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# Looking to the Future: Framing the Implementation of Interprofessional Education and Practice with Scenario Planning

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## ABSTRACT

**Background:** Adapting to interprofessional education and practice requires a change of perspective for many health professionals. We aimed to explore the potential of scenario planning to bridge the understanding gap and framing strategic planning for interprofessional education (IPE) and practice (IPP), as well as to implement innovative techniques and technology for large-group scenario planning. **Methods:** A full-day scenario planning workshop incorporating innovative methodology was designed and offered to participants. The 71 participants included academics from nine universities, as well as service providers, government, students and consumer organisations. The outcomes were evaluated by statistical and thematic analysis of a mixed method survey questionnaire. **Results:** The scenario planning method resulted in a positive response as a means of collaboratively exploring current knowledge and broadening entrenched attitudes. It was perceived to be an effective instrument for framing strategy for the implementation of IPE/IPP, with 81 percent of respondents to a post-workshop survey indicating they would consider using scenario planning in their own organisations. **Discussion:** The scenario planning method can be used by tertiary academic institutions as a strategy in developing, implementing and embedding IPE, and for the enculturation of IPP in practice settings.

**Keywords:** Interprofessional education, interprofessional practice, scenario planning

## Background

The World Health Organisation has suggested that a starting point for a successful implementation strategy for interprofessional education (IPE) in health is to assess current resources and capabilities. This means for implementation to be successful, attainment must be perceived to be realistic and stakeholders need to perceive that there is a genuine potential for its achievement.<sup>[1]</sup>

Ginsburg and Tregunno,<sup>[2]</sup> examining the implementation of IPE in the context of organisational change theory, observed

that implementation is the stage between a 'decision to change and adoption of innovation in an organization'. From this perspective, the starting point for an implementation strategy requires not only the identification of current resources and capabilities but also an exploration of mental models and attitudes that may need to change for the implementation to succeed. This may require elucidation not only of individuals' espoused values, i.e., their beliefs and attitudes expressed overtly, but also the basic assumptions that people take for granted and which become implicit guidelines for behaviour in an organisation or profession. These basic assumptions are so inherent that to question them is likely to evoke defensiveness.<sup>[3]</sup> In this context, the mental models of individuals in strong professional cultures, such as in the

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health professions, can be a barrier to learning to change,<sup>[2]</sup> especially if individuals lack a willingness to collaborate interprofessionally.<sup>[4]</sup>

De Geus<sup>[5]</sup> observed that the ability of an organisation to identify changing circumstances and plan and act accordingly depends on organisational learning, which, in turn, comes from the learning experiences of individuals in the organisation. An aspect of learning proposed to predict an effective change initiative is its fit with the existing context and culture.<sup>[6,7]</sup> To implement change while maintaining the 'mental integrity' of individuals, a mental bridge that maintains continuity between the extant and the proposed changed situation is needed.<sup>[8]</sup> Burt called this a 'transitional object' and cited examples where scenarios had been used to explore current organisational thinking and provide such a link to develop new concepts that were consistent with aspirations. Scenario planning, in focussing on the wider context in which an organisation operates, has the effect of revealing and extending the mental models of individuals as the effect of change is considered in several scenarios.

As far as we are aware, the use of scenarios has not been used in planning for the implementation of IPE/IPP, although it has been used in other health strategic planning, including: *The Steering Committee on Futures Health Scenarios*, in the Netherlands;<sup>[9]</sup> *The Hemingford Scenarios*, UK;<sup>[10]</sup> *Plausible futures for paediatrics*, USA;<sup>[11]</sup> *The International Campaign to Revitalise Academic Medicine (ICRAM)*,<sup>[12]</sup> and *Future Residential Requirements for People with Mental Health Problems*, the Netherlands.<sup>[13]</sup> In this paper, the methods and outcomes of a workshop to explore and evaluate the use of scenario planning as a means of exploring mental models and perspectives and framing organisational strategic planning for implementing IPE and IPP are described.

