

# Technology for High Care

Using Design Sprint Principles to Develop a Stakeholder-Driven Technology Solution

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### Introduction

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The Royal Commission into Aged Care Quality and Safety concluded in their final report that the aged care system is well behind other sectors in the use and application of technology.<sup>1</sup> The Commissioners supported the adoption of smart technology to support both care and functional needs, manage safety and support the quality of life of older people.

In response to the Commissioners' recommendation on investment in ICT Architecture and technology (R109), the Australian Government committed \$28.5 million to improving aged care data and tracking quality. Universal adoption by the aged care sector of digital technology and My Health Record (R68) is also a feature of the Australian Government's response with the Government supporting residential aged care facilities to implement an electronic National Residential Medication Chart (eNRMC) as well as supporting the adoption of the My Health Record by June 2023.

The requirements for approved providers relating to digital technology and My Health Record will be included in both the new Aged Care Act proposed new Support at Home Program. This means that providers of aged care will need to implement digital technologies to be compliant prior to June 2023. In addition the new Act requires providers to ensure residents receive 200 minutes of care per resident per day (3 hours and 20 minutes), including 40 minutes with a Registered Nurse from October 2023. According to a study by StewartBrown<sup>2</sup> only 16% of residential care facilities are currently meeting the 200 direct care minutes requirement.

The complexities for providers in managing their workforce and meeting new regulatory requirements can be relieved by technology that provides data in real-time, allows for a more connected workforce and is highly interoperable with other systems.

When deciding on what technology is required, aged care providers could consider undertaking resident and staff focused design sprint research as outlined in this paper.

This approach not only develops a technology roadmap but also the basis of a strategy for implementation of assistive and smart technologies. In addition, valuable data gained during the process will support the business case and improve the chances that the provider chooses the right technologies, delivering the right information to the right people at the right time.

Royal Commission into Aged Care Quality and Safety, Final Report - Executive Summary, 2021, p. 77
StewartBrown, Aged Care Financial Performance Survey, June 2021

### **About Design Sprints**

Design sprint methodology is a user-led approach to product design and implementation. It is a time-constrained, phased process that uses design thinking with the aim of reducing the risk when bringing a new product, service or a feature to the market. The process aims to help teams clearly define goals, validate assumptions and decide on a product roadmap before starting development. It seeks to address strategic issues using interdisciplinary teams and usability testing.

The eevi team has worked with Stanford's, Ideo's and Google's Design Sprint frameworks and playbooks to build a best practice approach for aged care. It is an approach that can deliver a digital roadmap to aged care providers as to what care technologies should be considered within a high care setting.

In conjunction with the client, eevi set out to uncover new and innovative ways to solve resident and operator pain points in aged care settings. The clients were looking to access more data and insights than could be offered, particularly by the nurse call systems that were in operation at the time. The design sprint approach enabled the identification of key themes of importance to residents and staff, the rapid testing of proposed technology solutions, validation of these solutions with residents and the development of a recommended product roadmap.

This paper outlines the results of a design sprint undertaken by eevi in conjunction with two major providers of aged care and retirement villages. The outcome of the design sprint discussed in this paper led to the development of a product solution which is in operation today.



Developed from Stanford, IDEO & Google Playbooks



Discover pain points & problems



Test ideas with users



# Four Phased Approach

The design sprint approach offers a compact and robust process to explore opportunities and to develop and test ideas with users. It is a tool for developing a hypothesis, and testing it rapidly with as little investment as possible in as real an environment as possible.

The eevi design sprints operate over four phases with clients and stakeholders involved throughout the entire process, for co-design and validation.



Figure 1. eevi adapted design sprint methodology

# Phase 1. Data and Discovery

For the data and discovery phase, a list of questions was developed that aimed to elicit insights in regards to the existing pain points for residents, carers and staff, issues with current systems and the desired outcomes of technology. In addition to receiving over 1000 interview script responses, face-to face interviews were held over four locations with residents, carers and village managers or their support teams. The interview phase was based around the concept of empathic listening; actively listening without bias and trying to 'walk in their shoes'. Interviewers observed how users interacted with their environment and captured quotes, behaviours and other notes that reflected the experience.

