

# Transforming Medicine Education with e-learning

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## Background

Patient understanding of medicines is critical to ensure their safe and effective use. Royal Melbourne Hospital (RMH) patient experience survey results highlighted provision of information regarding side effects of medicines as an area for improvement. A literature review identified most patients want information on side effects<sup>1</sup> but this is poorly retained.<sup>2,3</sup> Research has demonstrated interactive computer-based education can be as, or more, effective than conventional information, can promote knowledge gains and in some cases reduce symptoms and hospitalisations.<sup>4</sup>

## Description

To address the issues identified, and engage and empower patients, four innovative, interactive e-learning modules were developed to educate patients on warfarin and common medicines prescribed post myocardial infarction, renal transplant and stroke (Figure 1).

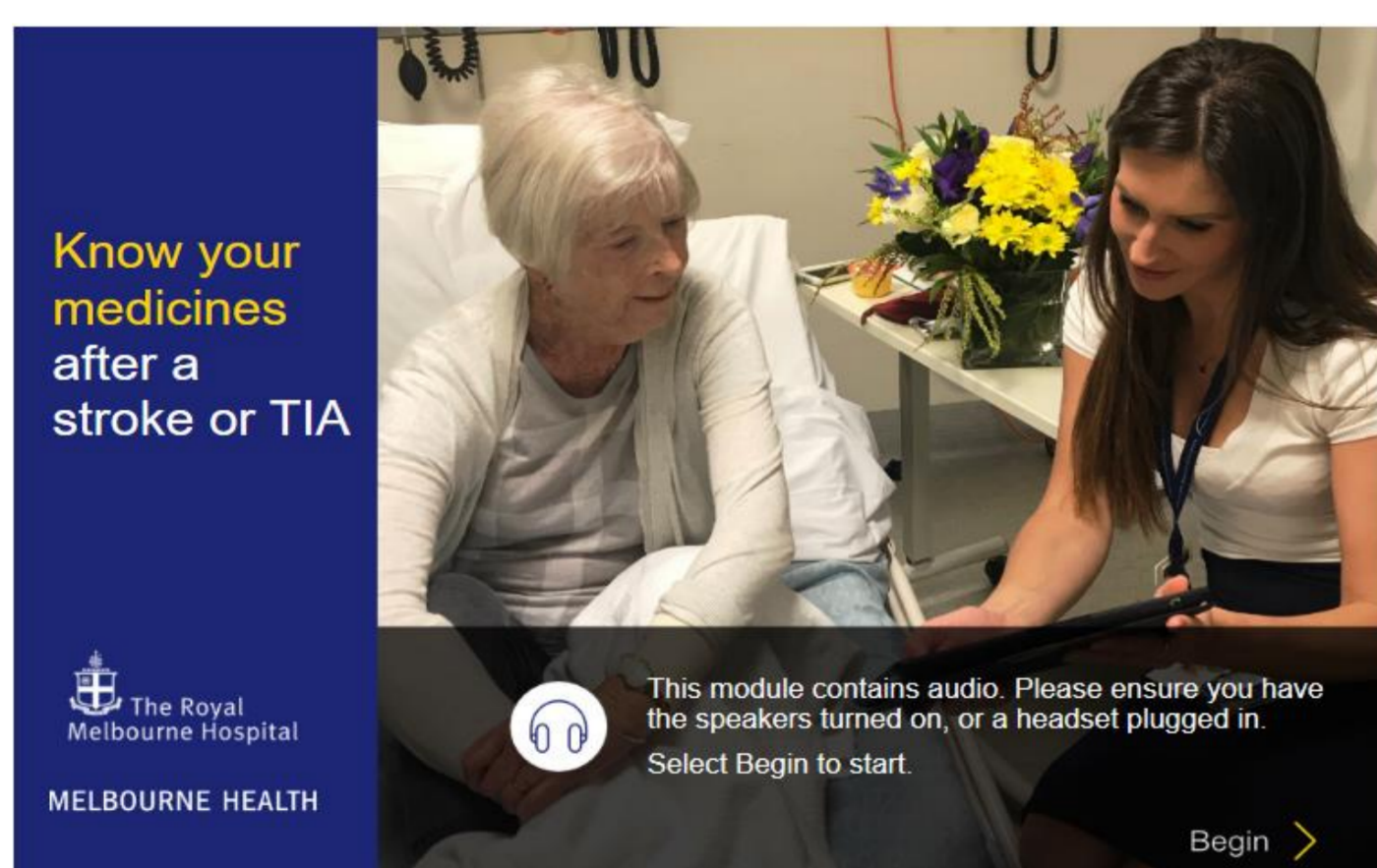
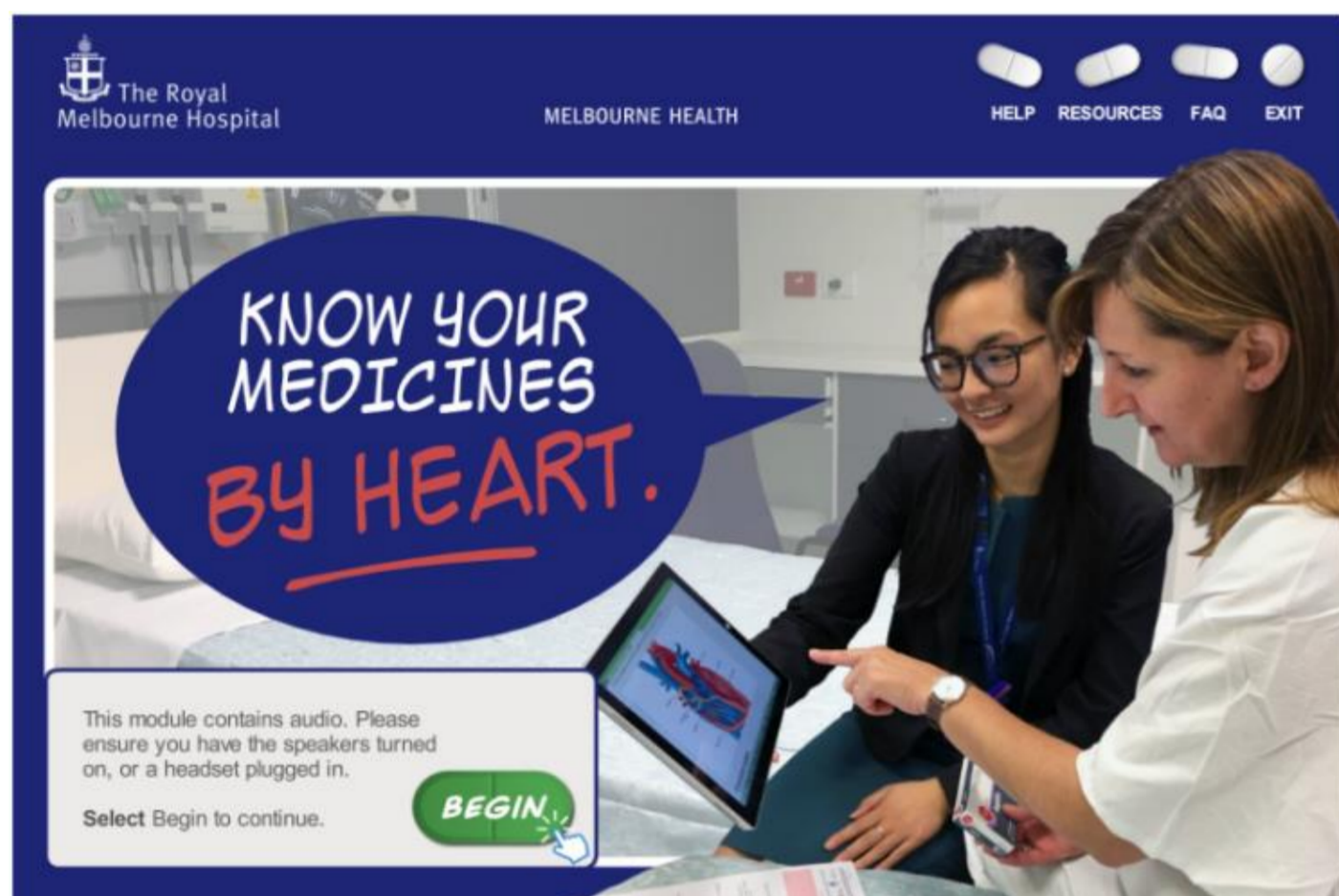


