PROJECT CHEF

(CO-DESIGNING HEALTHY & ENJOYABLE FOOD)

PATIENT-CENTRED FOOD REFORM

Version 2.0

October 2019




NSW GOVERNMENT | HealthShare

Scope Of Engagement

Item	Description
Objective of Engagement	***To build the case for change in patient food and co-design the principles & high level blue-print for a patient-centred food experience.***
Scope Of Engagement	> *This engagement is focused on the review and co-design of food solutions through food policy & application, food service delivery, and critical enablers. Nutrition care is explicitly out of scope.* > *This engagement provides context and an overview of the food policy environment, with a focus on the interpretation of the Nutrition Standards for Adult Inpatients and the interpretation of the Guidelines For Food Service To Vulnerable Persons. Nutrition Care Policy and Diet Specifications for Adult Inpatients are specifically out of scope.* > *This engagement is focused on Adult Inpatients. Paediatrics and Mental Health are explicitly out scope.*
Approach Taken	> *Perform a strategic review into the current state impact of food policy and food service delivery in creating the desired patient and NSW Health outcomes.* > *Research Australian and global best practice in the application of nutrition standards and food service models to create a patient-centred food experience.* > *Perform detailed analysis into the current state patient experience, the typical reference patient, intake and patient nutrition, recipe and menu design, meal choice, mid-meal uptake, food waste and sustainability, and texture modified meal innovation.* > *Engage with HealthShare NSW, Ministry of Health, ACI, and suppliers to understand the patient food current state.* > *Run focus groups with patients, physicians, nurses, Dietitians, Speech Pathologists, other Allied Health, food service staff, and to develop anecdotal evidence on the food experience.* > *Collaborate with cross-Health stakeholders to develop the principles for a patient-centric food experience.* > *Design level blue-print solution which realises the new principles, and asses the operational implications of implementation.* > *Understand the gap in critical enablers to support the new principles for the patient food experience.* > *Assess the impact of wholesale reform on patient-experience, cost, sustainability, and risk.*

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00

Executive Summary

What is the case for change towards a more 'patient-centred' approach to food?

Snapshot Of Patient Food

Patient food has undergone continual reform and improvement since the transition of food services operations began in 2008, but it is now time to pause and pivot to a more patient-centric approach.

13%

Increase in Meals Served [1,2]

Since the 2005 NSW Health Business Case for Food Services, the total number of patient meals served by HealthShare NSW across the NSW public health system have **increased 13%**, to over 24 million meals p.a.

19%

Reduced Labour Requirement [1,3]

Since the 2005 NSW Health Business Case for Food Services, the total number of food service staff has **reduced by ~500 FTE** to a dedicated workforce of ~2120 FTE in food service today.

Health Budget Increase

Total Food Budget <1%

Deprioritised Food Spend [1,3,4,5]

Since the 2005 NSW Health Business Case for Food Services, total food spend has remained fairly steady, however it has reduced from 4% to **under 1%** as a proportion of the total NSW Health budget.

10-20%

Improvement In Experience [6]

Annual survey results show 10-20% greater patient food & service satisfaction across food quality, service, and experience for hospitals with MFC.

State Wide Food Policy

Between 2011 and 2014, Nutrition Standards, Diet Specifications, and Nutrition Care policy established a NSW wide approach to patient food.

My Food Choice

The launch of My Food Choice (MFC) in 2014 has both improved patient food service and introduced patient nutrition intake transparency for the 47 currently participating hospitals.

Strategic Priorities

The 2019-20 NSW Health Strategic Priorities are placing an enhanced focus on value based healthcare and building an improved patient experience.

Patient Food Redesign

NSW has established itself as a patient food innovator, however the food experience would significantly benefit from a more patient-centric and cohesive design.

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1. 2005 NSW Health Business Case Development for Food Services: A Case for Change (EY) – Food Service Budget $219m ($299m inflation adjusted); 2,588 Food Service FTE (excluding CPU); 21.3m meals served
2. HealthShare NSW Food and Patient Support Services website – ~24m meal served p.a.
3. 2019-20 HealthShare NSW Food Service Budget – Budget $288m; 2,120 Food Service FTE based on 2018-19 actual plus known increase (excluding 60 FPU FTE)
4. Statement of Food Performance YE 2005, NSW Ministry of Health - Health Budget Actuals $10.4b ($14.2b inflation adjusted)
5. NSW Expenditure Budget 2019-20 – Health Budget $26.7b
6. HealthShare Patient Food Survey: data sample taken throughout (8 months) and 2019 (6 months) recording 21,750 meal experiences (breakfast, lunch & dinner)

Some Public Perceptions Of Patient Food

There remains work to be done to change the NSW public perception of patient food and contribute positively to the reputation of NSW Health.

Daily Telegraph; August 22, 2019

Patients share horror food stories from hospitals across Sydney

Patients have shared photos of nightmare meals they've been served while receiving treatment at hospitals across NSW after a breastfeeding mum was given an unrecognisable slab of meat at Campbelltown Hospital.

Daily Telegraph; August 21, 2019

Breastfeeding mother served unrecognisable meat at Campbelltown hospital

A mother who was on a strict diet while breastfeeding her allergy-prone son has been served up a questionable meal at one of Sydney's biggest hospitals, highlighting a rise in patients resorting to food delivery services. POLL: WHAT IS THIS MEAT?

Daily Telegraph; August 26, 2019

Prisoners dine in while hospital patients sentenced to slop

A top health official has apologised to NSW public hospital patients after admitting some had been served meals that were "definitely not up to standard".