The data was then analysed for recurring themes and insights. Six key themes were prominent across all data sets.



Key Themes Uncovered

- 1. Prevalence of Wandering and Memory Loss
- 2. Operational Efficiency Alerts and Communications
- 3. Operational Efficiency Workflow
- 4. Falls, Monitoring and Safety
- 5. Visibility to Family
- 6. Resident Experience



Face-to-face interviews

with Residents, Carers and Village Managers



# Phase 2. Problem Ideation and Validation

For phase two, workshops were conducted with the operators to review the themes and develop questions that would launch ideation. These are known as '**how might we**' (HMW) questions - broad enough to include a wide range of solutions, but also narrow enough to impose helpful boundaries. For example, between the too narrow "How might we create an ice cream cone that doesn't drip" and the too broad "How might we redesign dessert", is the properly scoped "How might we redesign ice cream to be more portable." <sup>3</sup>

### Theme 1. Prevalence of Wandering and Memory Loss



Context: Residents with dementia can provide challenges for providers, carers and other residents

- Make other residents feel ok living with other residents with dementia?
- Provide some separation for the dementia residents from other residents?
- Make our dementia residents, partners and families not feel isolated?
- Detect when someone has shifted from non-dementia to dementia and respond?
- Respond to dementia safety issues for carers, partners and other residents?
- Rethink how to handle and respond to issues with wandering?



### Theme 2. Operational Efficiency - Alerts and Communications

**Context:** Improve efficiencies (process, automation, technology) that enable more time to spend caring for residents



- Provide an efficient way of handling and managing alarm calls and directing them to the right person at the right time?
- Free time up for carers to respond to alarms and incidents?
- Use data to improve our responses to alarms?

- Create a hands-free messenger platform for carers and staff to communicate room to room and within the village?
- Create an Uber platform for residents to communicate with carers and management?

### Theme 3. Operational Efficiency - Workflow

Context: Improve efficiencies (process, automation, technology) that enable more time to spend caring for residents



- Entirely remove paper-based systems?
- Assist our carers to manage their schedules, visits and communicate it with residents and respond to unexpected events or delays?
- Create a Wikipedia and google search for all our data and information?
- Make reassessing a resident's care plan a positive experience?

- Leverage free time of residents and family to share the load?
- Simplify search and access to relevant information?
- Communicate to residents in case of delays or changes to schedule?
- Reduce administration time for carers and staff by automating activities such as progress notes, entering in data, etc?

### Theme 4. Falls, Monitoring and Safety

Context: Providing a safe environment for residents whilst keeping them in control and independent



- Protect our residents from falls?
- Build fall protection and detection measures into the home environment which are unobtrusive to residents?
- Reduce unnecessary call outs of ambulance services?
- Make safety a priority for our carers and staff?
- Set up guidelines to help carers and residents when a resident has fallen?
- Create a safety record like Qantas?





### Theme 5. Visibility to Family

**Context:** Provide families with visibility of heath needs and peace of mind that loved ones are ok



- Use the resident onboarding to align family on care expectations while intentionally building a relationship?
- Be the provider that looks after the family, not just the resident?
- Create a process that enables an ongoing conversation with families?
- Make getting to know the family a pleasure not a burden?
- Provide visibility of medical/health assessments and prepare families for expected or potential change requirements?
- Create a holistic view for family so they see their loved one is being well looked after?
- Share stories and pictures of their loved ones?

### Theme 6. Resident Experience

**Context:** Elevate and enrich resident experience by addressing pain points and opportunites to make a postivie impact (physical, social, emotional and intellectual)



- Shift to a model where we recommend for residents the right care needs at the right time for their current health situation?
- Still engage residents in activities and events as their mobility declines?
- Support the resident to perform simple functions in home?
- Observe changes to residents over time without being intrusive?
- Make it feel ok for residents to ask for help when they need it?