Figure 1 – Title screens of three of the e-learning modules

The modules contain text, audio, activities, learning checks (Figure 2) and animations (Figure 3). Information includes how and why to take medicines, side effects and medicine management tips (Figure 4).



Figure 2 – Screen capture showing activity and learning check from Renal Transplant module

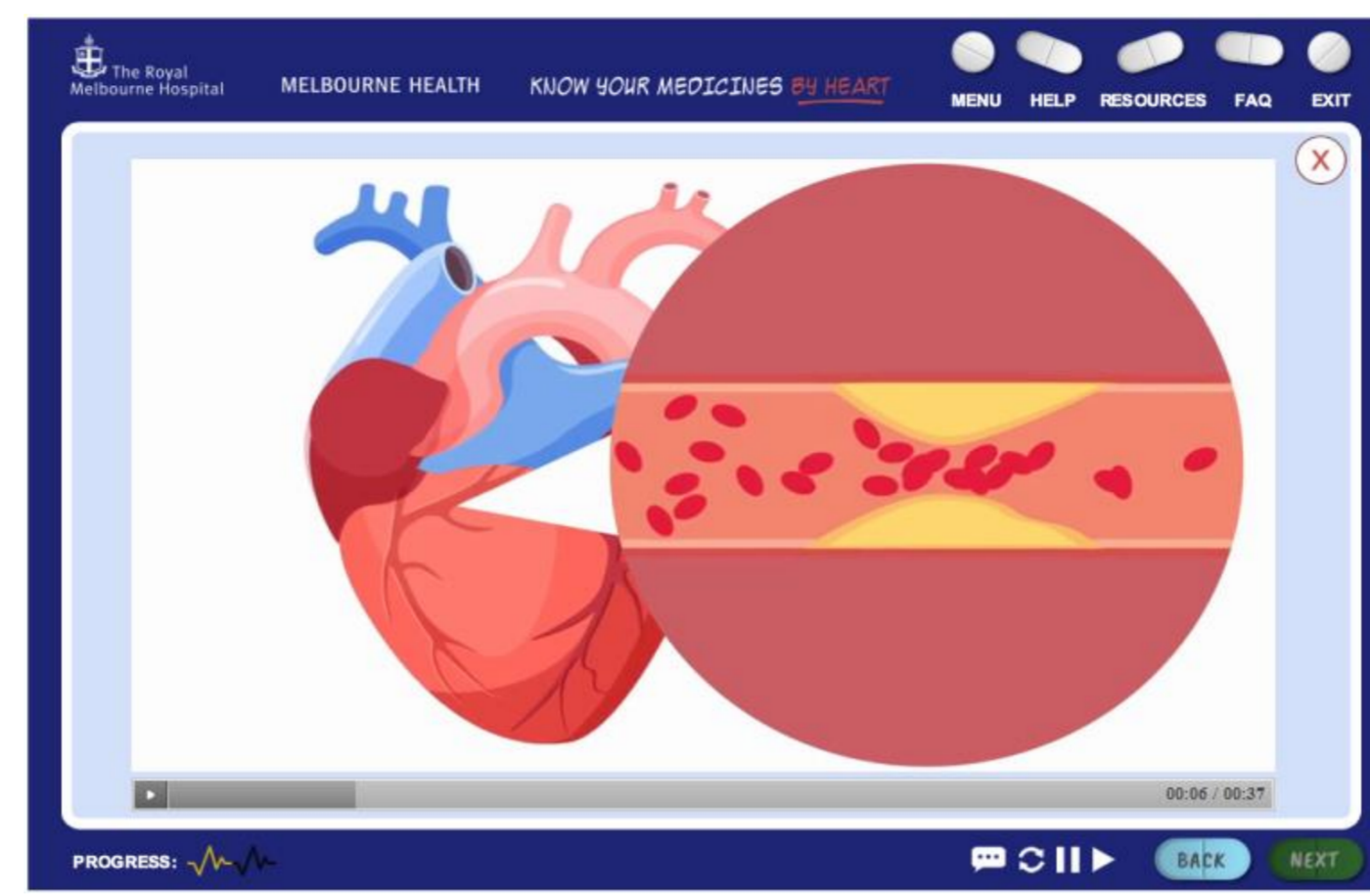


Figure 3 – Screen captures of animation from Heart module



Figure 4 – Screen capture of Stroke module showing medicine management tips

Once registered by a clinician, patients have unlimited access to modules, for use in hospital and at home.

## Action

For each module, a pharmacy project officer identified and engaged subject matter experts and coordinated development (Figure 5). Health literacy principles were applied, and consumer review obtained throughout development.

