Qualitative analysis of the implementation of a hospital room service in a large metropolitan hospital: foundations for transformation

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ABSTRACT

Introduction and aims: Room service is a hospital meal service model with demonstrated improved nutrition intake, reduced wastage and cost benefits in some settings compared with traditional models. However, uptake across public hospital settings appears low; the underlying reasons require exploration. In 2019, room service was introduced in a Queensland Hospital and Health Service site. The aim of this article is to identify the barriers and enablers to implementing room service to provide recommendations for future implementation of this model.

Methods: The current qualitative descriptive study utilized semistructured interviews with project members and key stakeholders involved in implementation of the room service meal delivery model at the Prince Charles Hospital (Queensland, Australia). A convenience sample of participants were recruited. Interviews explored project experiences from commencement to completion, barriers and enablers to implementation, strategies to overcome challenges and recommendations for implementation at other sites. Interviews were coded to identify themes and subthemes.

Results: Nine participants were interviewed. Key themes with associated subthemes were (1) foundations of transformation, (2) navigating implementation and (3) embedding sustainable practices.

Conclusion: The current study adds rich information to understand factors that support the implementation of a room service model in a large public hospital. Future implementation of room service should not only consider measuring quantifiable outcomes, but also the importance of qualitative descriptive studies surveying project members and key stakeholders to further explore experiences, barriers and enablers to implementation and develop strategies to overcome challenges to assist further sites implement this model.

Key words: diet, food services, health services, qualitative research

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What is known about this topic?
- Hospital foodservice systems are required to meet the medical and socio-cultural needs of diverse clinical populations with one such model being room service.

What does this article add?
- Room service is a contemporary hospital meal service that has been implemented across healthcare facilities in the United States and, more recently, in Australia. It is a model whereby patients order meals on demand at a suitable time, utilizing a bedside phone through to a call centre or via an electronic ordering tool such as bedside entertainment system or own personal device.
- Understanding barriers and enablers to this implementation process will provide recommendations for future services' adoption of this model.

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Introduction

Hospital foodservice systems are complex structures that are required to meet the medical and socio-cultural needs of diverse clinical populations. Room service is a contemporary hospital food service model that is well known in the healthcare sector in the United States and is becoming increasingly understood and implemented across the world. As its name suggests it is a model, similar to that which exists in hotels, whereby a patient can call a central call centre or use an electronic ordering tool such as bedside entertainment system or own personal device to order their meal when they feel like it and at a time that suits them. Meals are freshly prepared on demand and delivered to the patient within 45 min of order.1–4

Room service has primarily been implemented in the United States,1–4 and more recently in Australia.5,6 Room service has demonstrated improved patient nutritional intake, reduced food costs and waste and improved patient satisfaction.1–6 Increasingly, as accreditation standards focus on the comprehensive care of patients, including nutrition and hydration status,7 hospitals and health services are considering innovative food service models with a dual priority of reducing waste and cost-savings, as well as being patient-centred to meet nutritional requirements and improve the patient experience.

In 2019, this model was introduced in a large Queensland public hospital. Prior to the introduction of the room service model, the food service system was a bought-in frozen product, thaw-retherm model. A room service implementation project was planned and delivered according to the knowledge to action framework – action cycle.8 Two determinant frameworks9 were applied when defining the project’s context and identifying and engaging with key stakeholders for building working party membership [consolidated framework for implementation research (CFIR)]10 and to better understand factors that influenced each workforce to develop targeted strategies to use to gain support for the model, to identify champions to promote the model within specific workgroups and professions, and to bring about the success in sustainable behaviour change in the new system [theoretical domains framework (TDF)].11 Project governance involved the formation of project board and internal working party, forming 11 months prior to implementation of the room service system and disbanded 1 month postimplementation. These groups worked with the existing food and nutrition working party that supported the activities of the project groups.

The project board had five members, including executive sponsor, directors of the service line, and the business manager of the operational service line. The group met bi-monthly to provide executive leadership and decision making on the room service project and establishment of a new model of care. The board’s main objectives were to oversee the capital works and procurement of equipment, provide financial accountability, respond to escalated concerns from the working party, and approve new policies and procedures. The internal working party had 22 members, including medical, nursing, allied health, consumer, information technology, administration, external consultant, food services, quality and safety, telecoms, human resources, media and education. The group, chaired by the team leader of food services and the project lead, met monthly to provide leadership and direction in the room service’s implementation. The group developed operational policies, procedures and work guidelines, ensured compliance with food safety, provided an avenue for consumer codesign of processes and a forum for communicating and managing risks and issues. This group reported to the project board to escalate risks and concerns. The food and nutrition working party was a historical group of multidisciplinary staff [medical, allied health, nursing, food service, consumer, quality and safety, Aboriginal and Torres Strait Islander representative] who met bimonthly and discussed aspects of food, nutrition, hydration and malnutrition for the hospital. This group met bimonthly and monitored food service/monitored room service activities. The planning and implementation timeline is shown in Fig. 1.

