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Translational Simulation for Advance Care Planning: Exploring and improving everyday work systems

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Translational Simulation for Advance Care Planning: Exploring and improving everyday work systems

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Abstract

Background: Advance care planning (ACP) supports healthcare decisions aligned with patients' values and preferences, but complex documentation workflows can compromise the accessibility of this information. Translational simulation (TS) offers a means of exploring and improving such systems, although translating conceptual frameworks into practical activities can be challenging. This paper illustrates the application of Brazil and Reedy's Purpose, Process and Conceptual Foundations framework (1) alongside Nickson et al.'s Input–Process–Output model (2) to guide a diagnostic simulation addressing ACP document handling.

Methods: This retrospective quality improvement case study describes a two-hour, case-based simulation involving seven administrative and governance staff within a tertiary healthcare organisation. Four scenarios explored ACP document handling across organisational workflows. Structured observation, systems-focused debriefing and failure mode analysis identified vulnerabilities and informed recommendations to an End of Life Working Group responsible for implementing improvements. Organisational performance was evaluated using routinely collected metrics.

Results: The simulation identified five categories of system vulnerabilities, including inconsistent workflows, unclear responsibilities and risks of document duplication or omission. Ten recommendations and two sub-recommendations informed subsequent improvements to administrative procedures, staff education and information systems. Following implementation within a broader quality improvement programme, ACP documents received increased by 253%, from 362 to 1,276 between consecutive

financial years. Document views increased by 32% and recorded ACP interventions also by 32%. These outcomes cannot be attributed independently to simulation.

Conclusions: This case illustrates how complementary TS frameworks can be operationalised to guide simulation practitioners from problem identification to actionable systems insights. It demonstrates how low-resource diagnostic simulation, integrated within organisational quality improvement structures, can contribute to measurable healthcare improvement while distinguishing simulation-generated insights from the implementation activities required to achieve change.

Keywords: translational simulation; simulation; advance care planning; end of life; documentation handling.

Introduction:

Translational simulation's potential to directly target *'health service priorities and patient outcomes'*(1) is enticing, but transitioning from theoretical concepts to project work can be challenging for newcomers to the field. As translational simulation (TS) evolves, it draws on several guiding frameworks and concepts. Brazil and Reedy's emphasis on TS's 'Purpose, Process and Conceptual Foundations' highlights the importance of articulating a clear purpose, identifying optimal processes for simulation-based testing, and harnessing the existing wisdom of other fields of knowledge (1). Nickson et al's 'Input, Process, Output' (IPO) model provides a pragmatic structure to guide faculty working from problem identification, through simulation design and delivery to identifying actionable outcomes. (2).

In the authors' experience, concrete examples are essential to translate these concepts into actionable approaches for everyday improvement work. Within the literature there are published examples, however they often focus on procedural competency (3,4), facility testing (5,6) or complex resuscitation processes (2,7). TS can and should be applied to address seemingly routine but operationally important processes, such as administrative and documentation workflows. Examples that demonstrate how the conceptual frameworks are applied to complex yet routine healthcare processes to design practical simulation activities that inform broader organisation improvement may help to bridge the gap between theoretical concepts and practice.

This article provides a retrospective description of a diagnostic TS activity exploring handling and processing of Advance Care Planning (ACP) documents within a tertiary organisation. Collaborating with an organisational End of Life (EoL) working group, we designed and facilitated a case-based simulation activity that replicated the handling of ACP documents through various hospital departments and workflow processes. The findings from this activity informed interventions that the working group used to guide improvements to procedures, information systems and staff education and awareness. Following the improvement interventions, the organisation recorded a 253% increase in ACP documents received by the Office of Advanced Care Planning (a statewide independent body responsible for registration, management and accessibility of ACP documents) in the subsequent financial year.

In this article we demonstrate how the work of Brazil and Reedy (1) and Nickson et al (2) can guide faculty through the TS process; from identifying a problem, to designing a diagnostic simulation and generating actionable recommendations. Through this practical example we aim to help simulation practitioners translate conceptual frameworks into activities that support meaningful healthcare improvement. This article describes the simulation team's actions, highlighting our work as a contributor to the broader quality improvement (QI) outcomes achieved by the working group.

Context

Advance care planning (ACP) is a process that supports individuals to discuss, document, and communicate their values, goals, and preferences for future medical care (8). By facilitating open communication between patients, families, substitute decision makers and healthcare providers, ACP aims to ensure that care decisions are aligned with the person's values, goals, and preferences if they cannot participate or advocate for themselves(8).