## Context

In what is believed to be the first nationwide audit of pre-registration IPE activity, a survey ('National Audit') was distributed to all Australian universities that provide health professional education. Twenty-six universities responded to the survey, which was part of a Curriculum Renewal for Interprofessional Education in Health project.<sup>[14]</sup> In addition, other stakeholder groups participated in consultative discussions, including health providers, consumers, health professionals and government. The report also drew on a concurrent qualitative research project on IPE activity in Western Australia ('WA Report').<sup>[15]</sup>

The survey outcomes<sup>[16]</sup> demonstrated that although development of IPE within Australian universities and jurisdictions had been creative and adaptive, progress had frequently been opportunistic, localised, and fragmented.

There were doubts about IPE sustainability. In addition, a need was recognized for an effective mechanism for sharing learning and knowledge across institutions, to increase research and to plan for the future. An important aspect of this was a collaborative process for developing policy for the future of IPE and IPP, the issue addressed in this paper.

In the National Audit report, a scenario planning method was used as a way of projecting possible future developments based on the information provided in the research. Three scenarios were developed.<sup>[16]</sup> Subsequently, a Scenario Planning Day (SPD) was held to introduce and evaluate the method as a basis for collaboration in building strategies for the further development and implementation of IPE.

## Methods

### Methodological challenge

In order to provide as many participants as possible with the opportunity to gain experience of scenario planning, no specific limit was set for numbers attending the SPD. Recruitment was by email invitation to known interest groups. This open approach presented the challenge of adapting a scenario planning process to meet the objectives of the day for a group that was much larger than the typical 20 participants.<sup>[17]</sup> It was considered important that each of the participants to make a meaningful contribution to the discussions as well as to participate fully in building the scenarios.

### Scenario planning methodology

Based on the premise that, because the future is uncertain, there can be several plausible futures,<sup>[18]</sup> scenario planning is a structured method to enhance understanding of the future by drawing on the different perspectives of multiple participants to develop a framework for strategy development.<sup>[19]</sup> People are motivated to explore current knowledge and challenge the status quo by asking 'What if?'<sup>[20]</sup> The resulting scenarios identify the uncertainties that participants consider will most influence the future of the issue at stake, in order to stimulate decision makers to consider paths they would otherwise disregard. These scenarios are often rich narratives, which help make the data easy to comprehend.<sup>[21]</sup>

Scenario planning can take many different forms.<sup>[10,22,23]</sup> The method chosen for the SPD was an adaptation of the intuitive logics approach that was pioneered by Royal Dutch/Shell.<sup>[24]</sup> This is a logical, structured approach<sup>[25]</sup> that relies on the tacit and subjective knowledge of participants. Novel ideas and questioning of conventional attitudes and preconceptions were introduced by 'remarkable people,' who were creative thinkers from different, but related, backgrounds to the health-related fields of the participants.<sup>[26]</sup>

## The intuitive logics method has several stages

### Stage 1: Information gathering

This includes gathering information from external sources, such as through interviews and focus groups, the literature, surveys and consultations, to discover key factors that may influence the future.

### Stage 2: Scenario development

This includes conducting a workshop, possibly over two days, where stakeholders discuss the key factors at play, agree on the important driving forces, trends and critical uncertainties for the organisation, and develop skeletal scenarios.

### Stage 3: Scenario writing

This includes developing skeletal scenarios into more detailed, plausible and logically consistent narratives.

### Stage 4: Implications workshop

This includes conducting a workshop where trends and events in the scenarios are analysed and the strategic implications are explored.

This may be followed by further workshops to prioritise actions and develop strategy arising from the scenario analysis.

The literature gives a few examples of the accommodation of larger groups in scenario planning workshops. In one workshop 100 dentists were immersed in scenario worlds that had been developed previously and were asked to envision dentistry and the role and life of the dentist in the future world.<sup>[27]</sup> However, this did not meet the objective of the SPD to involve all participants in as much of the scenario building process as possible.