Objective/Aims

Evaluations have investigated the impact of room service on food waste and costs, patients’ nutritional intake, patient satisfaction and meal quality standards.12 The aim of this study was to identify the barriers and enablers to implementing room service to provide recommendations to inform dissemination and scalability.

Methods

The current study utilized semistructured interviews with members of professional groups involved in leading the implementation of the room service meal delivery model in a Queensland Hospital and Health Service site during 2019. This hospital is a 635-bed tertiary
metropolitan hospital in Brisbane, Australia. This study was deemed exempt from ethics review by an institutional ethics committee Project ID 53967. A convenience sample of participants was recruited from 13 project members and key stakeholders, that included food services management, medical, dietetic, nursing, speech pathology, external project consultants, education and training and media/communications officers. As shown in Fig. 1, eligible participants were invited to participate (via e-mail) by the project lead and were requested to contact an independent research assistant to express their interest. A reminder e-mail was sent at 1 week after invitation. Those who responded received a written explanation of the study from the research assistant, provided written consent, and were subsequently organized an interview time with interviewers independent to the project team.

Interviews were undertaken by two members of the research team (S.A.W. and K.C.) by telephone (n = 8) and face to face at the interviewee’s place of work (n = 1) based on participant preference. Both interviewers were external to the organization and had no role in the implementation process. Four declined participation indicated by not responding to the e-mail invitation. Interviews explored project experiences from commencement to completion, barriers and enablers to implementation, strategies to overcome challenges and recommendations for implementation at other sites (Appendix A, http://links.lww.com/UEBH/A86). The questions were developed through consensus discussion with all team members. Interviews averaged 17.1 min (range: 15.4–24.0 min). Interviews were recorded on a digital recorder and transcribed verbatim.

The data were analysed using the thematic analysis method and Braun’s six-phase process.13 All interviews were audiotaped, anonymized and transcribed verbatim

(Figure 1). A theme or code represented a guided response or meaning within the data, and the transcripts were reviewed to identify preliminary coding independently by the two researchers who had no role in the implementation process to ensure no bias in the coding and theme identification (S.A.W. and K.C.) (Phase 2). These initial themes were then debated, and broad themes were constructed (Phase 3). General themes and subthemes were debated between all researchers until no new themes emerged, and data saturation was reached (Phases 4–5). All members of the research team selected and approved quotes relating directly to the final themes/subthemes for reporting (Phase 6). Finally, themes were examined with reference to the study aims and the TDF to identify learnings for other sites.

Results
Nine of the 13 potential participants were recruited. The interviewees represented food service management, dietetics, speech pathology, medical, nursing managers, education and training staff and an external project consultant engaged to assist with implementation. Interviewees had varying levels of engagement in the project from subject matter expert consultation to operationalizing the implementation.

Three main themes were derived: (1) foundations of transformation, (2) navigating implementation and (3) embedding sustainable practices. The themes and subthemes are outlined below. Representative quotes are provided in Table 1.