Embedding ACP as part of routine clinical practice is an important component of organisation clinical governance (9). Essentially, effective systems facilitate effective ACP (10). In this sense, ACP contributes to individual patient outcomes and broader organisational responsibilities for quality, safety and comprehensive care (9). Deficiencies in ACP governance and implementation can lead to inadequate documentation, inadequate communication structures and limited accessibility of ACP records. For patients, this can lead to treatments incongruent with the individual's preferences, values and goals of care, increased emotional and decisional burden, leading to potentially unwanted or non-beneficial interventions (11).

Despite the benefits, effective implementation of ACP is challenging for organisations. Evidence suggests that implementation must move beyond educating clinicians to conduct ACP conversations and consider an organisation-wide system approach that is supported by governance structures, clearly defined processes and shared accountability across professional groups (10). Effective ACP relies on navigating the inherent complexity of a system reliant upon staff initiating ACP conversations, aligning care decisions and the frequently underappreciated contribution of the network of administrative and support staff who digitalise and integrate ACP documents into medical records. Importantly, the ACP system must recognise care decisions occurring across the care continuum as patients transition between multiple practitioners and health care settings (10).

This activity began from a broader scope of work being undertaken by the EoL Working group to improve EoL care. Pragmatically, targeted education had the potential to improve the quality and frequency of EoL and ACP conversations, however, the working group recognised that education interventions alone would be unlikely to sustain improvement without robust systems and processes. It is important to note that the organisation issues a largely a paper-based documentation system. Completed documents are scanned/digitised and can be accessed via a central electronic system ('Verdi') after the patient is discharged. Preliminary work by the EoL working group identified substantial complexity in the processing of ACP documents across the organisation and area health services. Ensuring that ACP documents were consistently and reliably available across health service providers when needed by patients, families/carers and health care teams was a critical step in sustainable, meaningful improvement.

The Mater 'OptiSim' service is an established TS service in the South Brisbane campus of Mater Health, providing support to all Mater facilities across Queensland, Australia. The service identifies improvement projects through established relationships with hospital governance structures as well as discrete, smaller projects through individual requests from hospital teams and units.

Simulation terminology

Within this article we refer to 'Translational Simulation' as the underpinning *'conceptual model for the contribution of simulation to healthcare quality and safety'* (1) that informs our strategic approach to healthcare improvement. Within our service, the execution of TS is often directly linked to Nickson et al's IPO model (2). As a conceptual model that has evolved from clinical work at the frontline of healthcare, our service finds the term, and the associated IPO model, pragmatic, flexible, and simple enough for us to break down complex work into discrete, surmountable components.

The term 'Transformative Simulation' has been introduced as a conceptual framework to describe *'simulation as a tool to transform health and care through collective understanding, insight and learning'*(12). Although similar, the features of transformative simulation take a broader, more theoretically complex approach to simulation.

The focus for this project was on diagnosing and translating the simulation derived insights into practical improvements in clinical care and service delivery. For this reason, we have used the term 'translational simulation' throughout this report.

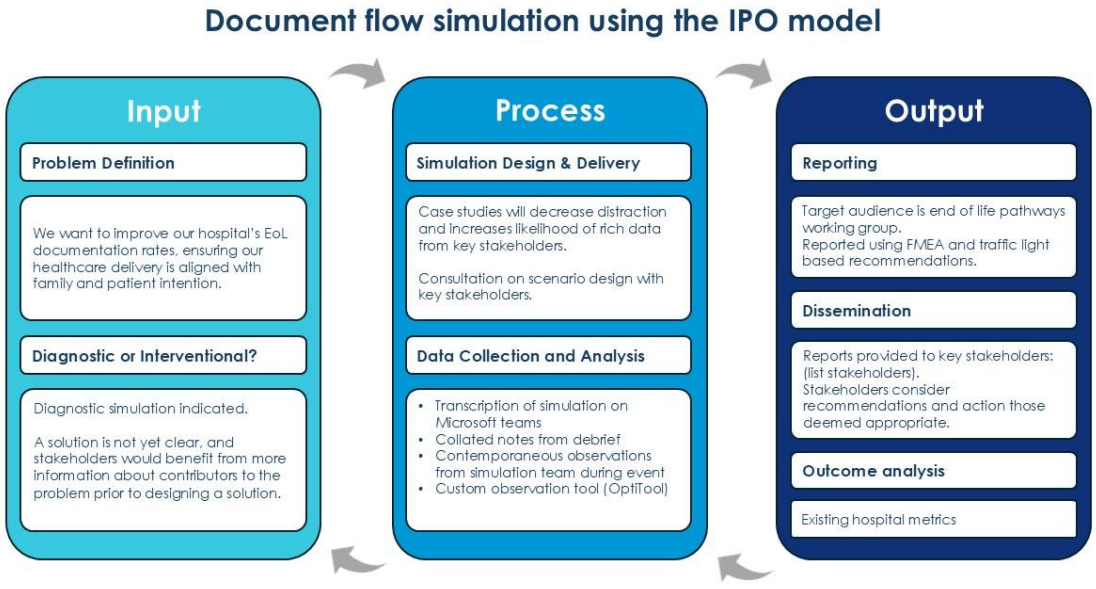
Methods:

Our methods section has two aims. The first is to transparently describe the process we engaged in to plan and deliver this activity and secondly, to provide a practical example of Nickson et al's (2)'IPO' approach to TS, demonstrating how theory meets execution.