In the current project, several strategies were employed to accommodate the circumstances of the SPD. First, there was a one-day time constraint, so only the *scenario development* phase was attempted, together with brief discussion of implications. To facilitate meaningful contributions from each of the large number of participants, GroupMap technology was used for capture and share concepts. GroupMap is a collaborative, web-based brainstorming tool that enables real-time collaborative idea sharing and facilitates exchange of knowledge among participants. It captures the views and ideas of individual participants and combines them into a single weighted visual and linear report for group discussion. The system manages potential distorting influences such as groupthink, reticence and dominance through algorithms, and consensus is built through aggregation of data.<sup>[28]</sup> Finally, to ensure maximum diffusion of perspectives, a pre-selected diverse mix of professions and organisational affiliations sat at each table, with a maximum of eight. Each table was provided with two wi-fi enabled tablet devices to help record, propagate and rank ideas using GroupMap.

All participants were sent pre-reading material on the scenario planning process, IPE and GroupMap technology. Additionally, the SPD began with a brief introduction to GroupMap and a short familiarisation exercise. The program format is presented in Table 1.

## Evaluation

Three days after the event – enough time for all participants to return to their workplaces in different cities - participants were invited by email to participate in an online evaluation through survey. The survey closed after one week, following

**Table 1: The programme and rationale**

Event	Rationale and Methodology
Focal issue "What will interprofessional and collaborative practice look like in 2022, and how will we prepare for it?" Develop driving forces	Previous research and discussion with Interprofessional colleagues indicated this question would lead to an interesting discussion  The survey, interviews and consultations carried out for the National Audit and the WA Report were used to derive a list, in advance, of approximately 50 key influences, i.e., current factors that may influence the future of IPE. Using these and drawing on their own experience, SPD participants decided what they thought would be the main influences ('driving forces') that would affect IPE in Australia over the ensuing 10 years. GroupMap was used for the mind-mapping and to record their ideas, while also reviewing suggestions from others that were visible both on their tablets and a data-projection screen
Scenario framework	In the final phase of consensus-building, participants ranked the emergent driving forces for uncertainty and importance on a Cartesian map, using GroupMap together with a manual ranking process. The two driving forces ranked highest were used to form a matrix that was then used as the framework for producing skeletal scenarios
Skeletal Scenarios	To stimulate participants to embrace the unfamiliar, in place of the more usual narrative form for skeletal scenarios they were asked to produce drawings of what the world of IPE/IPP would be like in 2022, together with a timeline of events leading to it. Participants were rotated three times to different groups, with the intention of exposing them to a different set of perspectives and fresh ideas. Each of the 10 groups was allocated a quadrant of the matrix in which to develop their scenarios. Although this produced more scenarios than the two, three or four that would normally be considered manageable <sup>[26]</sup> , it provided an opportunity for all the participants to contribute to a scenario-building process
Scenario writing	Following the workshop, the scenario facilitation team, wrote two full scenarios that incorporated most of the concepts of the skeletal scenarios
Strategy	Towards the end of the SPD, participants were asked to identify key points from the skeletal scenarios that would help their own organisation to move towards positive IPE outcomes

a participation reminder email. The objectives of this survey were to: (1) Evaluate the process of scenario planning as a tool for collaborative IPE strategic planning; (2) Evaluate the effectiveness of GroupMap technology in the process; and (3) Identify what concrete ideas and frameworks the participants gained from the event.

Response rates and responses to questions that required the participants to choose a Yes/No or their most likely answer on a Likert Scale were recorded as percentages. Qualitative open-ended comments were analysed for themes using NVivo software.

The event received ethics approval as part of the *Curriculum Renewal for Interprofessional Education in Health* project<sup>[14]</sup> of which this event was a continuation (University of Technology, Sydney, Human Research Ethics Committee, ethics approval number UTS HREC Ref No 2011-017A). Participants signed a consent form for permission to use de-identified data for evaluation and publication purposes.