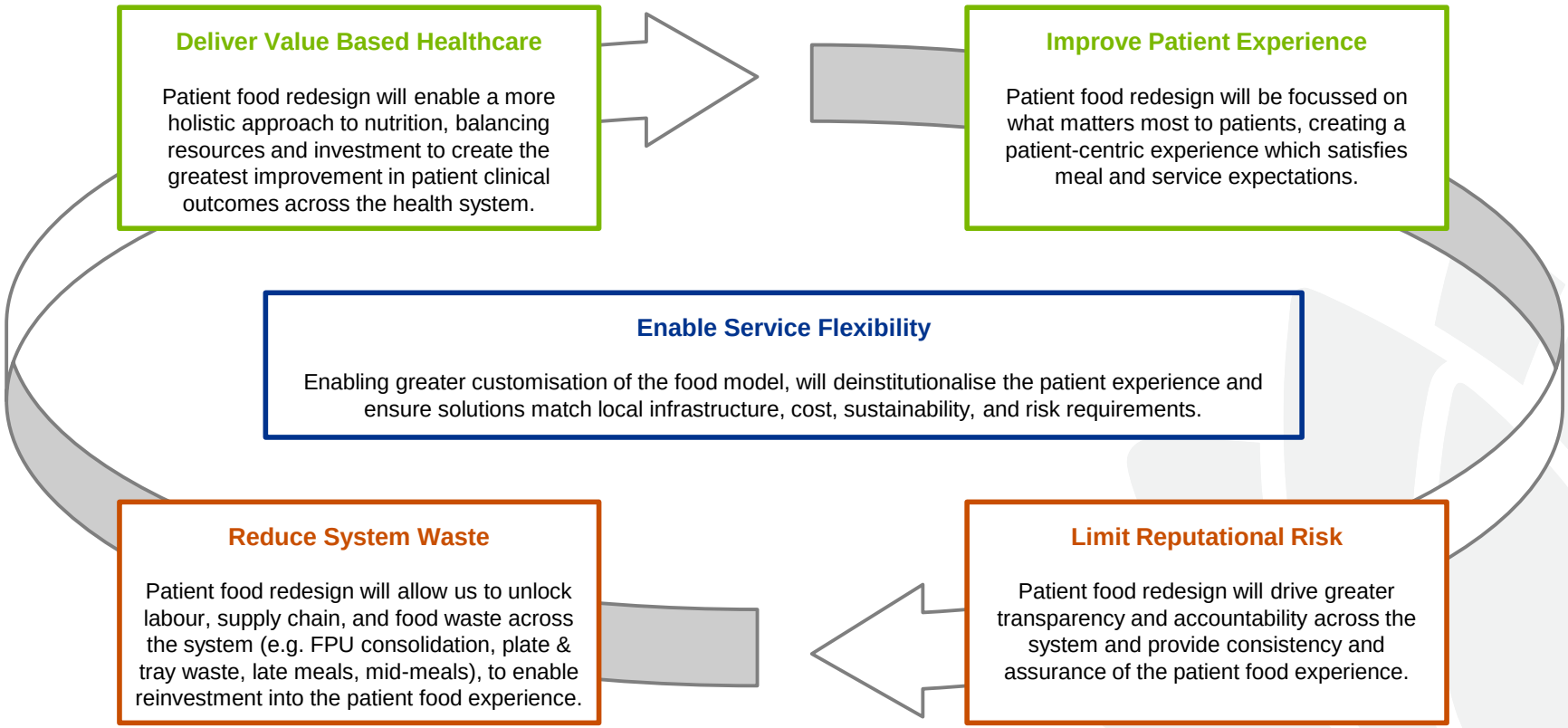
The Advertiser; September 16, 2019

Private hospitals roll out resort-style menu, as public hospital food does not impress

Private hospital patients are being offered a choice of dishes from a resort-style menu as public patients lament food on offer in the public system.

Impetus For Further Reform

With the NSW State Government increasingly focussed on customer service, NSW Health have the mandate to develop a more patient-centric food experience which benefits the system whole.



What Is Important To The Patient

There is broad consensus across both patient and NSW Health stakeholders on the patient priorities which must underpin a new food experience.

Variety

Patients want a broad range of food choices which are relevant to them personally.

Quality

Patients want delicious tasting and well presented meals that they know and like.

Customisation

Patients want greater capacity to customise and portion control their meals.

Availability

Patients want the ability to eat according to their appetite not a schedule.

Transparency

Patients want to be consulted and communicated with on food & diet decisions.

Accessibility

Patients want to be able to eat a meal without needing to ask for help opening a packet.

Tableware

Patients want the hospital dining experience to reflect their home dining experience.

Sustainability

Patients want an experience which avoids unnecessary food and plastic waste.

Framework For Patient Food

The Framework For Patient Food is a holistic representation of the food ecosystem and the outcomes we are seeking to achieve.

Patient Food Experience Considerations

- Acuity
- Diet
- Demography
- Length Of Stay
- Locality

Patient Experience Outcomes

Meal			Service		
Choice	Quality	Taste	Quality	Availability	Convenience

NSW Health Outcomes

Patient			System		
Safety	Nutrition	Experience	Cost	Sustainability	Risk

Food Policy & Application

NSW Health Policy, Regulations, Guidelines

Patient Nutrition Care (out of scope) [1]

- Admission & Diet Ordering
- Nutrition Risk Screening
- Referrals & Assessments & Care Planning

Food Service Delivery

- Product Development & Menu Design
- Menu Selection or Assignment
- Meal Preparation & Plating & Presentation
- Meal Delivery
- Collect & Capture Intake & Dispose

- Transfer of Care

Critical Enablers

- Analytics & Improvement
- Industry Partnerships
- Infrastructure & Equipment
- Information Technology
- Policy & Process
- Capability & Culture
- Governance
- Funding & Pricing
- Vision & Strategy

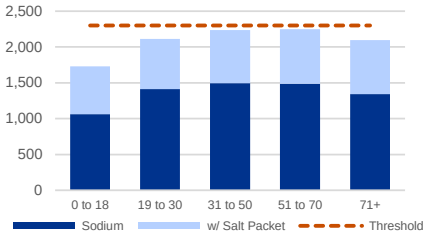
1. Patient Nutrition Care is out of scope for this engagement

Food Policy & Application

The application of nutrition standards and food safety policy, coupled with a 'push' service model, is creating avoidable waste, which a new model could address.

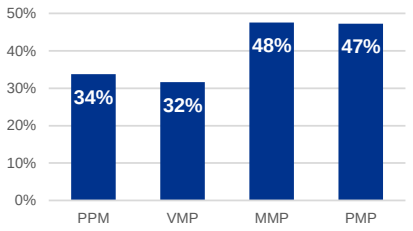
One Size Fits All

There is limited variation in the application of the Nutrition Standards today, in spite of many unique patient archetypes, including maternity, aged care, long-stay, and acutely ill patients.



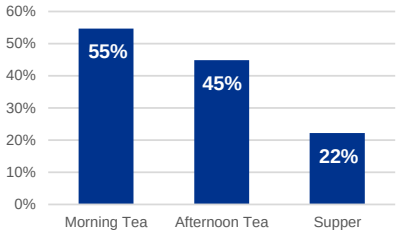
Daily Patient Sodium Intake [1]

Daily sodium intake per patient averages 61% of the daily allowance set in the Nutrition Standards ('no added salt' diet), which in practice equates to a 'restricted sodium' diet.



Side Serve Plate Waste [1]

The large servings specified in the Nutrition Standards limits vegetable variety offered in meal packs and contributes to plate waste averaging 34% (10-20% of meals aren't touched).



Mid Meal Intake [2]

Initial analysis suggests mid-meal food intake is very low, averaging 22% at Supper, and presenting an opportunity to redistribute resource into the patient food experience.

NSQHS Application

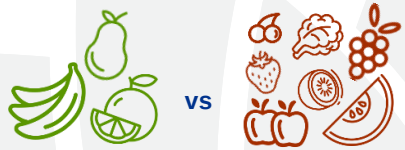
The current food system is focussed on compliance with NSQHS Section 5 relating to 'Comprehensive Care', but overlooks Section 2 relating to 'Partnering with Consumers'.

Meal Options

The application of the Nutrition Standards has resulted in the design of traditional or anglicised 'meat & 3 vegetable' meals rather than contemporary multicultural meals.

Product Choices

Nutrition Standard bandings prescribe a lower sodium content and larger serve size than most retail products, which can limit innovation and reduces access to 'off the shelf' products.



Application of Food Safety

Food service cost constraints and the interpretation of food safety policy differs between LHDs, resulting in limited service of fruit & vegetables which are liked by patients.

1. Patient food intake data taken from four hospitals within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019. Analysis includes Full/Simple diets only, and covers both main and mid meals.
2. Mid-meal intake data collected 24th and 26th of April 2019 across all 3 mid-meal services at 3 wards at Westmead Hospital.

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Patient Food Experience Principles

The principles for a new patient food experience will require realignment of food policy & application, food service delivery, and the critical enablers.

Food Variety

Enhance variety in food presentation & taste, serve size, and nutrients provided.

Menu Customisation

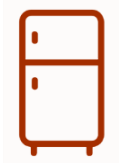
Common access to a diverse set of foods to allow design of appropriate local menus.