This initiative is reported in accordance with the SQUIRE SIM extension of the SQUIRE2.0 guidelines (13). The methods described below outline the simulation activity as the method of investigation rather than an education-based intervention.

Diagram 1: Document flow simulation using the IPO model.

Adapted from: Brazil, V. Connecting data science and translational simulation. *Adv Simul* **11**, 10 (2026). https://doi.org/10.1186/s41077-026-00410-5



Input: What was the problem?

The input phase focused on defining the problem with the EoL working party and understanding the contextual factors associated with ACP documentation processing.

Initial assessment work undertaken by the EoL working party revealed unclear document handling processes and inconsistent application of policies and procedures. This made the process of receiving, acknowledging and retrieving ACP documents complex for clinicians. The EoL working party reported challenges in understanding the fragmented and complex internal systems when engaging each of the key stakeholders in the ACP document handling process.

Activity faculty met with an interprofessional group from the EoL committee to determine the suitability of a TS activity. Broadly, there are 4 main areas of questioning used by this TS service as part of the activity initiation process; (1) background information; (2) project vision, (3) risks and associated with intervention and identified concerns, and (4) resource availability, commitment, constraints and activity logistics. A detailed description of the activity initiation consultation is included in Appendix 1.

Based on the insights shared during the activity initiation consultation, we determined a diagnostic TS activity was indicated to help the EoL working party to understand vulnerabilities around ACP document handling within a complex healthcare system.

Process: How was simulation used

Participant recruitment

It was determined that this activity would narrowly focus on the handling of the documents; not the broader context of the ACP process (e.g. EoL/ACP conversations).

For this reason, service leaders from within the administration services team, privacy office and the hospital 'scanned records department' were contacted via email to nominate team members to participate in the activity.

In total, there were 7 participants available (there was unplanned leave at the scheduled time resulting in the scanned records department not participating).

Table 1: Simulation participant information

Number	Role	Area
1	Team leader	Privacy Office
3	Administration officer	Inpatient Clinical areas
1	Administration officer	Outpatient Clinic
2	Administration Coordinator	Inpatient areas

In addition to the participants listed above there were 4 EoL Working Group members present during the activity (medical officer x 2, social work, ACP coordinator).

Simulation design

Four cases focused on ACP document handling procedures were included in the simulation. Clinical case details and patient interactions were excluded from the scenario design.

Table 2: Simulation cases undertaken during activity

Case 1 - Standard	**Case 2 - Standard**	**Case 3- Variance**	**Case 4 – Variance**
Patient presents with completed ACP documents	Patient readmitted to facility with unchanged ACP documents	Patient presents with errors in the ACP document	Patient presents without physical copy of ACP documents (but has legitimate documents completed)
These scenarios explore the end-to-end handling process		*These scenarios explore the workflow adaptations that occur when complexity is introduced*	

Simulation environment

This activity occurred in a classroom within the education department of the hospital.

As participants arrived, they were seated in groups based on the roles they performed. As the document handling occurs in different areas of the organisation, the seating arrangement allowed the groups to visualise the transition of the document between departments.

Simulation delivery

Immediately before the arrival of the participants, a 15-minute pre-simulation meeting was conducted with the EoL working party members who would be present as observers and activity faculty. This created shared expectations of simulation flow and progress; faculty roles and responsibilities and opportunities for sharing of expertise and feedback as the activity progressed.

The simulation was conducted over 2 hours; administrative processes (e.g. attendance records and a pre-briefing occurred during the first 15 minutes. At this time, participants were informed of activity intention, simulation flow, data analysis and reporting, and de-identification of collected data.

The scenario was completed in sequence with the standard workflow undertaken first and variances following on. There was no time allocated for each activity, however an overall time allocation of 1 hour and 15 minutes with the remaining 30 minutes to complete the debriefing.

For each case, the scenario overview was described verbally and then a paper document was passed to administration officers as the first point of document handling. The document was subsequently passed between teams as a metaphor for departmental ownership of the document within the hospital administrative network. As each new team received the document, they described what they did with it and why. The facilitator followed up with probing questions to explore inconsistency, ambiguity and rationale for team actions. Once that exploration was deemed sufficient, the document was passed to the next receiving team. This generated commentary and discussion regarding misaligned expectations and interpretations of procedures and work guides, and rationale for organisation 'rules'.