## Results

Everyone who responded to the recruitment invitation was able to attend the workshop. The 71 participants included academics from nine universities, as well as service providers, government, students and consumer organisations. Thirty-one participants were from the university sector, from dean and head of school to clinical educator and project officer levels, and 30 were health service providers representing acute, primary, aged care, mental health, refugee, child and adolescent, rural, and emergency care services. These included directors, sector managers, business analysts, as well as a range of practitioners. Among them were attendees from community practice and refugee health. There were two consumer representatives, seven students and one from Health Work Australia. A broad range of professions were represented, including nursing, medical, physiotherapy, chiropractic, biomedical sciences, dietitian, rehabilitation, occupational therapy, speech therapy and social work. Twenty-five percent of the participants were male.

The principal driving forces around which participants framed their skeletal scenarios were 'Leadership' and 'Sustainable Funding' [Figure 1]. The other driving forces they had identified also became part of the skeletal scenarios.

### The scenario framework

#### *Skeletal scenarios and timelines*

Groups were asked that in addition to creating the skeletal scenarios to also produce a timeline of events and conditions that would produce the world of their scenario. However, due to many commonalities found in the scenarios, the

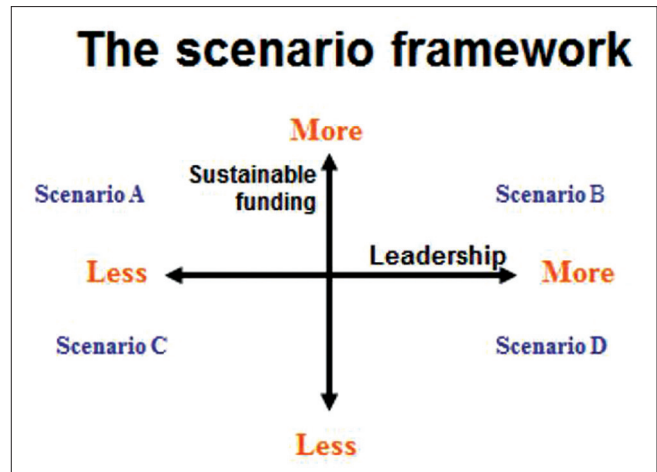


Figure 1: The scenario framework

groups were asked to produce a timeline that would lead to a world in which these common factors were present. Two timelines emerged that were later used in writing the complete scenarios.<sup>[29]</sup>

#### *Strategy discussion*

A key point that arose in the discussion of strategic considerations was the necessity of a national curriculum for IPE, to include an IPE component in each professional year, and IPE in accreditation standards for universities, with a national IPE accreditation body. Other suggestions included: Funding could be based on diagnostic groups (e.g., diabetes); international experience should be utilised in researching appropriate models; education for healthcare professionals could be introduced in high school; and community health workers could help train health educators. It was also noted that funding models were currently rewarding competition rather than collaboration and that IPE development work was only performed as an addendum to other academic work.

#### *Complete scenarios*

In one scenario, entitled 'JAFFA Sentinels,' primary health care in 2022 is based on a system of tradable vouchers issued to each individual to pay for care, together with community support groups coordinated by trained non-professional volunteers, funded by the Joint Federal Funding Authority for States (JAFFAS). Individual cases, such as the one in the scenario, are monitored by coordinators trained in IPP, who ensure appropriate delivery of healthcare.

In the other scenario called 'Please Professor', a student pleads with a senior renal clinician to become involved in an interprofessional team that is developing robot technology to provide home dialysis and in setting up a virtual community as a substitute for the social contact and reassurance that for many is seen as a valuable part of hospital visits. The professor

would provide medical expertise and help overcome resistance by some health professionals.<sup>[29]</sup>

## Results

Of the 71 participants, 51% ( $n = 38$ ) completed the online survey. Most responses were positive, especially about discussions with colleagues with different and diverse perspectives. Typical comments were:

*'An interesting, inspiring day with the potential to change my way of delivering education.'*

*'Very thought provoking and a good way to challenge our thinking away from the now.'*

### Scenario planning method

Among respondents, 81% ( $n = 30$ ) indicated that they would consider using the scenario planning technique in their own organisation, and one respondent reported that their institution was already organising it as a result of the event. Reasons for interest in the scenario planning method included its structured approach to considering a range of potential futures and the identification of driving forces affecting the organisation. For others, the SPD enabled them to see clearer future directions and to understand barriers and challenges for implementation of IPE/IPP.