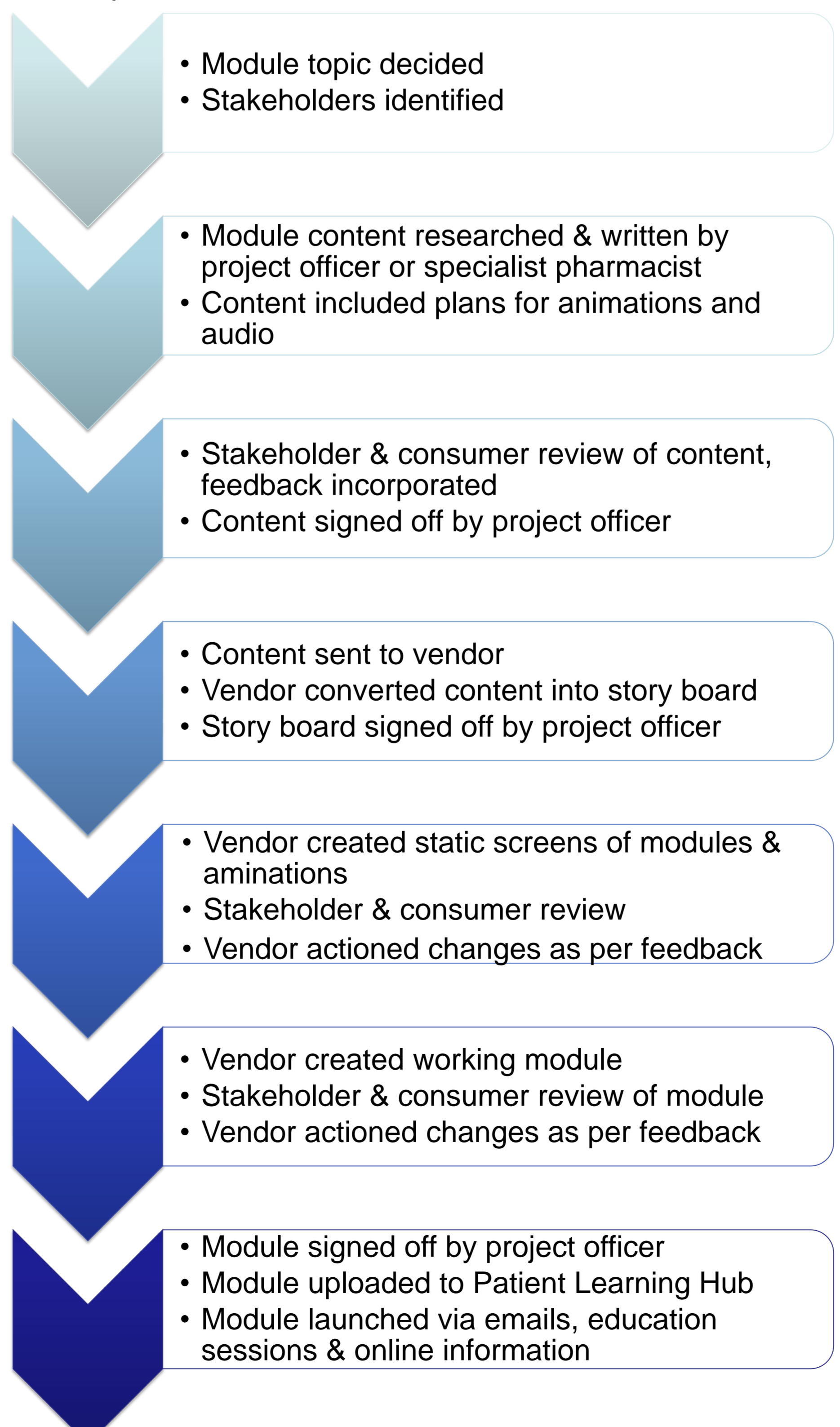