Foundations of transformation’s first subtheme was (i) environmental and cultural assessment. It was acknowledged that consultation needed to happen early and widely. It was recognized this was ‘not a food service
| Theme                                      | Subthemes                              | Representative quotes                                                                                                                                                                                                 | Barriers – TDF domain | Enablers – TDF domain                      |
|-------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------|
| (1) Foundations of transformation         | (i) Environmental and cultural assessment | 'She (Dietitian Team Leader Food Services) worked hard to get that buy in and building that case for change quite early so I think that’s why we were able to get those results because of that planning process, engaging people. I’ve seen it implemented in some other hospitals and unless you have that buy in, there’s a lot of nervousness around it and so there’s that desire to sort of go back to some of those old ways.’ (Participant 9) 'Talking about that community expectation, you know a lot of people don’t like to come into hospital, but if there is one less thing that they need to worry about, they don’t need to worry about the food anymore, like I wonder if that improves even coming into hospital.’ (Participant 2) | Environmental context and resources | Environmental context and resources Social Influences Optimism |
|                                           | (ii) Preparing for anxiety and tensions  | 'Because it’s a change in culture, and people aren’t too flush with cultural change’ (Participant 2) 'Maybe I was expecting some of the points that I was apprehensive about, not really expecting, but I was a little bit unsure whether or not certain aspects of it would work. I work in a general surgical ward and diets are upgraded and downgraded quite frequently, so . . . I wasn’t sure how that was going to work, because you know you might see the patient and then 2 s later they want to order a meal through room service but yet we haven’t been able to change that in the system yet.’ (Participant 7) | Beliefs about consequences Environmental context and resources | Social influences |
|                                           | (iii) Structural and strategic considerations prior to implementation | 'When I first heard about it before I knew much about it I thought ‘oh my God they’re never going to be able to do this because it sounds too complicated’, but as I got to know it better I thought ‘this is going to be fantastic’ and ‘that’s a lot of work’, and then I wasn’t sure how successful it would be because you really need to get it to work right to make it successful, and then as we went along and broke all the problems down and fixed them . . . and implemented it and then it worked and it was like ‘that was fantastic’ and then it was done.’ (Participant 8) 'When I saw what had been learnt from . . . other sites that had done it and when I heard about what the evidence . . . I could see the potential. So, for instance, the lack of waste and the . . . improved nutrition for the patients (because they were actually getting what they wanted) and (were) more likely to eat it, and I could see the logic behind that so I didn’t need much persuading once I saw the experience and the evidence.’ (Participant 5) 'And we had given them a lot of training beforehand about difficult conversations and resistance you know, people who are resistant to change and how to deal with those people, which at the time I think the department thought we were absolute crazy people, like you know, ‘why, why are you telling us all this?’ which was actually vindicated because someone said that they’d used all of those skills in the first hour’ (Participant 1) | Beliefs about consequences Environmental context and resources Emotion | Beliefs about consequences Goals Optimism Behavioural regulation Social influences Social/professional role/identity Optimism Belief about capabilities |
Table 1. (Continued)

| Theme                              | Subthemes                        | Representative quotes                                                                                                                                                                                                                                                                                                                                                     | Barriers – TDF domain | Enablers – TDF domain |
|------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|
| (2) Navigating implementation      | (iv) Experiences and engagement  | *Because it’s about patients feeling in control. Patients often, particularly frail older patients in hospital, feel very out of control because they’re stuck in hospital, they can’t do anything, they can’t complete their own activities of daily living. It’s very disempowering. So to be able to have a menu and make choices and have some control is really good for them.* (Participant 4)  
*I think they feel quite proud serving this nice, new, fresh food and then I think they’re reenergized by the fact that the feedback they’re getting from the patients is just really positive.* (Participant 2)  
*For me the best thing is the compliments, the amount of compliments that we get is amazing.* (Participant 6)  
*After my ward rounds, I see empty trays and it’s such a good thing to see empty trays* (Participant 4)  
*At the end of the day it is about patient centred care, we have ideas as clinicians and therapists about how we want to do things but at the end of the day it’s the patient, the person’s in the centre* (Participant 4)  | Goals                  | Optimism  
|                                   | (v) The transition phase         | *We actually did a mock trial where the nurses upstairs would order food and we would take it up, you know those sort of scenarios... So we did that. All the cooks were involved in that, so well before going live they had a good understanding of how it would work. From reading dockets, to looking at allergens, to the cooking processes, all those sorts of things.* (Participant 6)  | intentions            | Environmental context and resources  
|                                   | (vi) Reorientation of the workforce | *The workforce changes and having enough time to recruit and train and work out the rosters, and, I think HR seemed to sort of drag their feet a bit on that. Um I mean we went live end of April, it was a year yesterday, and said to them we need early February, we need all the stuff signed off and they were really dragging the chain. I don’t think they understood the complexity and the severity, even though they had been involved in the key stakeholder meetings quite early on, I don’t think they really got the breadth of the scope of the impact from a workforce point of view. It is a significant impact* (Participant 9)  
*I suppose since the project board and the project officer didn’t continue on as long as they should have... probably in the end it probably just didn’t happen as quickly and as smoothly as it could have I think. And there are you know there are little things that crop up in those three months you know, with equipment and menu and those sorts of things probably could have been ironed out a bit easier. Yeah, if it had been yeah, for that kind of month longer really and the board in particular I think as well* (Participant 1)  
*And then I’ve tried to do my normal role, I couldn’t go in there and fine tune a lot of stuff... I couldn’t sort of evaluate it, like where are we going right, going wrong. We didn’t have any time to reflect, you know what I mean* (Participant 6)  | Environmental context and resources  
|                                   |                                 | Beliefs about consequences, Memory, attention and decision processes, Skills (physical)  | Behavioural regulation Beliefs about capabilities |                        |
project, but a hospital project' and as such led to the conclusion that a broad organization/facility wide environmental cultural scan exploring barriers and enablers would be beneficial for future sites’ room service roll-outs. Considerations of stakeholders extended from the proximal to more distal groups, including executive, food service, dietetics, medical, nursing, operations, speech pathology, pharmacy, administration, consumers, media/communications and information technology. Engagement with relevant unions was also to be considered well prior to implementation, as well as appraising the needs of the patients and the community.