Data collection

Observations were recorded using a pre-prepared standardised observation tool (OptiTool) by the activity faculty. This tool follows a Plan-Do- Study-Act (PDSA) method for observation, facilitating a granular understanding of task performance including variations to expected actions and outcomes. For the purposes of this activity, the 'Act' component was not included in the OptiTool as it is represented in the actions undertaken based on the activity recommendations and outcomes. These are described in the 'output' section.

Table 3: PDSA process for the simulation activity

Plan	**Do**	**Study**	**Act**
Predicted process or anticipated actions are listed step wise	Record observations of simulation performance	Compare observations to predicted process & debriefing data analysis	Not included in OptiTool

Qualitative data was collected by experienced faculty using the OptiTool to identify task success or failure, concerns, ambiguity and suggested improvements. The tool enabled data to be collected from direct observation during the activity and during the post simulation debriefing.

A large group debriefing was undertaken at the completion of the scenarios. This included all participants and EoL working party observers. The debriefing was structured to focus on elements of task execution rather than individual performance using the Promoting Excellence and Reflective Learning in Simulation (PEARLS) for

Systems Integration framework (14). Commentary and observations shared during the debriefing were captured on the OptiTool by the activity faculty.

Immediately post completion of the simulation activity and debriefing, a further meeting was conducted with the EoL observers and activity faculty. The intention of this meeting was to discuss outcomes and observations captured by the observers, whilst providing further opportunity for alignment of expectations regarding the outcomes report and recommendations.

Output: What the translational simulation process produced

After activity completion, collated observations and feedback was presented to the EoL committee for review with recommendations to be considered for implementation. The TS service provides a standardised outcomes report that has been iteratively refined over time (15). Broadly, this report is structured in 4 sections; executive summary; activity methods; simulation outcomes; and collated feedback. The simulation outcomes are represented using a 4-point Healthcare Failure Mode Effect Analysis (HFMEA) framework, enabling stakeholders to prioritise concerns/barriers and supports decision making regarding recommendations (15,16).

Table 4: HFMEA ratings

Severity rating	Colour rating	Description
No Problem	1	No problem or failure mode identified
Minor Hindrance	2	System deficits had minimal impact and were easily tolerated by staff and patients/residents
Serious Problem	3	Parts in the process/system that demonstrated actual or potential failure, and workarounds were required to complete the task.
Task Failure	4	Failure mode that had an immediate and/or significant impact.

Importantly, the outcomes report does not routinely include HFMEA rating 1 (No problem) unless explicitly requested by stakeholders. The report does acknowledge parts of the process and workflow that are working effectively and efficiently, but these elements are not routinely included in the action-oriented outcomes/recommendations in the report.

The simulation outcomes report for this activity, identified 5 categories of barriers/challenges experienced by participants and included 10 recommendations and 2 sub recommendations for consideration by the EoL Committee.

Table 5: Barriers/Challenges to ACP document processing identified in the simulation activity

Barrier	HFMEA rating
Inconsistent practices and processes between departments and individuals due to inconsistent onboarding and ambiguity within local work guides and governance documents.	2
Poor understanding of ACP infrastructure including OACP, The ACP Viewer and The ACP Tracker.	2
Lack of awareness regarding scope of practice, responsibilities and accountability when handling ACP documents.	3
ACP record management and potential for duplication of records.	2
ACP record management and potential for record omission.	3

OACP: *Office of Advance Care Planning is a statewide service responsible for supporting ACP through registration, management and clinical accessibility of ACP documents across the health system*

The ACP Viewer: *is the statewide electronic repository that enables authorised clinicians to view registered ACP documents.*

The ACP Tracker: *is a workflow and reporting system used by OACP to manage processing and registration of ACP documents and to monitor organisational ACP activity.*

Post-recommendation work by EoL Working Party

As described above, the outcomes report provides a comprehensive synthesis of the identified systems challenges and vulnerabilities with the intention to support stakeholders and decision makers to prioritise improvement strategies. Following a review of the outcomes report, the EoL working party was convened to identify and implement recommendations aligned with the original objective of streamlining document submission processes with the OACP.

A multifaceted program of work was undertaken to address the vulnerabilities identified. Initially, local administrative work instructions were benchmarked against comparable health services. This review, undertaken with the advice of legal consultation, informed revision of existing processes to ensure a legally compliant, best practice approach for the management and processing of ACP documents. Particular attention was given to addressing inefficiencies arising from legislative requirements and overly complex procedural expectations, including documentation authentication requirements.