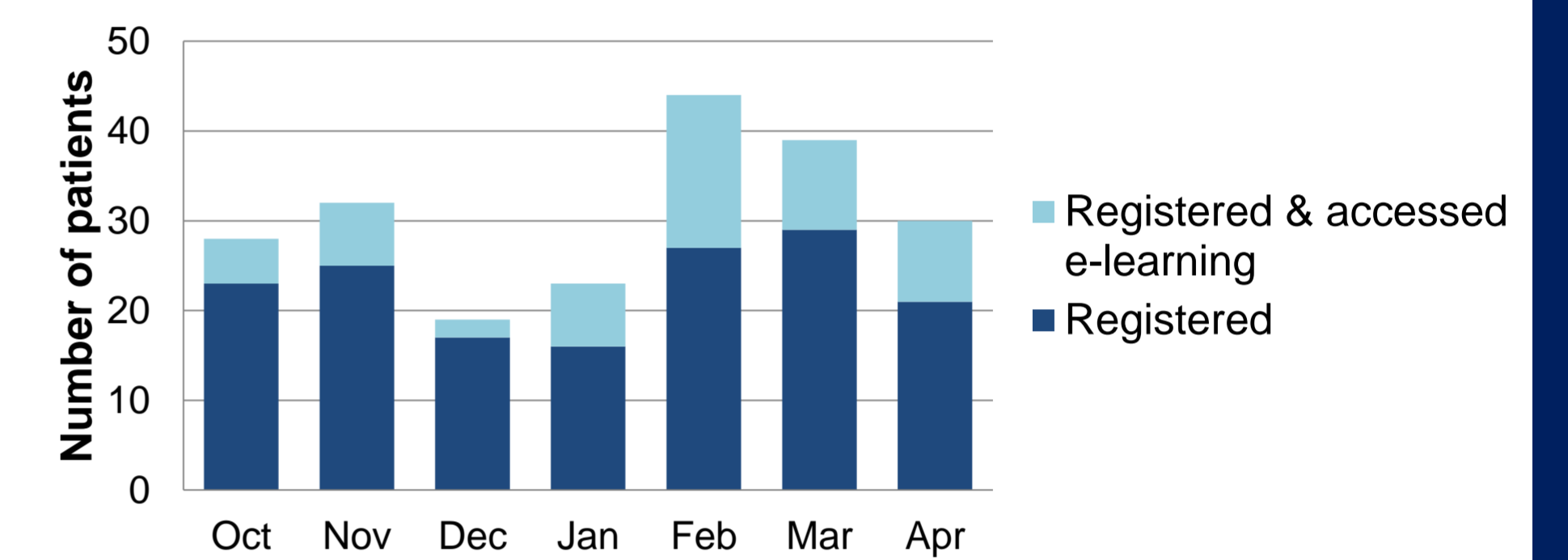