Shortcomings in the process of consultation were noted to hinder a smoother implementation. It was felt that issues around menu planning could have potentially been overcome by ensuring the interdisciplinary steering committee had the correct stakeholder membership, with links to Executive and other decision makers for two-way information sharing.

The second subtheme, (ii) preparing for anxiety and tensions, acknowledged the expected trepidation that exists before large system change. However, this subtheme also encompassed strengths, recognized with stories of problem solving in allaying fears and ‘taking everyone on the journey’. Participants said breaking down and addressing problems systematically, and recognizing the evidence behind room service were enablers for its uptake. Participants discussed ideas on preparation required to help support culture change, including appropriate staff training and equipping change champions in each area.

The final subtheme related to (iii) structural and strategic considerations prior to implementation. These focussed on issues beneficial in preparing the service for the complex change. First and foremost was engagement of the executive. This early engagement was thought to assist in securing essential support for resourcing the remodel of the kitchen facilities. Other early engagement that was noted to facilitate change was the engagement of an experienced external consultant, as well as a well networked project officer for the project delivery. Participants also encouraged approaching the process with an ‘open mind and a positive attitude’ in the lead up to the implementation, as well as ensuring the change process had adequate time given to it.

The first subtheme of navigating implementation was (iv) experiences and engagement. These were reported as overwhelmingly positive for patients, personal satisfaction, staff groups and the system. Respondents reported feeling that patients were empowered and in control. Interviewees reported that operational/food service staff showed adaptability, ownership, and empowerment and felt proud, pleased and amazed at the results of the room service system and its outcomes. The positive feelings extended to staff’s pride in the significantly reduced waste and satisfaction with a more evidence based, patient focused approach. Minor negative comments were

| Theme | Subthemes | Representative quotes | Barriers – TDF domain | Enablers – TDF domain |
|-------|-----------|-----------------------|-----------------------|-----------------------|
| (3) Embedding sustainable practices | | 'The patient’s family can order for them, they can order remotely, plus the nurses can order by (the alternate system) so it just means that from a workload point of view there’s less demand on the workflow’ (Participant 9) | Environmental context and resources | Environmental context and resources |
| | | 'To streamline the job, use similar menus, you know and in the end too you know, looking at we could have one call centre in the middle of (the Hospital and Health Service), they don’t have to be on-site here, and then we have one call centre that you know does that does every meal order, it’s just a phone number.' (Participant 6) | Knowledge | Beliefs about capabilities |
| | | 'Engaging people on day one at their orientation program to let them know it’s coming …what it’s going to look and feel like so they can expect it, so there is no surprises …I’ll get staff that that have been to an orientation program, come to me and say wow, you know, You advised us of this and you asked us to be open minded and to embrace this and I’ve never seen anything as amazing as this in a hospital’ (Participant 2) | Environmental context and resources | Knowledge |

TDF, theoretical domains framework.
noted, mentioned as 'hiccups' or 'glitches' that were 'ironed out' through adaptability, further problem solving and collaborative decision-making.

The second subtheme was (vi) the transition phase. The success of undertaking a mock trial prior to go-live was highlighted. However, it was suggested that a more formal 'transition phase' during the commencement of the implementation of room service should occur. This was to allow a stock transition phase in the kitchen and ward imprest stores. When asked about their experiences of the actual go-live, participants said the extra staffing that was put on to allow for adjustment to the new system (with extra 'bodies' as runners and problem solvers) was essential to the smooth transition. A specific example noted was having all dietitians present and available on the wards and in the call centre to assist and problem solve during this go-live phase. This heightened teamwork and pressure was considered to be 'team building' and needed a 'celebration' once it was implemented to acknowledge the work achieved.