To support consistent practice, the administrative work instruction was revised and relaunched across the organisation. This established a standardised approach to ACP document verification, processing and recording across electronic patient administration systems (PAS), including incorporation into onboarding processes for new administrative staff. Existing staff received targeted education from supervisors to support adoption of the revised procedures.

A number of system interventions were also undertaken. This included the installation of digital printer/scanners to improve access to ACP documents. A dedicated email account was introduced to streamline submission by scanning and transfer of ACP documentation to both the OACP and the organisation's privacy office. The scanning destinations (email addresses) were pre-programmed into department scanners to reduce process complexity and improve efficiency.

Further to this, the alert system was consolidated to a single ACP alert in the PAS. This included instructions to standardise the process for recording all ACP document types with the PAS (noting there are a variety in use across the statewide facilities). The intention of these interventions was to improve visibility and accessibility of ACP documentation to support decision making for clinicians.

Broadly, the interventions were well received by key stakeholders, area leaders and frontline end users, highlighting the commitment to change. Standardisation of processes, supported by education and awareness campaigns, technological enablers and governance oversight resulted in substantial improvements in ACP document handling and registration.

Results:

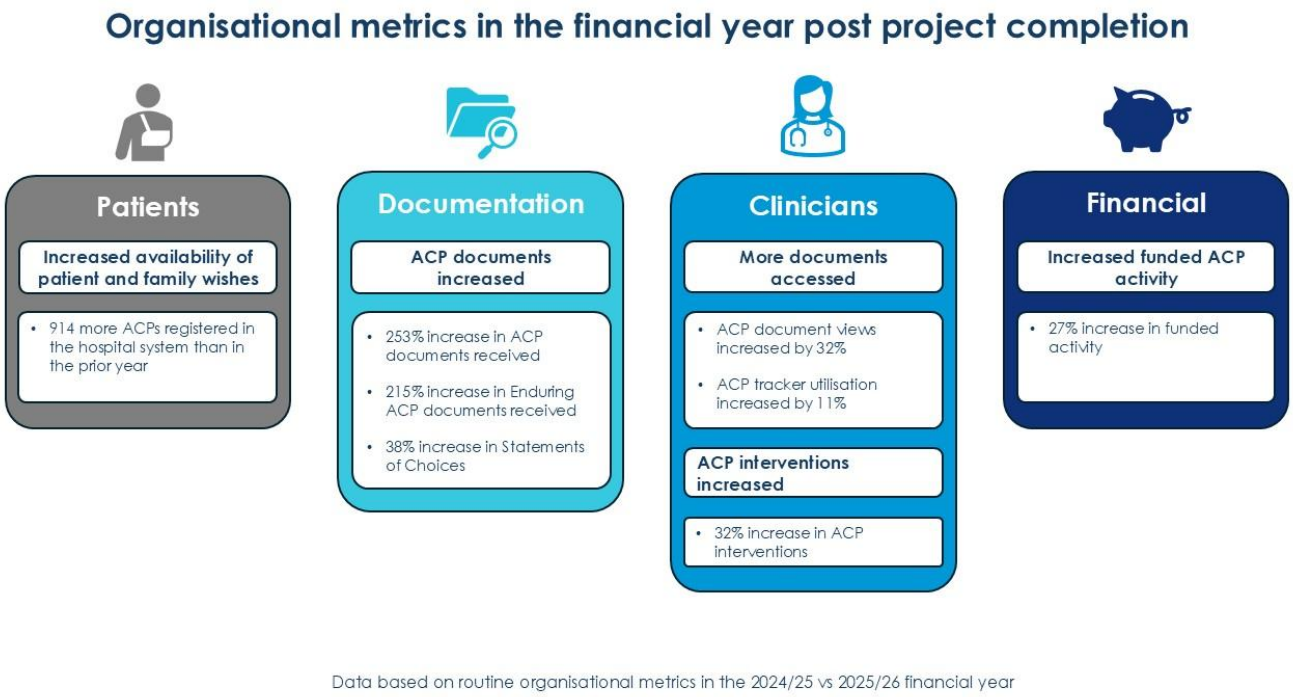
Within the results section we describe outcomes that were assessed using routinely collected organisational ACP performance metrics. Data was obtained from existing ACP information systems and activity reports that monitor document receipt, registration and access. Comparison of activity before and after the TS and implementation of initiatives described above demonstrated substantial increases across key measures.

During the 2025-2026 reporting period, ACP document receipt by the OACP increased by 253%, rising from 362 in the 2024-2025 financial year to 1276. More specifically, in the corresponding years, enduring ACP documents increased by 215% (from 219 to 690); and Statement of Choices documents increased by 38% (from 60 documents to 83). These findings indicate marked improvement in the receipt and processing of ACP documents.