Patient Choice

Respecting a patient's right to obtain food externally or refuse delivery of a meal.

Meal Time Flexibility

Alternative models for short-order service delivery, that allow patients to eat when they are hungry.



Food Access

Innovations which enable access to food across out-of-hours periods & outside of common ward areas.

Less Plastic Tableware

An approach to tableware which more closely aligns to modern dining & sustainability expectations.

Patient Empowerment

Access to nutrition data & diet information to empower patients to make educated meal choices.

Experience Improvement

Enabling digital feedback for patient and 'agile' redesign of the food system to improve experience.

Evolution Of The Patient Food Journey

The proposed changes represent a natural progression for the food system and patient journey, furthering expanding on foundations established through earlier food models.

Food Model	Coverage (beds) [1]	Care Planning	Meal Ordering	Meal Prep & Delivery	Collect & Capture Intake	Experience
		The Patient Food Journey				
Non-MFC (Legacy)	~40%	Limited Meal Planning Consultation	Limited Out-Of-Hours Late/Spare/Default Meals Assisted Ordering Order 12-24hrs Before Paper-Based Menu	6 Main & Mid-Meals Cook Chill Model Limited Meal Choices	Limited Patient Feedback Food Intake Not Captured	
MFC (Emergent)	~60%	Limited Meal Planning Consultation	Limited Out-Of-Hours Late/Spare/Default Meals Assisted Ordering Order 2.8hrs Before Digital Menu	6 Main & Mid-Meals Cook Freeze Model Numerous Meal Choices	Limited Patient Feedback Food Intake Captured	
Future (Visionary)	0%	Routine Meal Planning Consultation	Full Out-Of-Hours No Late/Spare/Default Meals Self-Service Ordering Order 1hr Before Digital Menu	Flexible Meal Service Hybrid Service Model Customisable Meal Choices	Routine Patient Feedback Food Intake Captured & Shared With Patients	

1. Total beds in scope (excludes Multipurpose Services, Mental Health, Paediatrics) is 13,596 with MFC in place for 8,196 beds (~60.3%).

Potential Barriers To Achieving The Future Vision

There are a series of barriers to progressing the patient food experience across the patient journey, which can be overcome through a targeted reform programme

Vision

There isn't currently a consistent vision for patient food across NSW Health – change success will be founded on a vision that speaks to common principles and is championed by leaders.

Commercial Model

Current commercial arrangements involve cross subsidisation and don't always incentivise optimum solutions – a new 'user pays' pricing model will ensure outcomes are equitable, transparent, and cost-reflective.

Governance

Accountabilities for delivering and refreshing the patient food offering and experience are currently dispersed – a comprehensive and cohesive governance structure will enable an outcome focused model.

Capability & Culture

Mindsets are focussed on individual and organisational priorities – a culture that is focused on the overall patient outcome will drive system change.

Make Smart Investments

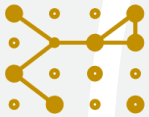
Under or mis-placed investments can hamper the evolution of the food service model – fit-for-purpose investments will support long-term returns in patient experience.

Partnerships

There are opportunities to improve contract management practise - a cooperative and transparent approach to partnerships will encourage innovation in food solutions.

Technology

Technology capabilities have evolved, but have not been fully leveraged – a flexible IT ecosystem can support clinician decision making, provide nutrition information transparency and enable a new patient experience.



Delivery Complexity

Making any change across such a large and dispersed system is challenging – opportunities to deliver incremental benefits through agile work packages will de-risk reform and encourage support.

Cost Recovery Opportunities

Reform of food policy application and food service delivery, will create unique cost recovery opportunities for each site, which are difficult to accurately quantify at this stage of design.

	Labour	Pre-Service Waste	Post-Service Waste
	Encapsulates the key activities delivered by Food Service staff, including meal ordering, preparation, delivery, food intake capture, collection of waste, and wash-up.	*Includes packaging, food ingredient, and finished goods waste created in the management of inventory and meal preparation activities.*	*Includes all irrecoverable tray waste created through uneaten or partially eaten meals, and items consumed by people other than the patients (e.g. staff, visitors).*
Non-MFC (Legacy)	**TBC** MFC program learnings suggests the rebalancing of labour between currently under and over-staffed sites will result in a cost neutral outcome. [1]	**TBC** Tidy Stores & a reduction in bulk bag size is delivering pre-service waste opportunities, however a shift away from a 'cook-chill' model can further reduce finished goods waste. [1]	**$7m - $10m** Meals with 0% intake represent 10% to 15% of all main meals served [2,3], with a significant number of these meals for patients who expressly asked not to be served and under a new food model, would not be served. Plate waste averages 26% to 47% today depending on diet type [2], which under a new food model would reduce to 17% (based on intake studies from model implemented in Mater Hospital Brisbane) [4].
MFC (Emergent)	**TBC** MFC will serve as the foundation of the new design and be further evolved, rebalancing existing labour across the new food service model to ensure a cost neutral impact. [1]	**TBC** MFC Program & Tidy Stores has largely delivered the pre-service waste opportunities through a transition to frozen meals and improvements in inventory. [1]	

1. Until there is a better understanding of LHD service preferences and the model options have been further developed, it is not possible to quantify potential labour or pre-service waste savings.
2. Intake analysis performed on data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.
3. KPMG HealthShare Patient Food Services – Service Delivery Model (October 2014): "10% of meals prepared are spare meals representing $7m in food service spend".
4. Room service in a public hospital improves nutritional intake and increases patient satisfaction while decreasing food waste and cost; S. McCray, K. Maunder, L. Barsha, K. Mackenzie-Shalders

What We Want To Do Next

NSW Health will pursue the design of a sustainability focussed & patient-centric food model, to be built around standard system-wide principles with agreed areas of customisation.

Near-term System Changes → Patient Centric Model Design

Menu Design

Realign application of nutrition standards & food safety policy to enable menus matching patient expectations.

Equitable Pricing

Standardise pricing for a primary food model, enabling discretionary choices via transparent and cost-reflective 'user-pays' pricing.

Meal Service Process

Embed consistent process to ensure approved patients who bring their own food or decline service, are no longer served a meal.

Sustainability Focus

Agree 'non negotiable' sustainability related design considerations and begin system wide application.

Service Planning

Future-proof planning of local infrastructure and equipment through alignment with a standardised 'principle based' design.

Concept Refinement

Concepts need to be further refined and developed via continued collaboration with the LHDs, Pillars, and consumers.

Business Case Development

The final concept must progress to business case development to weigh the costs, benefits, and risks of execution.

Proof of Concept

Pending business case sign off, the final concept will move into detailed design and piloting on different customer sites.

01

An Introduction To Patient Food

What is the context for the current state patient food experience in NSW?

An Introduction To Patient Food

Patient food is a unique proposition within the clinical environment and has the potential to be the highlight of a patient's hospital experience.

The Importance Of Patient Food

> The impact of adequate nutrition on patient outcome is well researched and documented, with nutrition playing a major role in disease prevention, recovery from illness, and ongoing good health.

> Australian studies suggest that malnutrition continues to go unrecognised and untreated, with rate of incidence as high as 32% of all hospitalised patients[1].

> Malnutrition lengthens the time to recovery for patients at a significant cost to NSW Health and is avoided by ensuring provision of ample energy and protein to prevent catabolism.