Figure 5 – Steps involved in e-learning module development

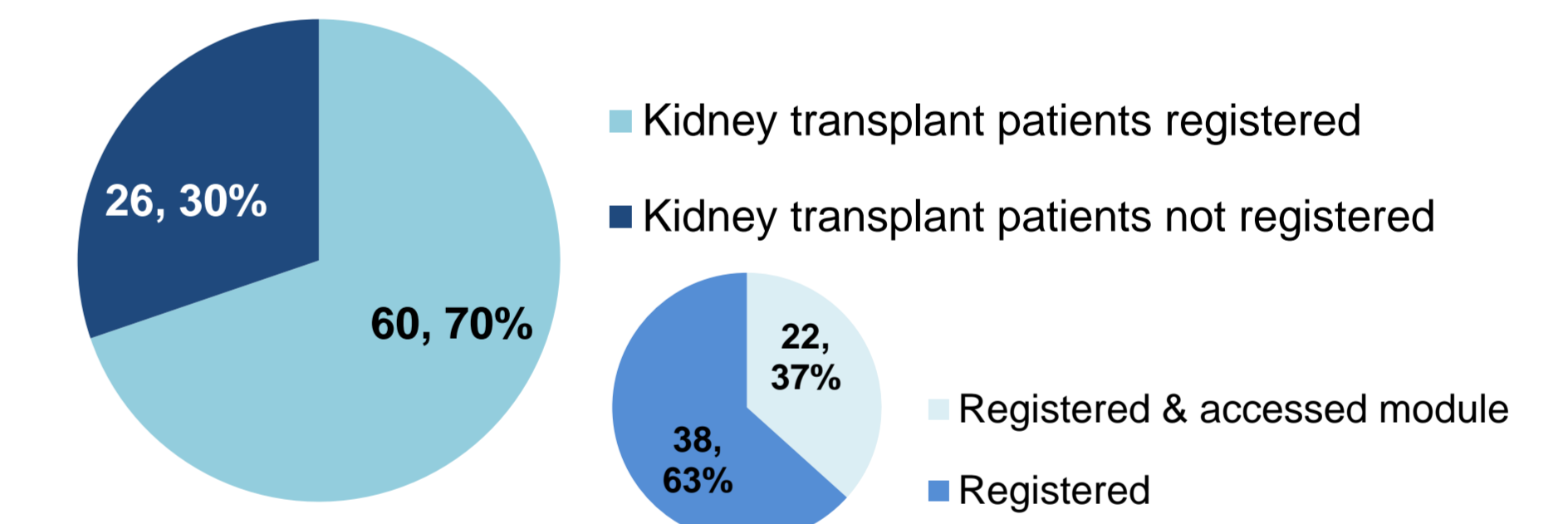
## Evaluation

Over seven months, 158 patients were registered with 36% (57) accessing modules (Graph 1). Despite clinician efforts to register patients, the proportion of registered patients who accessed and used the modules was considerably less. Contributing factors identified included WiFi connectivity issues, access to devices, and clinicians' perception providing access takes too much time. Addressing these factors continues to be an ongoing focus, aiming to maximise patient access following registration.



Graph 1 – Registration and access to e-learning modules (October 2018 to April 2019)

For the Renal Transplant module, 60 patients were registered between October 2018 and April 2019, representing 70% of renal transplants conducted during that period. This high registration rate is likely due to clinicians registering patients pre-transplant and promotion by the Outpatient Renal Transplant Pharmacist. Again, despite an excellent registration rate only 37% (22) of patients accessed the modules.



Graph 2 – Renal transplant patient registration and access to e-learning modules (October 2018 to April 2019)

Feedback received via the Patient Learning Hub indicates that modules are easy to use and improve understanding.

## Implications

These modules address the challenges of meeting patient's changing preferences for medicines information, and retention of knowledge, by providing online access to engaging, accurate, applicable and relevant medicine education.

There is potential for further module development and to expand to other applications, such as telehealth and the electronic medical record's Patient Portal. This may improve patient access following registration.

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