# Phase 3: Solution Ideation and Validation

Ideation is a process of "going wide" in terms of concepts and outcomes. The goal of solution ideation is to explore a wide solution space—both a large quantity and broad diversity of ideas. Solution ideas are then workshopped with the client to validate what is achievable and realistic for implementation now, or in the future, so that a product roadmap can be formulated.

Given the breadth of scope, for the purposes of this paper, the solution ideation focused on three of the key themes identified between the client and eevi. Other themes were highlighted as future scope potential. We are not expanding on that phase in this paper and will revisit for a future paper. The outcomes of the solution ideation informed the ongoing development of the eevi High Care solution set.



# Conclusion

Following the completion of Phase 3, eevi worked closely with clients for a period of approximately 18 months to create a purpose-built solution, forged through deep research and evolved through resident and carer participation. During this period, the solution was refined to cover the three key themes:

- Alert management
- Resident centred care
- Falls, monitoring and safety

The eevi product team, in close consultation with its clients, set out to explore a modular cloud based system that could provide better alarm management along with data and insights to efficiently manage care staff with an 'uber style' of care delivery - on demand information, efficient communications and seamless in its execution. Ultimately allowing more time for carers to be devoted to resident centred care and to support nursing staff providing 200 minutes of care.

The solution was intentionally created with open APIs with a view to partnering with other specialist technology providers that met key criteria uncovered in the design sprint process. Also to support upcoming regulatory requirements such as integration with My Health Record and electronic medication management.

eevi continues this work today and welcomes discussion on opportunities that will integrate best in class solutions to provide operators with quality and efficient care technologies that serve to provide positive changes to the lifestyle of residents and operational efficiencies of care staff.

At eevi, the design sprint methodology is consistently used for the development and testing of technology solutions designed to help elders enjoy a more independent life as they age. eevi products are unobtrusive, easy-to-use, reliable and adaptable and have been designed hand-in-hand with clients and their residents. Utilising today's leading technology hardware, eevi has created their own technology platform and ecosystem that easily integrates with provider's systems to optimise health outcomes of residents. This is achieved with desirable technologies that residents will understand and want to use.



# Introducing eevi care



eevi care is a cloud-based communications system for on-site resident centred care. It improves alert management with a simple, yet intuitive communication interface, allowing more time to be devoted to residents. Importantly, this system enables event historical reporting for valuable insights and care analysis.

**eevi care** is an ongoing investment and development project for eevi. At the time of writing of this paper, **eevi care** includes:

A cloud-based communications system for resident centred care.

Designed with carers for carers. Improving alert management with a simple, yet intuitive communication interface. Allowing more time to be devoted to resident-centred care.

Our wireless alarm call platform includes applications and services configurable to numerous operational protocols and personalised to the resident including:



#### **Carer Application**

- Triage calls intuitively
- Request for help through in-app messages
- See resident information
- Integrate with multiple sensors
- Integrates with RTLS for presence / routing

#### **Smart Annunciator**

- Real time view of events
- View outstanding and taken events
- View presence and status

#### eevi care Infrastructure

- Modular and personalised
- Cloud based, API driven
- Integrates with your platform
- Highly redundant, highly available
- Remote device management
- Self-testing with remote upgrades



Event Detail



# **David Waldie**

eevi Founder & Managing Director

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If you're intrigued by anything you've read here, if you're motivated to implement your own research focussed approach to care technology, we invite you to share your feedback. If you agree, great. If you don't agree, then that's OK too. We'd love to know either way as we can continue our work on user-led design technology to bring about positive and lasting change within the industry.

### **Our Vision**

We are for the Australians that need a little extra help. Our elders and those in our wider community.

Through easy to use technologies, we will enable safety and care in your home wherever you choose to live. And with a little help to make it work.

We are for the carers. Our role is to give you back more time for the things that matter. With data, insights and on demand information.

And we are for the friends and family in the wider circle of care. We know the importance of feeling confident your loved one is cared for.

We are your trusted experts in care technologies. Our promise is to treat your loved ones, and those in your care, like people for whom we are responsible. Because we are.

That's eevi. Care by your side.



For all enquiries please contact our sales team on 1300 802 738 or email sales@eevi.life. We would love to help.