Measures of clinical engagement with ACP documents also showed positive changes. ACP interventions increased by 27%, document views using the centralised platform increased by 32% and utilisation of the ACP Tracker to provide ongoing updates regarding ACP documents increased by 11%. Collectively, these results indicate improved clinician awareness of ACP processes and engagement with ACP documents.

Operationally, improvements in the handling and processing of documents were evident soon after the activity. The modifications to document scanning processes, workflow redesign and targeted communication/education for administrative staff were undertaken in the 2 months after the completion of the activity. In the subsequent month, there was an almost 2.5-fold increase in document scanning. This distinct increase in ACP document processing following the changes highlight that relatively small adaptations to administrative workflows substantially improved document capture and availability.

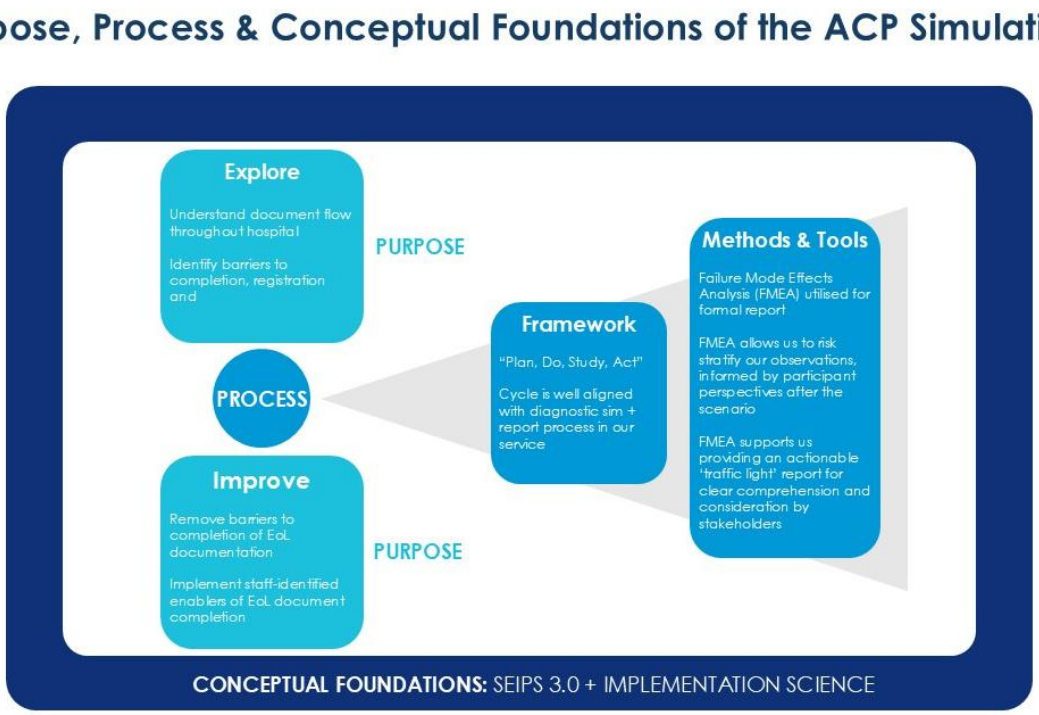
Diagram 2: Organisational metrics in the financial year after simulation completion



Discussion:

Since its inception in 2017, TS has continued to evolve in its scope and application(1). In 2024, Brazil and Reedy issued a call to action for simulation practitioners to recognise TS services as an integral component of healthcare improvement infrastructure, strategically using simulation to diagnose, design, implement, and evaluate improvements across healthcare systems (1). Moreover, they explicitly identify 3 core framework elements that provide a roadmap for simulation practitioners, guiding them from problem identification to meaningful healthcare improvement. Within the discussion section, we will structure our reflections within the 3 core framework elements of Brazil and Reedy; 'Purpose, Process, and Conceptual Foundations'(1).

Diagram 3: Purpose, Process & Conceptual Foundations of the ACP Simulation, Adapted from: Brazil, V., Reedy, G. Translational simulation revisited: an evolving conceptual model for the contribution of simulation to healthcare quality and safety. *Adv Simul* **9**, 16 (2024). https://doi.org/10.1186/s41077-024-00291-6



Purpose:

The purpose of TS can be to either 'explore' or 'improve' healthcare teams and systems (1,2). Often a project moves through distinct phases of both, but this project is an example of TS that was primarily diagnostic. By utilising simulation to better understand the process, we could provide the working group with a richer understanding of the ACP process, as well as enablers and barriers to success. The committee that received the report then actioned those recommendations, leading to performance improvement.