> There is also growing evidence for the psychological impact of food including the therapeutic use of comfort foods to expedite patient recovery, which is now reflected in the HealthShare NSW Food Services mantra "We make meal time the highlight of a patient's day".

> Food allergy and anaphylaxis are increasingly becoming significant clinical issues which need to be managed in the hospital food service environment.

> NSW Health plays a key role in nutrition across clinical environments through the assessment and service of patients, but also via community environments through nutrition education and intervention.

> Within the NSW Health system all patients are considered a "vulnerable person" which means they must meet the Guidelines For Food Service to Vulnerable Persons issued by the NSW Health Authority.

> Within a clinical environment there are 3 NSW Health managed dimensions, the design of which underpin the patient food experience: Food Policy & Application; Patient Nutrition Care; and Food Service Delivery.

The Changing Patient Food Landscape

> Patient expectations are evolving in response to societal trends, with a desire for greater meal customisation, "premiumisation", and immediacy of access.

> With 33% of Australians born overseas[2], multiculturalism is driving diversity in Australian tastes and religious dietary restrictions, whilst increasing health & ecological consciousness is driving a shift in dietary preferences, seen through 8% of Australians who follow a vegetarian diet[3].

> The incidence of food allergies has grown to 9% of all Australian children[4], whilst diabetes has become the fastest growing chronic condition in Australia, affecting 1.7m Australians and impacting their dietary needs[5].

> The number of Australians aged 75-84 will increase from 1.2 to 2.6 million[6] by 2047, which will increase the prevalence of texture modified foods and frailty.

> The Royal Commission into aged care is also likely to have a far-reaching impact across Australia on nutrition for the elderly, including greater scrutiny of the food and food services provided through NSW Health.

> Australian states and OECD countries are beginning to shift their patient food designs to be more customer-centric, most recently seen through:

- The relaunched QLD nutrition standards which enable new customer centric food service delivery models;
- The Victorian Government's decision to redesign their hospital and aged care nutrition standards to improve the patient food experience; and
- The UK Government announcing a major hospital food review across the NHS to improve food quality and the customer experience.

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1. Malnutrition and poor food intake, 2012. Agarwal, Ekta, Ferguson, Maree, Banks, Merrilyn, Batterham, Marijka, Bauer, Judith, Capra, Sandra, Isenring,
2. Language Loop, 2017. *Language Loop.* [Online] Available at: https://www.languageloop.com.au/news/australias-population-is-more-diverse-than-ever
3. Roy Morgan Research, 2016. *The slow but steady rise of vegetarianism in Australia,* Sydney: Roy Morgan.
4. Why the world is becoming more allergic to food, The BBC, 2018. https://www.bbc.com/news/health-46302780
5. Diabetes in Australia https://www.diabetesaustralia.com.au/diabetes-in-australia
6. Australian Institute of Health and Welfare, 2018. Older Australia at a Glance, Canberra : Australian Government.

Recent History Of Patient Food In NSW Health

The patient food system has recently undergone a period of continuous reform, underpinned by the centralisation of food services operations in 2008.

Sep 2006

Establishment of Health Support Services

Health Support Services (HSS) is established as the shared services arm of NSW Health.

Aug 2008

Food Services Begins Transfer to HSS

Area Health Service (AHS) food services begin transitioning into Health Support Services (HSS).

Nov 2009

MoH Nutrition & Food Committee Established

A central committee is established to direct NSW Health approach to optimising patient food & nutritional care.

Jan 2010

ACI Established

ACI is established with the specific purpose of driving innovation across the NSW Health system and the implementation of evidence based standards for the treatment & care of patients.

July 2010

Food Service Improvement Program

The Food Service Implementation Program (FSIP) is commenced with the purpose of improving food service quality and strategically position patient food for the future.

Nov 2011

Adult Nutrition Standards & Diet Specifications

The ACI leads the development of Nutrition Standards & Diet Specifications which ensure hospital menus allow patients to select food that satisfies their requirements and enhances their experience in hospital.

Dec 2011

The Patient Nutrition Care Journey

The ACI leads the development of the Nutrition Care Policy to support consistent processes across LHD / Specialty Networks in the provision of food, fluid, and nutritional care from admission to transfer of care.

Aug 2012

HealthShare NSW Established

HealthShare NSW is established from NSW Health Support Services.

April 2013

Pre-Packaged Meals Trial Launched

Frozen PPMs are introduced as an alternative to the predominant "cook chill" option.

March 2014

My Food Choice Design Piloted

A new Service Delivery Model concept is piloted at Mona Vale Hospital.

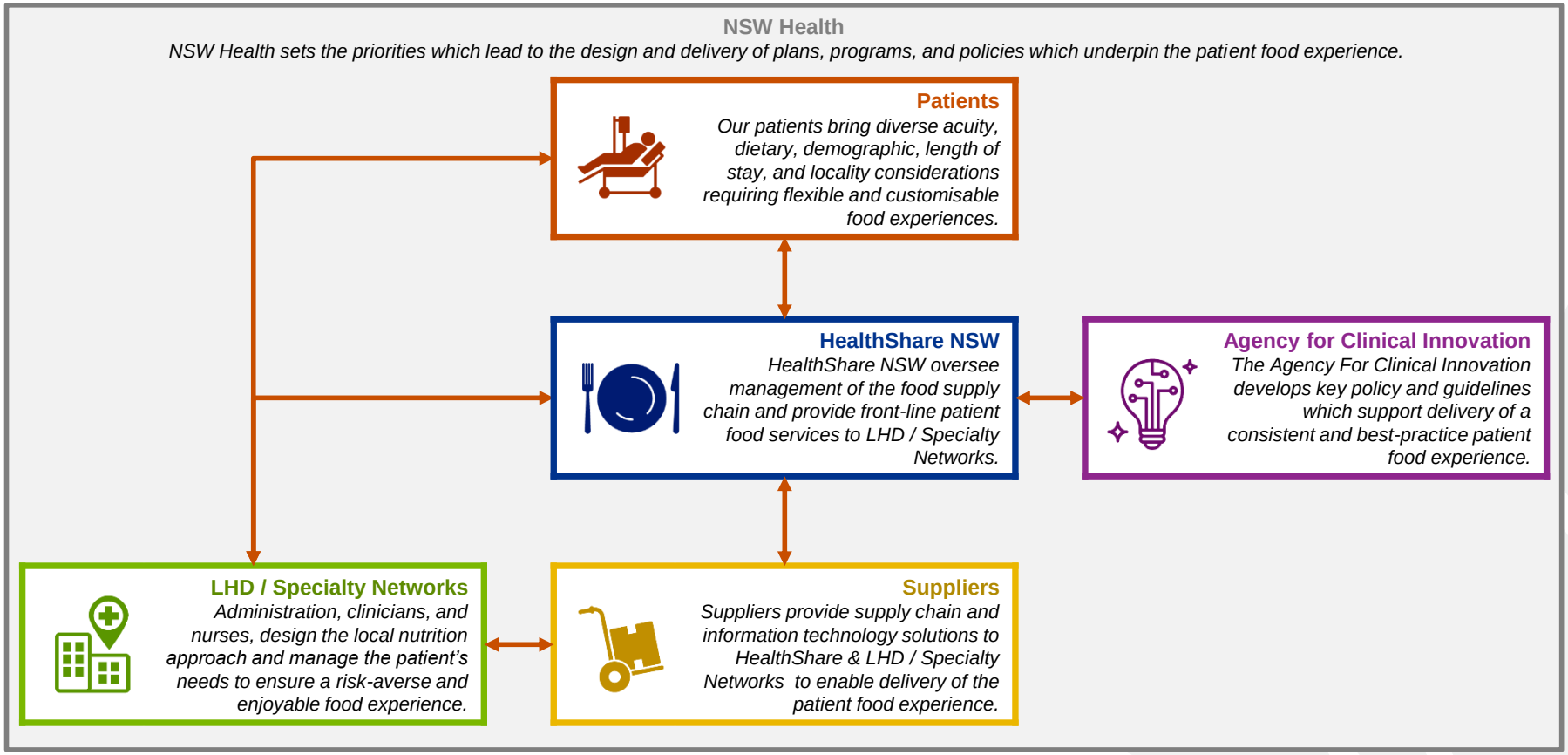
July 2015

My Food Choice Program Launched

The MFC Program is launched state-wide and begins roll-out in Northern NSW, Western Sydney, and Illawarra Shoalhaven LHDs.