However, there were some qualifications, e.g. *'Loved how it opens up creative ideas, more work would be needed on how to ... make it useful.'* Another comment was that the scenarios developed were *'too similar and needed some down situations to balance the positive outcomes. In forming the matrix, two very diverse drivers would have given a different result.'* Other observations were: *'the key question could have had sharper focus, with written instructions for each session, with emphasis on always looking to the future'* and that it would have been better to stay *'in our own groups to come up with the top two [driving forces] and then map and do our drawings, then collaborate with the rest of the class.'*

One participant felt that the similarity in the skeletal scenarios reflected consensus on priorities for health care and another liked the consistency in focus on client-centeredness and technology.

### Feedback on GroupMap

After using GroupMap, 73% ( $n = 25$ ) of respondents said they would consider using it in their own organisation, because it: *'saves time in feedback, great process to get consensus'*. Participants who would not use it recorded responses like: *'Not adept at using IT'*, while others reported that familiarity with the technology would have improved their experience. Of all

respondents, 54% rated the experience of using GroupMap as good or very good, 29.7% as average and 16.2% as poor or very poor ( $n = 37$ ).

Some participants were of the opinion that GroupMap *'enabled the immediate collating and sharing of group data which made the day manageable for organisers,'* but this was countered by a view that: *'too many ideas were generated and too many views, therefore difficult to get clear goals at the end of the day.'*

### Themes

Appreciation of the different perspectives of other disciplines, and especially health delivery versus university viewpoints, was a major theme. Comments included: *'It was useful to hear from the various perspectives on how IPE/IPP is viewed,'* and *'increased awareness of the multitude of key influences'*.

Another theme was realisation of the need to accommodate a wide range of experience and perspectives. Comments included one who could now *'see the benefits of IPP for services for people with chronic conditions'* and others who realised the critical importance of inclusivity, for example, of students and consumers/patients.

### Looking to the future

The view of the future in the skeletal scenarios was overwhelmingly optimistic. For some participants, even a lack of resources, including funding, could be overcome, because it could drive creativity and innovative practice.

Asked what they would find most challenging in implementing the scenarios, participants identified the following: Sustainable resources, getting agreement, maintaining collaborative effort, convincing stakeholders of IPE/IPP value, professional development, accreditation standards, leadership, academics engaging with consumers. Participants ( $n = 33$ ) responding to the question of their principal professional development needs indicated collaborative practice (72.7%) and change management team development (60.6%).

Most were highly confident (40.5%) or had medium confidence (45.9%) that their interprofessional collaboration/education goals for 2022 would be achieved.

## Discussion

The evaluation indicated that most respondents felt that not only had they gained valuable insights, but that they would consider using scenario planning as a useful way of exploring and challenging the current attitudes in their own organisations. Their responses indicated a realisation that the sharing of different perspectives through scenario planning can increase understanding and lead to collaborative

organisational learning, bridging the gap between current and aspirational knowledge and practice. The caveat that several participants would have liked more time to consider how the scenarios could be used in their own organisations may be seen to reinforce this interpretation – the participants were keen to further examine the utility of scenario planning as a ‘transitional object’ in the implementation of IPE/IPP.

The technology and scenario planning technique that the authors had developed for large groups had two principal aspects: Adaptation of scenario planning for a large group of participants and the effectiveness of the technology. The separation of participants into small autonomous groups, each with a diversity of perspectives, succeeded as an adaptation of the process to provide each of the 71 participants with the opportunity for meaningful involvement throughout. Appreciation of the value of the often animated discussions in these groups, and the knowledge gained from them, was a strong theme in the evaluation, with several participants noting how their understanding of the perspectives of others had been expanded.