Early in our consultation phase, we explicitly named the purpose of the project (to improve the processing of EoL care documentation) and the simulation (to inform the project team's understanding of key contributors to low levels of document processing and identify appropriate document workflows). This explicit approach to 'purpose', informed both the process and conceptual foundations utilised.

Process:

The process component of the simulation involved aligning the diagnostic purpose of the simulation with a methodology that optimised data generation and collection (1). Knowing the core purpose of the scenario allowed the simulation faculty to design a low complexity mental simulation conducted as a case-based discussion. This minimised facilitation costs, time and ensured focus on collating meaningful data from participants. The case-based simulation and meaningful data collection facilitated deep group reflections and collaborative problem-solving.

The PDSA cycle was identified as an ideal framework for the simulation component of the project, with HFMEA analysis utilised to collate and display risk stratification.

As such, key TS skills utilised included:

- Aligning purpose of the task to the appropriate simulation methodology process (case-based discussion)
- With a focus on document flow, a realistic physical representation was not required. Mental simulation through case-based discussions allowed faculty to focus on data collection, conversational facilitation, without the distraction of attempts towards additional realism.

- Participant selection that included a diverse mix of roles and levels of experience increased the variety of perspectives represented and meaningful data available for the EoL group to consider.

The activity described highlights a number of key learnings about simulation design and delivery for TS.

- High level insights were identified despite zero physical realism and no equipment. Insights were achieved with a simple case study and verbal exploration of document flow.
- Maintaining narrow focus on document flow and avoiding an 'educational sim about end-of-life conversations' ensured relevant data collected and presented to EoL working party for action.
- Ensuring that the right stakeholders were in the room, including frontline and system end users involved in physically handling the documents ensured insights reflected work as done rather than work as assumed (17).
- Effective pre-briefing and ongoing attention to psychological safety is essential to encourage participants unfamiliar with simulation to meaningfully engage in the activity; creating an environment that encourages interrogation and critique of existing work practices in the presence of colleagues, other departments, and supervisors(18)
- Structured debriefing using PEARLS for System Integration (14) provides systematic debriefing format enabling manageable data gathering and collection during simple mental simulations.

Conceptual Foundations:

Brazil and Reedy describe conceptual foundations as the deliberate integration of TS with established fields contributing to quality and safety (1). The impact of TS is amplified when activities leverage existing theories and methodologies that support improvement (1). In this section, we describe the conceptual foundations that informed our approach: Systems Engineering Initiative for Patient Safety (SEIPS) 3.0(19), TS and implementation science.

Considered together, these perspectives provide a framework whereby SEIPS provides a lens to understand the system ACP operates within, TS enabled the exploration of the system and implementation science informed how improvements could be sustainably embedded in routine work. Ultimately, the value of this approach is not from the application of a single framework, but the intentional combination of complementary perspectives to generate practical system and performance improvement.

Briefly, SEIPS 3.0 provides a theoretical foundation that enables the analysis of complex interactions between system elements (people, tasks, technology, environments and organisational factors) that influence work processes and outcomes across the patient journey (19). While it is easy to assume the deficiencies in ACP documentation are an education or compliance problem, application of SEIPS highlighted broader, system element interaction vulnerabilities. The simple, diagnostic TS provided an effective method to explore and understand the work systems as they occur for the people undertaking the tasks. Fit for purpose data collection tools and structured debriefing in the TS activity, helped to uncover interacting elements of the system contributing to challenges being experienced, such as, ambiguous processes and procedures, unclear

responsibilities, limitations of the electronic applications and inconsistent task execution. These outcomes highlight the importance of understanding performance as an outcome of the system rather than purely a result of individual capability.

Although SEIPS explains the system and TS explores how the system functions in practice, identifying system vulnerabilities alone is insufficient to produce sustainable improvement. Drawing on implementation science principles, simulation faculty transformed the insights generated within the activity into targeted recommendations for the EoL group, prioritising interventions that addressed system elements. Implementation science principles provided the link between diagnosis and action. Although the faculty team were not directly involved in the implementation of the recommendations, application of implementation science principles across the simulation IPO phases ensured the presented recommendations were easily integrated into routine work and sustainable for long term adoption.

Considered together, we believe these conceptual foundations heavily influenced the observations we made, the type of recommendations we made, and our approach to implementation.

Future directions:

The activity outlined above describes how a very simple TS activity has contributed to a significant improvement in organisational performance related to ACP document registration. A key next step is to determine whether simulation informed system improvements lead to decision making and care delivery that aligns with patient preferences, values and goals, alongside organisational impact including reduced utilisation, length of stay and avoidance of non-beneficial interventions.