Key Stakeholders Across Patient Food

Each key stakeholder group plays a unique role in the patient food experience and can identify opportunities to extract value from reform.



02

A Framework For Adult Patient Food

What are the key dimensions of the end-to-end patient food ecosystem?

A Framework For Patient Food

The Framework For Patient Food is a holistic representation of the food ecosystem, to enable strategic review of the current state and design of a future state patient-centric experience.

Patient Food Experience Considerations

- Acuity
- Diet
- Demography
- Length Of Stay
- Locality

Patient Experience Outcomes

Meal			Service		
Choice	Quality	Taste	Quality	Availability	Convenience

NSW Health Outcomes

Patient			System		
Safety	Nutrition	Experience	Cost	Sustainability	Risk

Food Policy & Application

NSW Health Policy, Regulations, Guidelines

Patient Nutrition Care (out of scope)[1]

- Admission & Diet Ordering
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- Referrals & Assessments & Care Planning

Food Service Delivery

- Product Development & Menu Design
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- Meal Delivery
- Collect & Capture Intake & Dispose

- Transfer of Care

Critical Enablers

- Analytics & Improvement
- Industry Partnerships
- Infrastructure & Equipment
- Information Technology
- Policy & Process
- Capability & Culture
- Governance
- Funding & Pricing
- Vision & Strategy

1. Patient Nutrition Care is out of scope for this engagement

Patient Food Experience Considerations

There are five key considerations which must be accounted for in the design of a patient-centric food experience.

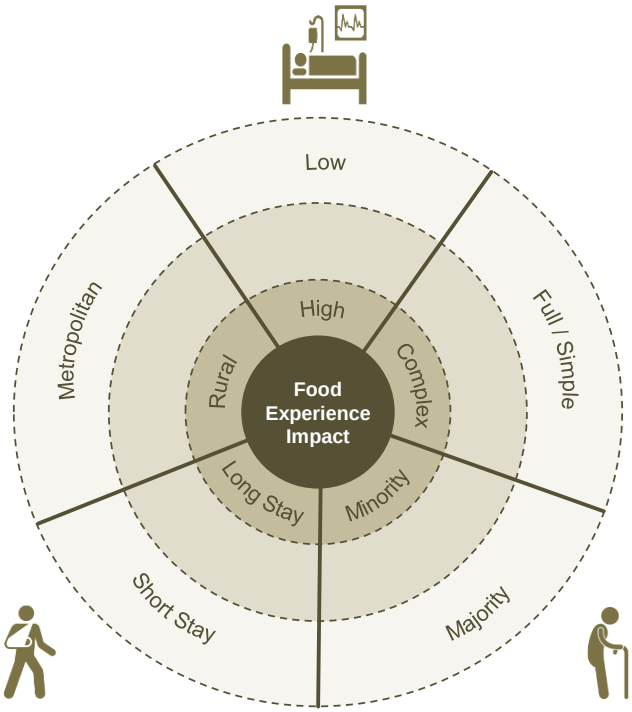
Acuity
Each patient's unique inbound nutritional status and specific medical condition requires a diet which matches their therapeutic need.

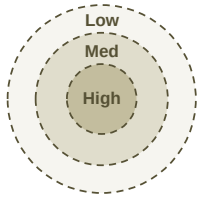
Locality
Hospital location and design impacts operational logistics which in turn affects food accessibility and quality.

Diet
Each patient brings distinctive dietary considerations, textural needs, and personal choices which require tailored meal options.

Length of Stay
Length of stay has a tangible impact on patient nutrition risk and defines the adequacy of patient meal choices.

Demography
Patient age, gender, ethnicity, and socioeconomic status impacts preferences around meal taste, meal size, and meal design.





Patient Experience & NSW Health Outcomes

Design of a patient-centric food experience must be able to balance outcomes from across the patient group and NSW Health.

Patient Experience Outcomes

Meal

Choice
- Ample menu variation is provided to encourage patients to participate in their own care.
- Sufficient choice ensures unique patient sensitivities, preferences, and diet can be met.

Quality
- Meals are cooked and assembled to ensure high quality presentation, aromas, and flavours.
- Fresh ingredients with high nutritional value are used to develop patient meals.

Taste
- Meals taste familiar and are appealing to the patient, enabling higher intake.
- Recipes are designed and named to match the expectations of the patient.

Service

Quality
- Support is readily available to aid selection, open packaging, help intake, and dispose of waste.
- Food service and clinical staff make the patient experience the best it could possibly be.

Availability
- Meals are delivered close to the time of order and are as ordered.
- Appropriate food options are available at the time the patient feels like or is able to eat.

Convenience
- Patients can plan and order their meals in a simple and intuitive way, without excessive intervention.
- Patients can receive and consume their meals without being inconvenienced.

NSW Health Outcomes

Patient

Safety
- Effective policy, accreditation, and compliance, ensures food safety, hygiene, and allergen control.
- Greater standardisation in sourcing & operations drives consistent patient safety outcomes.

Nutrition
- Effective patient nutrition reduces the likelihood of hospital acquired complications.

Experience
- Patient satisfaction is continually advanced through meal choice, quality, taste, and presentation.
- Patient satisfaction is continually advanced through service quality, availability, & convenience.

System

Cost
- An effective approach to patient food leads to a net reduction in patient length of stay in hospital
- The food model optimises waste, sourcing, labour management, and capital investments.

Sustainability
- A coordinated whole-of-network approach is used to reduce food waste, favour environmentally conscious packaging, lower energy use, and ensure ethical sourcing practices.

Risk
- Accountabilities are assigned to the NSW Health stakeholder groups best able to contain risks.
- Food does not introduce referred risk in the clinical setting (e.g. patient flow, medication provision).

The Patient Food Experience

The end-to-end patient food experience is shaped by the design and implementation of food policy & application, patient nutrition care, and food service delivery.

Food Policy & Application	
NSW Health Policy, Regulations, Guidelines	> NSW Food Safety policy and risk management. > Patient nutrition care policy, nutrition standards and diet specifications for adult inpatients.