The GroupMap technology was generally perceived to aid the collaborative process of developing ideas, because it provided a practical means for the large number of participants to work in their individual groups while sharing the emerging concepts of the other groups. The small screens on the tablets limited the amount of visible information, but this was largely overcome by the use of data projection on a large screen. Generally it was felt that GroupMap with good facilitation had considerable potential for use in this type of group brainstorming.

However there were some caveats. Some participants were uncomfortable with the tablet technology, and it was observed that students or other younger people in the group were given the task to ‘scribe’ on the tablets. It was thus clear that a more detailed introduction to the technology would improve future events.

Several reasons emerged for the similarity of the 10 skeletal scenarios. Some participants felt that the two drivers that emerged as the axes of the scenario matrix were not sufficiently diverse, as it is arguable that there is a relationship between leadership and sustainable funding. This echoed van der Heijden,<sup>[19]</sup> who stated that the two dimensions should not be related. In addition, changing the composition of the groups part-way through the day had the effect that participants switched to working on sets of concepts they had not developed themselves, affecting continuity of thought and argument. With the consequent intermingling of ideas, the different sets of concepts became more homogenous. Scenario planning literature stresses the importance of ownership of scenarios by decision-makers.<sup>[25]</sup> Here, there was a lack of ownership due to the change of group composition, and this

was not a successful experiment. Finally, as participants were committed to implementation of IPE and IPP, they tended to find ways of overcoming any disadvantage in favour of outcomes favourable to IPE/IPP in the skeletal scenarios.

Several participants commented that they did not think the skeletal scenarios were realistic. Timelines provide a means of checking a scenario for credibility - can the participants see how this could really happen in their own scenarios? So a likely explanation for this credibility gap was that participants were asked to base timelines on common facets of all scenarios, rather than their own. This may be seen an example of the importance of maintaining ‘mental integrity’ when exploring change.

The use of pictorial skeletal scenarios rather than narratives was an experiment that drew no adverse comments and in this demonstration, context appeared to be an appropriate and novel way for scenarios to be put together quickly. However, their use, rather than the more common richer narrative form, may not be efficacious for an organisation aiming to develop a structure for strategic thinking. These may be seen as a study limitation.

The sense of optimism that was evident in participants’ commitment to build scenarios with a positive future for IPE/IPP was reinforced in the evaluations. This may indicate a sampling limitation, as many of this participant group of potential IPE/IPP champions clearly had a predisposition towards its advancement. Their enthusiasm for scenario planning as a tool for exploring this advancement may not be shared by other groups.

The research outcomes were restricted to the evaluation of the survey. Future research could explore the effect of scenario planning in action in health sector workplaces.

## Conclusion

The SPD, as well as introducing scenario planning to IPE/IPP planning strategy, provided an opportunity to evaluate the effectiveness of the method. The generally positive response by a diverse group of individuals from a wide range of organisations indicates the potential of scenario planning method as an effective link – or ‘transitional object’ – to help bridge the gap between entrenched attitudes and single-discipline mental models in the health professions and the implementation of IPE/IPP.

Scenario planning, which has been used in a range of cultures and nationalities, provides a means of exploring current knowledge, resources and capabilities, and building on and broadening the mental horizons of participants. It helps them envisage and set a framework for collaborative planning

that fits with existing context and culture, which has been identified as a prerequisite of an effective change initiative.

The evaluation of the SPD confirmed participants' desire to collectively plan for the future of IPE/IPP and practice in a supported collaborative environment, and supported the use of scenario planning as an effective change instrument in this context. Most participants were keen to consider using scenario planning as a way of encouraging collaboration and future thinking both at a local and national level.

As a consequence of the response to the SPD, the scenario planning method described in this paper can be recommended as a useful tool for tertiary academic institutions to develop strategy for embedding IPE as well as for the enculturation of IPP in practice settings.

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### Conflicts of interest

There are no conflicts of interest.

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