From a simulation perspective, future work should continue to focus on understanding how TS can drive sustainable system change. Deliberate integration of TS within QI ecosystems, grounded in robust theoretical frameworks, drawing on established and accepted improvement methodologies strengthens TS's position to contribute to complex system interrogation and improvement capability.

Limitations:

As a quality improvement project rather than a randomised controlled trial, we acknowledge that there may be other work or actions that influenced our organisation's outcomes. We clarify that this improvement work was associated with an impressive percentage increase in hospital performance, but that we have not scientifically proved that our work was directly correlated with the increase per se.

We accessed existing hospital metrics, rather than facilitating our own measurements. This ensured efficiency for the project while maintaining accountability regarding our outcomes. By observing hospital metrics post our intervention, we ensured our accountability remained focused on the central outcome, rather than implementation of an arbitrary solution. This approach to data collection limits our ability to claim clear causation.

Despite this, we see value in providing this concrete example to the simulation and QI community. EoL documentation is an important component of modern healthcare delivery, and we hope that our reflections contribute to broader conversations regarding TS and healthcare improvement.

Conclusion:

This case provides a practical exemplar of how the conceptual frameworks of Brazil and Reedy(1) and Nickson et al.(2) can guide the application of translational simulation to healthcare system improvement. By aligning a clear diagnostic purpose with a simple, low-resource simulation process, we identified vulnerabilities in complex administrative workflows and generated actionable recommendations. The subsequent organisational improvements highlight the value of integrating diagnostic simulation within established quality improvement structures, where simulation-generated insights can inform implementation and measurable change. We hope this example supports simulation practitioners in translating conceptual frameworks into practice.

Abbreviations:

ACP	Advance Care planning
EoL	End of Life
HFMEA	Healthcare Failure Mode Effect Analysis
IPO	Input, Process, Output
PAS:	Patient Administration System
PDSA:	Plan Do Study Act
PEARLS	Promoting Excellence And Reflective Learning in Simulation

SEIPS	Systems Engineering Initiative for Patient Safety
TS	Translational Simulation

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Author Contributions

LM, BS and CR drafted the manuscript. BS designed the graphics and diagrams and provided supervision and mentorship throughout the project and manuscript development. AR and CR verified the improvement outcomes and associated results. AR and CR were involved in the initiation of the project through their involvement in the EoL working group and LM was the lead simulation faculty. All authors critically reviewed and approved the final version of the manuscript for publication.

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Declarations

Ethics: This project was undertaken as a retrospective quality improvement initiative. The project was reviewed by the organisation's ethics authority and was determined as exempt from Human Research Ethics Committee (HREC) oversight. All activities were conducted in accordance with organisational quality and safety requirements.

Consent: Not applicable

Availability of Data and Materials: Data described in this paper is routinely collected activity data obtained from the OACP. Access to this data is managed by OACP in accordance with data governance requirements. The data is not publicly available. Requests for access should be directed to OACP and will be subject to relevant governance and approval processes.

Competing Interests: The authors declare no competing interests.

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Appendix 1: Activity Initiation Consultation

Aligning with Nickson et al's IPO framework, the below notes describe the information shared between EoL working party and activity faculty during the 'Input' phase of activity.

- **Background information**: The EoL committee were undertaking a broad scope of work to streamline processes and create sustainable and effective systems for management of ACP documents.
- **Vision:** The group described the following aspirational goals
    - Standardised and consistent approach to managing ACP documents that is streamlined, efficient and resilient.
    - Clear responsibilities/accountabilities to ensure documents are handled as required (scanning, sending, notification, alert creation, access to information, error detection).

- Improved access to information/documents that supports decision making and care delivery that aligns with patient preferences resulting in improved experiences, reduced length of stay and reduced unnecessary/unwanted interventions.
- Improved remuneration for organisation (by ensuring system easy to navigate for all stakeholders, increasing engagement).

- **Risks associated with intervention and identified concerns** -
  - Alert and error notification processes inadequate and reliant on single person. Error detection that occurs after discharge relies on staff member checking notification in The ACP Tracker and actioning, meaning this would be opportunistic rather than a systematic approach.
  - Increased burden in document handling roles if volume of document increased suddenly which could impact other parts of these roles.
  - Inadequate notification processes resulting in ignorance of goals of care and/or inappropriate care being received (noting, this wasn't intervention specific, it is an existing risk that may continue despite simulation activity)
  - Access to The ACP Viewer maybe limited across private organisation & unforeseen challenges with system integration between statewide government depart systems and local systems given private healthcare organisation status.
- **Resource availability, commitment, constraints and activity logistics** –
  - Mutually agreeable time/scheduling for all participants and stakeholders from geographically separate areas of the organisation

- Sample documentation availability.
- System access – particularly live system vs training environment