Patient Nutrition Care (out of scope)[1]	
Admission & Diet Ordering	> Medical assessment relating to patients nutrition status (height, weight, allergies, dysphagia, religious needs, etc). > Prescription of a diet order informs the diet requirements and continued realignment across a patient's stay.
Nutrition Risk Screening	> Evaluation of patient nutrition risk using a screening tool.
Referrals & Assessments & Care Planning	> Referral to Dietitian for care planning & education based on malnutrition risk, chronic disease, acuity, or other issue. > Conduct assessment, develop nutrition care plan, and monitor progress to prevent a HAC.

Food Service Delivery	
Product Development & Menu Design	> Sourcing or development of food products and recipes. > Design of a menu which meets food safety policy, nutrition standards, dietary guidelines, etc
Menu Selection or Assignment	> Menu delivery and assisted selection to meet a personal nutrition care plan.
Meal Preparation & Plating & Presentation	> Production or assembly of main meals and mid-meals to match patient selection.
Meal Delivery	> Delivery of meal and engagement with the patient, including opening packaging. > Intake support or supervision as required.
Collect & Capture Intake & Dispose	> Collect and separate meal and packaging waste. > Document patient meal intake. > Dispose of waste centrally in appropriate manner.

Transfer of Care	> Patient discharge and information handover to responsible party to aid nutritional health, wellbeing, & independence.

1. Patient Nutrition Care is out of scope for this engagement

The Critical Enablers

The patient food experience is underpinned by a set of critical enablers which ultimately dictate the success of execution.

Critical Enablers	
Vision & Strategy	> A clear and well communicated understanding of the vision and goals. > Overarching strategies, defined initiatives to execute the strategies, and measurable outcomes to ascertain success.
Funding & Pricing	> Revenue streams, funding levers, and financial viability. > Customer pricing models, cost to serve, subsidisation, and pricing incentivisation.
Governance	> Key forums and information flows to drive compliance oversight, escalation, and decision making. > Delegations, controls, and effective risk management protocols.
Capability & Culture	> Design of functions, structures, roles & accountabilities, and spans of control. > Embedding capability, knowledge transfer, performance arrangements, culture, leadership, talent selection, and IR.
Policy & Process	> Appropriate overarching nutrition, safety, sustainability policy which is pragmatically interpreted and implemented. > Standardised processes, procedures, and practices for complex, cross-functional, or critical areas.
Information Technology	> Integrated software and applications architecture to support strategic information flows, data security, and productivity needs. > Technology hardware and infrastructure to support strategic information flows, data security, and productivity needs.
Infrastructure & Equipment	> Property and facilities footprint to accommodate operational needs. > Local equipment and infrastructure requirements.
Industry Partnerships	> Cost effective sourcing, new product development, innovation partnerships, shared risk, and commissioned outcomes. > Contract management of external partners, Service Level Agreement (SLA) oversight, and punitive measures.
Analytics & Improvement	> Strategic analytics & BI, performance reporting & dashboards, cascading KPI & target design, and management support. > Defined improvement cadence, continuous improvement programs, and performance step-change programs.

03

Food Policy & Application

How does NSW Health food policy work in practice?

An Introduction To Patient Food Policy

There are five principal policy, standards, and guideline documents which collectively form the foundation for the patient food experience.

National Safety & Quality Health Service Standards

These eight standards developed by the Commission are to provide a national approach which protects the public from harm and to improve the quality of health service provision.

The standards cover:
> Clinical Governance;
> Partnering with consumers;
> Preventing infection;
> Medication safety;
> Comprehensive care;
> Communicating for safety;
> Blood management; and
> Acute deterioration.

Guidelines for Food Service To Vulnerable Persons

These guidelines developed by the NSW Food Authority explain the mandatory requirements detailed in current food legislation, which are listed as a “must”.

The guidelines cover:
> The requirement to be licensed;
> How to implement a food safety program;
> How to comply with the Food Standards Code; and
> Control measures to demonstrate compliance.

Patient Nutrition Care Journey
(out of scope)

This policy directive authored by the ACI sets out the NSW Health framework for a strategic and coordinated approach to nutrition care for admitted patients.

The journey includes
> Nutrition screening, assessment, care planning and monitoring (MFC);
> Food and fluids provided;
> Mealtime environment and observation/ monitoring;
> Transfer of care; and
> Quality and safety.

Nutrition Standards for Adult Inpatients

These standards authored by the ACI and overseen by the Nutrition Standards and Diet Specifications Reference Group aim to ensure that hospital menus provide the opportunity for patients to select food that satisfies their nutrient requirements and enhances their hospital experience.

The standards detail
> Nutrient goals;
> Minimum menu choice standard; and
> Test menus.

Diet Specifications for Adult Inpatients
(out of scope)

These specifications authored by ACI and overseen by the Nutrition Standards and Diet Specifications Reference Group facilitate the coding of patients upon admission to ensure they receive nutrition which matches their personal dietary requirement.

The specifications detail
> Content of diet specifications;
> Use of specifications; and
> Review of specifications.

The Overarching Policy Environment

The patient food experience design is governed by Global, National, NSW State, and NSW Health legislation, policies, frameworks, & guidelines.

Global [1]

International Dysphagia Diet Standardisation Initiative (IDDSI) – a global standardised framework providing terminology and definitions for texture modified foods and liquids.

Codex Alimentarius – International food standards (established by Food and Agriculture Organisation (FAO) and World Health Organisation (WHO)) contribute to the safety, quality and fairness of international food trade.

ISO 22000 Food Safety Management – ISO has developed international standards that prescribe solutions for ensuring quality and safety in the food industry. The standards cover food products, food safety management, microbiology, fisheries and aquaculture, essential oils as well as starch.

WHO Nutrition Guidelines – the Department of Nutrition for Health and Development, in collaboration with FAO, continually reviews new research and information from around the world on human nutrient requirements and recommended nutrient intakes.

National [1]

Nutrient Reference Values for Australia & NZ – outline intake levels of essential nutrients required to meet nutritional needs of healthy people.

Australian Dietary Guidelines & Guide to Healthy Eating – provides advice on amounts and kinds of foods to eat for health and wellbeing.

National Safety and Quality Health Service Standards – protect the public from harm and to improve the quality of health services.

Australian Charter of Healthcare Rights – lists the rights of patients and ensures care is of high quality and safe.

EQuIP5 Standards – enables review of performance, assessment and accreditation, with a specific focus on safety, quality and performance.

Packaging Accessibility Rating – provides a single national standard for determining the ease of opening and safety of food products.

National Allergy Strategy – identifies strategies to optimise the management and prevention of allergic diseases.

Food Standards Code – legislative instruments that provide food, safety, and production standards.

NSW State [1]

Food Regulation & Food Act – aims to reduce the incidence of food-borne illness and ensure food for sale is safe/ suitable for human consumption.

Standards for Food Services (NSW Department of Health) – used to develop the current NSW Nutrition Standards.

Food Service Guidelines for Healthcare – guidelines for food service in healthcare for hospital managers, foodservice staff etc.

Guidelines for Food Service and Vulnerable Persons – prepared to help industry prepare a compliant food safety program.

NSW Health [1]

Nutrition Care Policy – prepared by ACI to enable all inpatients in NSW Health facilities to receive adequate and appropriate nutrition.

Nutrition Standards For Adult Inpatients In NSW Hospitals – prepared by ACI to ensure that hospital menus provide the opportunity for patients to select food that satisfies their nutrient requirements.

Therapeutic Diet Specifications For Adult Inpatients – prepared by ACI to describe the foods allowed / not allowed in each diet.

