Abstract—An innovative and sustainable approach to clinical e-learning is described. The approach is based on a national federation to provide funding, clinical and educational expertise, IT solutions and program oversight; to develop, curate and champion a resource with multiple courses for healthcare professionals. The approach has resulted in formal recognition by nearly all Australian healthcare organizations and a high course completion rate by individuals. Crucially, the approach has succeeded in increasing learner motivation to complete the course and delivered unexpected benefits in process and cost efficiency.

Index Terms—collaboration, e-learning, federated governance, quality

I. INTRODUCTION

In Australia, the health care industry is faced with the challenge of timely and cost-effective delivery of clinical education to a large, disparate and time-poor workforce. Whilst studies have found e-learning is as effective as face-to-face education [1], it is still a challenge to develop and maintain evidence-based content underpinned by quality design, which meets the needs of multiple jurisdictions, at low cost. BloodSafe eLearning Australia (BEA) has met this challenge. Through a federated model of governance, BEA has been able to deliver a comprehensive online education resource under budget, at no cost to end users, designed to improve clinical transfusion practice and patient blood management knowledge to improve patient outcomes.

Blood is freely donated in Australia; however, the cost of producing fresh blood products in Australia in 2012/2013 was in excess of $500 million [2]. Studies have shown significant variation between countries, between hospitals in the same country and even between individual clinicians within the same hospitals in the use of blood transfusion in identical patient groups [3]. Education has been widely used as a strategy to reduce this variation however States and Territories in Australia had implemented different initiatives to address local education needs. With the adoption of BEA as a national eLearning resource for the management of blood and blood products, all jurisdictions have benefited from effective delivery of consistent key messages and quality learning aligned to the Patient Blood Management Guidelines and the National Safety and Quality Health Service (NSQHS) standards to help inform a change in practice.

To date, BEA has developed and delivered 14 courses that are self-paced, following adult learning principles supporting different learning pathways, containing multimedia to provide a flexible, authentic learning experience. Participants can engage with content via a range of meaningful activities including videos with expert clinicians discussing or demonstrating current best practice, text and images with links to useful guidelines, tools and references (Figure 1). The courses include opportunities for the learner to apply and test their knowledge by completing activities and clinical-based scenarios. All courses include randomized, multiple choice questions as a formal assessment which the learner needs to pass in order to obtain a certificate.

The first course was launched in 2007 and by June 2015, BEA had over 310,000 registered with an average of 14,600 course completions per month. With a number of organizations mandating courses in order to meet NSQHS Standard 7—Blood and Blood Products.

II. THE FEDERATED MODEL

Whilst BEA has a focus on quality content and educational design there is an additional aspect that supports all program activities, the culture of collaboration and value is supported by the federated governance of the program.
and the course content, which in turn has increased the by-
in of jurisdictions and individual motivation to complete the
courses.

In 2009, all States and Territories in Australia agreed to
provide funding via the National Blood Authority and to
collaborate and develop what started as a South Australian
state initiative into a national solution. This attitude of
national collaboration to produce a joint resource pervades
all key activities of BEA – funding, oversight, content
development and evaluation. They provide funding and
strategy and advice, via the National Blood
Authority. The aims of the BEA program are aligned to
the strategic objectives of the National Blood Authority.
This is crucial to BEA’s continuing success.

Communication and collaboration ensures a national
focus is maintained to prevent gaps and overlaps in
knowledge and other educational resources. Links to other
education resources are contained in BEA courses and
similarly BEA is referenced in other national and local
resources. Agreement to national priorities helps coordinate
efficient use of clinical experts and focus limited
education budgets within organizations. Individual learn-
ers are provided with a clearer learning pathway and pro-
fessional colleges are provided with clearer options for
endorsement for continuing professional development.

Clear lines of responsibility exist between the core pro-
gram team and other parties (Figure 2). Clinical and edu-
cational design expertise is provided by the core program
team including a lead Medical writer and editor. These
parties are based across two Australian states but meet
regularly (online and face to face). The BEA team identi-
fies key learning aims and outcomes for individual cour-
ses through current research and needs analysis involving
healthcare professionals from different specialties across
the country.

The core team has developed a wide professional net-
work of clinical experts across Australia (and New Zea-
land) who contribute to content by:

- Providing examples of best practice
- Appearing in video demonstrations within a course
- Reviewing content for clinical correctness, level of
detail and relevance to local work practices
- Providing images, tools and case studies for inclusion
  in the course

In nearly all instances expert clinical contribution is
free of charge – a demonstration of goodwill due to the
respect and trust engendered from the federal model of
collaboration. BEA is seen as a national resource and
therefore there is a strong desire to retain and build on the
value of the resource.

BEA releases at least one new course and conducts a ma-
jor review of an existing course every year. All other
courses are continually reviewed and updated to ensure
content is current. Course updates are reviewed by the
clinical experts prior to release. A national advisory body
(voluntary) meets regularly with the core BEA team to
identify and discuss course and system enhancements as
well as initiatives which help promote BEA to the target
audience. Key partners (such as the Australian Red Cross
Blood Service) and state patient blood management col-
laboratives promote BEA and share local resources for
inclusion in the courses where relevant, and at no cost to
the program.

Involvement from individual learners is encouraged
through a voluntary feedback survey at the end of each
course completion. The survey requires answers to stan-
ard questions however there is also an opportunity to pro-
vide additional comments such as examples of where they
could apply their learning. Survey response rates are
approximately 1% of course completions and the majority
take the opportunity to provide additional comments and
positive feedback. Data collected over the past 12 months
includes 90% believe (agree or strongly agree) the infor-
mation in the course will improve their knowledge; 63%
will change their clinical practice (agree or strongly
agree); 86% (agree or strongly agree) state it will help
them to identify near misses and prevent adverse events;
and 89% (agree or strongly agree) that it will improve
patient outcomes/safety.

III. CONCLUSION

To develop and maintain an educational resource in a
sustainable manner and retain the integrity of the educa-
tional quality requires additional inputs over and above
funding and technical expertise. For an e-learning package
to be readily adopted by time poor health professionals,
they need to be confident that it is evidence based, current
and relevant to their practice. The federated approach to
the governance of courses adopted by BEA provides au-
thenticity, relevance, increased impact and a level of re-
spect from all. It has encouraged engagement by jurisdic-
tions and their clinical experts from across Australia
which in turn has resulted in the courses being highly
valued by organizations and individuals. Through collabor-
iation by all states and territories, and feedback provided
by individual learners, Australia has successfully pro-
duced a coordinated, quality educational resource under-
pinned by the Patient Blood Management guidelines,
under budget and at lower cost than individual efforts
would have achieved. Through the engagement of the
jurisdictions and the high value placed on this resource,
funding has been provided to enable these resources to be
made available to healthcare professionals at no cost.
IELA AWARD WINNING PROJECT
FEDERATED GOVERNANCE: A SUCCESSFUL MODEL FOR E-LEARNING

REFERENCES


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