Interviewees also highlighted the process of managing (vi) reorientation of the workforce. In addition to the positive benefits from having a dedicated project officer, it was noted that there were more permanent staffing changes needed and early planning is required for this. As well as adequate resources, consideration of timely back up support or backfill of people undertaking key roles was recommended. Suggestions included requiring higher level workforce to be able to reorient to higher duties as well as restructuring the workforce and shift coverage (e.g. having two people making sandwiches at busier times). Earlier recruitment of operational/food service staff for the new roles was also recommended to allow plenty of time for training. Implementation could also have been enhanced by continuing the project board meetings for a longer period post go-live. Participants noted the potential benefit of having dedicated time allocated post implementation to review the changes and support any further problem solving that was required before resuming business as usual.

The final theme was embedding sustainable practices for future success. Types of ordering systems that allow families to assist patients to order were acknowledged as helping to take the burden off operational/food service staff. The possible benefits of utilizing a central call centre with a core, shared menu was noted if this model was rolled out across a number of sites within a health district. Finally, comments addressed ward and unit areas in which room service was not considered suitable as part of this rollout (such as rehabilitation wards with shared dining rooms), and suggested undertaking patient-centred problem solving to facilitate its adoption into the future.

As outlined in Table 1, barriers existed in the TDF domains of environmental context and resources, social influences, beliefs about consequences, memory, attention and decision processes, emotion, goals, intentions and skills (physical). Enablers existed in the domains of environmental context and resources, social influences, optimism, beliefs about consequences, beliefs about capabilities, behavioural regulation, goals, and social/professional role/identity.

Discussion
The current study explored the experiences and reflections of project team members and key stakeholders involved in the implementation of a room service model to inform the future adoption of the model. Broad support for the model was identified, despite initial trepidation, with anticipated benefits for patients, professional and operational staff, and the hospital reputation and finances. The foundations required for successful change required an assessment of the environment and culture, and addressing and preempting anxieties, particularly through stories of previous success. Potential for larger scale implementation across a number of facilities within a health service district was also considered.

Our findings have highlighted foundations of transformation, navigating implementation and embedding sustainable practices as key themes to consider when planning, implementing and sustaining foodservice change within highly complex systems. The synergy of our findings with contemporary models and frameworks for implementation, sustainability, scale and spread of system change are apparent. Building the reason to change, and keeping the change going, through embedding cyclical action-reflection evaluation early in the implementation have been highlighted in our results as integral to success. This aligns with prior theories, models, and frameworks that articulate problem identification and data feedback loops as foundational implementation processes to improve, sustain and spread healthcare improvements.13–18

Early stakeholder engagement is not only required as a foundation for transformation, but to inform cyclical, iterative codeigned change processes.10,18–21 Our findings confirm that engagement is a key component of navigating implementation and was shown to be an enabler to change. Undertaking this process should consider individual adopters (e.g. patients, health professional and operational staff), inner setting or organizational influencers (e.g. wards and units, dietetics and

ORIGINAL RESEARCH
Room service is a contemporary foodservice model, progressively being adopted in Australia due to increasingly documented positive patient and organizational outcomes associated with its implementation. This study adds rich information to understand factors that support the implementation of a room service model in a large public hospital. Future implementation of room service should not only consider measuring quantifiable outcomes, but also the importance of qualitative descriptive studies surveying project members and key stakeholders to further explore experiences, barriers and enablers to implementation and develop strategies to overcome challenges to assist further sites implement this model.

Conclusion: implications for research and practice

Room service is a contemporary foodservice model, progressively being adopted in Australia due to increasingly documented positive patient and organizational outcomes associated with its implementation. This study adds rich information to understand factors that support the implementation of a room service model in a large public hospital. Future implementation of room service should not only consider measuring quantifiable outcomes, but also the importance of qualitative descriptive studies surveying project members and key stakeholders to further explore experiences, barriers and enablers to implementation and develop strategies to overcome challenges to assist further sites implement this model.

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Consent for publication: Authors provide consent.

Availability of data and materials: These can be made available on reasonable request.

Competing interests
J.J.B. is a Medical Research Future Fund MRFF 2018 Next Generation Clinical Researchers Program – TRIP Fellow translating the SIMPLE program into healthcare settings including The Prince Charles Hospital. All other authors declare that they have no competing interests.

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