1. Additional detail and references contained in Appendix D

The National Safety & Quality Health Service Standards

Relevant National Safety & Quality Health Service Standards must be accounted for in the design of a patient-centric food experience.

Overview Of The Standards

> The primary aims of the NSQHS Standards is to provide a nationally consistent statement on the level of care via eight standards, two of which must be accounted for in design of a patient-centric food experience:

2. **Partnering With Consumers**[1] (Partnering With Patients in their Own Care): Standards 2.3-2.7 describe the need for health organisations to partner with patients in the design of health services. This includes
    - 2.3 Facilitating access to relevant orientation and training for consumers and/or carers partnering with the organisation.
    - 2.4 Consulting consumers on patient information distributed by the organisation.
    - 2.5 Partnering with consumers and/or carers to design the way care is delivered to better meet patient needs and preferences.
    - 2.6 Implementing training for clinical leaders, senior management and the workforce on consumer engagement.
    - 2.7 Informing consumers about the organisation's safety and quality performance in a format that can be easily understood.
5. **Comprehensive Care** (Minimising Patient Harm through Patient implementing quality systems to support comprehensive care): This includes
    - 5.2 System to support the identification of patients at risk through the monitoring. reporting, investigation and change management.

Implications For Patient Food Experience

Partnering with consumers means:

> Patients should have the opportunity to provide **continuous feedback** on their food experience (incl. quality of meals, menu design and meal options as well as food service).

> Patients have a right to **access information** not only about the hospital's quality performance, but also about any decisions made by clinical staff regarding their diet order and prescription, or nutritional support.

> Patients should receive **safe and high-quality care**, which includes adequate meal choices and not having spare meals which don't address their allergies or preferences.

> Patients' **food choices and preferences** should be respected in an attempt to provide them with the best patient experience.

> Patients should receive the **best possible care** by clinical and other hospital staff, including assistance with opening meal packaging, cutting food etc. and ensuring they can access their table and food.

1. It is noteworthy that the **Australian Charter of Healthcare Rights,** which aims to help everyone working together towards a safe and high quality health system, also stresses patients rights to communication and participation in the design of health services.

The Guidelines For Food Service To Vulnerable Persons

The interpretation of the Guidelines For Food Service To Vulnerable Persons has significant implications for the patient food experience in hospitals.

Overview Of The Guidelines

> The Guidelines have been prepared by the Food Authority for food service to vulnerable persons to help industry prepare a food safety program that will comply with the NSW Food Regulation 2015 and Food Standards Code.

> They explain mandatory requirements detailed in current food legislation, which are listed as a “must”.

> A ‘vulnerable persons’ business such as acute care hospitals and nursing homes must implement a food safety program that should address the receival of food (incl. temperature of received goods, storage, transport, further processing of food and prevention of cross contamination).

> The guidelines also address

- menu design specifying control measures for high risk foods, modified diets and foods brought in from home;
- preparation and storage of ready-to-eat foods that are not cooked;
- cook serve foods (incl. cooking temperatures, plating, reheating cooked foods);
- cook chill foods;
- preparation of texture modified and pureed food; and
- allergen control.

Implications For Patient Food Experience

> The ‘4-hour / 2-hour storage rule’ prescribes that meals must be disposed of between a time frame of 2-4 hours, which means that elderly patients or slow eaters don’t get enough time to eat their meals.

> As control measures for potentially hazardous foods are strict, it has significantly impacted patient choice, taste and quality of the foods:

- Many facilities have opted not to serve high risk foods such as fresh fruit (e.g. melon), lettuce, soft cheeses or seafood due to the strict preparation guidelines, which has resulted in menus with limited fresh food options.

> Facilities must have policies around managing food brought in from home by friends and relatives. Not only do home-cooked meals have to comply with control measures for higher risk foods, but if reheated their temperature must be above 60C which can be difficult to ensure without access to a thermometer.

> Patients must store potentially hazardous food in fridges or freezers to maintain an appropriate temperature. This can be challenging as not all wards have sufficient fridge space.

The NSW Health Adult Inpatient Nutrition Standards

The Nutrition Standards For Adult Inpatients in NSW Hospitals are defined through the Nutrient Goals ("The Standards") and Minimum Menu Choice Standards.

Nutrient Goals

> The Nutrient Goals ("The Standards") are based on scientific evidence and establish the recommended intake levels of key macronutrients and micronutrients for a 76kg, 51-70 year old, male reference patient.

> The Nutrient Goals are broken into two components:

1. **Macronutrient goals** (energy & protein) are averaged over a day.
2. **Micronutrient goals** (vitamins & minerals) are averaged over a week.

Macronutrient	Value	Function	Rationale
Energy	8000kJ/day	Target	Insufficient energy intake can lead to malnutrition.
Protein	90g/day	Target	Protein is needed for growth and wound healing.
Fat	NA	NA	Fat can lead to cholesterol problems.
Fibre	30g/day	Target	Essential for digestive tract.
Fluid	2.1-2.6l/day	Target	Adequate hydration needed for healing.

Micronutrient	Goal		Rationale
Sodium	2300mg/day	Threshold	Sodium can impact blood pressure & heart disease.
Vitamin C	45mg/day	Target	Patients tend to be deficient in vitamin C.
Folate	400µg/day	Target	Patients are at risk of inadequate folate intake.
Calcium	1000mg/day	Target	Elderly people have higher requirements for calcium.
Iron	11mg/day	Target	Recognised as an at risk-nutrient in Australia.
Zinc	14mg/day	Target	Important for wound healing and immune function.

Minimum Menu Choice Standards

> The Minimum Menu Choice Standards encompass the application of "The Standards", extrapolating the Nutrient Goals down to detailed instructions for patient meals and menus.

> The Minimum Menu Choice Standards are deployed via 5 parameters:

1. **Menu items**: the discrete food and drink components specified for consumption by a patient across a day.
2. **Minimum choices**: the minimum number of varieties or combinations of menu items to be available to patients per day (or per meal).
3. **Minimum serves**: the minimum serve size of a menu item & the serve size tolerance allowed (±10% of weight).
4. **Nutrients per serve**: the macronutrient & micronutrient specifications for the menu item (focussed on energy, protein, fat, sodium).

> The Minimum Menu Choice is realised through a "main meal" and "mid-meal" menu choice standard, which is a presented in a table and supported by a Banding arrangement which segments the design of items based on the stringency of their nutrient content:

1. **Band 1**: the most prescriptive energy, protein, fat, and sodium specification for an item
2. **Band 2**: the second most prescriptive energy, protein, fat, and sodium specification for an item
3. **Band 3**: the least prescriptive energy, protein, fat, and sodium specification for an item

The Original Vision for Adult Inpatient Nutrition Standards

The Nutrition Standards were introduced in 2011 following the 2008 Garling Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals.

