of discussion with the supervisor and suggested focus of this discussion.
- PETAL tools should be available to supervisors to access registrar results and capture their own data for comparison (if they choose). However, the tool should not be mandated for GPs to inform their own professional development.
- Further development of GP Explore – the PETAL tool used within this project – is required to enable simpler data entry and better access across areas of poor internet coverage.

Acknowledgement

It is acknowledged that this project was completed at the same time as a world-wide pandemic which had, and continues to have, significant impact on the General Practice community within Australia. The project

team would like to thank the registrars, supervisors, practice managers and training organisation staff who supported this project and participated in this research during this stressful time. A special note of thanks to those RVTS remote, solo registrars who participated in GP Explore. The uptake of the GP Explore tool and the research participation, within this context, was to be commended. We would like to thank the project Steering Group and Working Group who shared their wisdom and showed flexibility, and empathy in assisting to pivot the project to enable a successful outcome within the constraints of the pandemic. We would like to thank both RVTS and GPEx for their support of the project and the project teams.

References

Aukes LC, Geertsma J, Cohen-Schotanus J, Zwierstra RP, Slaets JPJ. (2007). The development of a scale to measure personal reflection in medical practice and education. *Medical Teacher*. 2007;29(2-3):177-82.

Bethune C, Brown JB. (2007). Residents' use of case-based reflection exercises. *Canadian family physician* Medecin de famille canadien. 53(3):471-6, 0.

Boud D, Keogh R, Walker D. (2013). Reflection: *Turning experience into learning*. Routledge.

Epstein RMJJ. (1999). Mindful practice. *JAMA*, 282(9):833-9. 3.

GPEx. (2019). *Workplace-Based Assessment Framework for General Practice Training and Education*.

Kolb, DA (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kolb DA (2014). E*xperiential learning: Experience as the source of learning and development:* FT press.

Mann K, Gordon J, MacLeod A. (2009). Reflection and reflective practice in health professions education: a systematic review. Advances in health sciences education. 2009;14(4):595.

Taylor J. (2007). In praise of the feasibility study*. Journal of Clinical Nursing*, 16: 1789–91.

Wald HS, Borkan JM, Taylor JS, Anthony D, Reis SP. (2012). Fostering and evaluating reflective capacity in medical education: developing the REFLECT rubric for assessing reflective writing. *Academic Medicine*. 2012 Jan 1;87 (1):41-50.