Nutrition Standards for Adult Inpatients	
OVERVIEW & INTRODUCTION	> The ACI, under the auspices of the Nutrition and Food Committee of NSW Health, has developed a suite of nutrition standards for adult inpatients, which form part of a framework for improving nutrition and food in hospitals. > The ACI Nutrition in Hospitals group, commissioned Associate Professor Peter Williams to lead development of the nutrition standards in 2011, 4 years prior to the design and introduction of My Food Choice. > The NSW Standards were modelled off the Nutrition Standards for Menu Items in Victorian Hospitals and Residential Aged Care Facilities published in 2009. > The standards were designed around a reference patient who is 76kg, male, and between the ages of 51-70 years.
OVERALL GOAL	*Hospitals in NSW will provide safe, nutritious and appetising high-quality meals of sufficient variety that meet the needs and expectations of patients and which are a model of nutritional best practice in institutional food service.*
OVERARCHING PRINCIPLES	1. NSW Health acknowledges a **duty of care** to ensure access **to safe, appropriate and adequate food and fluid** for patients. 2. The menu will offer **choices that are appealing** and which patients enjoy to help them meet their nutritional requirements. 3. Menu design will be based on the needs of the local hospital population, and will apply best-practice principles in menu planning, taking into account the **psychosocial, cultural and religious** needs of the patients. 4. The menu design and choices offered will maximise the opportunities for patients to consume the **number of serves from each of the core food groups**. 5. The NHMRC's Nutrient reference values for Australia and New Zealand will be the basis for developing menu standards that are adequate in nourishment and hydration. Menus should provide sufficient food and beverages to enable all patients to at least meet their **Recommended Dietary Intake (RDI) targets**. 6. Many patients will have **above-average nutrient needs** due to their age, disease state and / or the impact of treatment. The hospital meal service will enable access to **adequate quantities** of appropriate foods and fluids. 7. Where possible, a patient's nutritional requirements should be provided from food. **Oral supplements** should not substitute for, or be relied on, to enhance provision of adequate food and fluid unless there are clear clinical indicators. 8. Within a meal and over the day, **variety** with respect to food colour, texture, taste, aroma and appearance will be offered. 9. The effectiveness and usefulness of these standards will be **reviewed and evaluated** on a regular basis as part of a commitment to continuous service improvement.

Nutrition Standards Patient Coverage

The Nutrition Standards were designed to cover needs of patients who are nutritionally well and patients who are nutritionally at risk, but are being deployed across many other patient groups.

Nutrition Standards Coverage

> The Adult Inpatient Nutrition Standards cater for adult inpatients, with separate standards developed for paediatric & mental health patients.

> Whilst the Nutrition Standards are specifically designed for two types of low complexity patient diets, they also help form the foundation for development of diets for patients with more complex special therapeutic needs:

- ✓ **Patients who are nutritionally well** – previously healthy, patients with good appetite and dietary needs in line, with the general population.
- ✓ **Patients who are nutritionally at risk** - admitted with poor appetites, physical difficulty eating, cognitive or communication problems, acute illness or treatments affecting intake or appetite.
- x **Patients with high nutritional needs** - malnourished patients, lactating women, patients with increased nutritional needs due to condition (e.g. cachexia, trauma, surgery, burns).
- x **Patients with special needs** – cultural or religious dietary needs, therapeutic diets, texture-modified food and fluids.

> Comprehensive definitions of the two patient categories covered by the Nutrition Standards are not articulated in the standards document.

> The Adult Inpatient Nutrition Standards are currently employed beyond their original scope and also used for “Patients with special needs” (therapeutic, religious & cultural, and texture modified diets) and MPS residents.

> HealthShare utilises the Menu Review tool developed by the ACI Nutrition Standards and Diet Specifications Reference Group to assess the compliance of hospital menus to the ACI Nutrition Standards for “FULL” diets.

Alignment With Diet Orders

> A “diet order” is the prescription & record of a patient’s nutritional & dietary requirements during a hospital stay, setting parameters for food choices.

> A diet order is set at hospital admission (generally by nursing staff) and is continually updated across a patient stay, using a selection of 178 diet codes to define the patient needs.

> Given the large number of combinations possible in the application of diet codes, there is no specific direction to enable the alignment of a patient diet order to the four categories of inpatient specified by the Nutrition Standards.

> Across the application of the 178 diet codes, HealthShare have created a sub-set of “roll-up” diets which are used to simplify the diet order and direct patients towards the menu most likely to suit their personal need, with the nutrition standards designed to cover one out of the eight diet types:

- ✓ Full/Simple Diets
- x Therapeutic Diets
- x Texture Modified Diets
- x Fluid Diets
- x Bulk Diets
- x Nil By Mouth (Enteral, Paternal)
- x Feeds & Foods
- x Paediatric Diets

> In practice, the application of therapeutic and texture modified dets also use the Adult Inpatient standards (via recipe & menu design), as there is no alternative nutrition standard available to accommodate these diet types.

A Comparison Of State Health Nutrition Standards

A review of Australian state health standards indicates an emerging focus on protein and energy malnutrition, which is superseding daily observance of micro-nutrient goals.

State Health Nutrition Standards Comparison

State	Nutrition Standard	Nutritional Focus & Goals	Application & Menu Choice
NSW	Nutrition Standards for Adult Inpatients in NSW Hospitals, 2011	• **Focus**: Nutritionally well and nutritionally at-risk patients • **Goal**: Provide safe, nutritious and high-quality meals	• Strict portion size & tolerance (+/-10%), meal choice, and design specs per menu • Prescriptive extrapolation of energy, protein, fat, and sodium nutrient goals to a recipe level
VIC	Nutrition Standards for Menu Items in Victorian Hospitals and Residential Aged Care Facilities, 2009	• **Focus**: Nutritionally well and nutritionally at-risk patients • **Goal**: Provide measurable nutrient goals and standards	• Strict portion size, little tolerance, introduction of meal band concept, very specific meal design specs with detailed recipe analysis instructions • Prescriptive extrapolation of energy, protein, fat, and sodium nutrient goals
SA	Menu and Nutritional Standards for Public Hospitals in South Australia, 2009 (2014)	• **Focus**: Nutritionally at-risk patients • **Goal**: Ensure patients have access to food that meets nutritional needs and creates a sense of well-being	• Strict portion sizes, meal choice, not prescriptive about meal or recipe design • Nutritional goals focus on energy and protein, no extrapolation of micro-nutrients e.g. sodium • Standard tailored to patient groups (mental health, long stay, etc)
QLD	Queensland Health Nutrition Standards for Meals and Menus, 2018	• **Focus**: Nutritionally at-risk patients • **Goal**: Set out overarching principles that ensure a quality, patient–focused, food and nutrition service	• Broad portion size allowances • Strict meal choices per menu • Prescriptive extrapolation of energy and protein to a recipe level. • Standard tailored to patient archetypes (long stay, short stay, maternity, etc)
WA	Nutrition Standards for Adult Inpatients in WA Hospitals, 2012	• **Focus**: Nutritionally at-risk patients • **Goal**: Guides food suppliers and assists menu design and planning	• Modelled on the NSW standards with strict portion sizes, meal choice, and menu banding design specs • Prescriptive extrapolation of energy, protein, fat, and sodium daily nutrient goals

Key Insights

> A comparison of state health nutrition standards reveals a high degree of similarity across the nutrition goals, with most modelled off the 2009 Victorian nutrition goals.

> States which have recently updated their nutrition standards (QLD, WA, SA) demonstrate an increasing focus on designing for the “nutritionally at-risk” population, rather than an equal focus on the “nutritionally well” population.

> Portion sizes for all major meal components are specified across all states. Serve size can vary however, with QLD allowing flexibility for different patient types.

> All states, put a focus on meal choice by prescribing a minimum choice of meals and meal components that must be available to patients

> Standard menu items (sandwich, salad, dessert, etc) and meal components (protein, starch, vegetables) are comparable across all states.

> States which have recently updated their nutrition standards (QLD, SA) have removed specific references to sodium and fat thresholds, but have increased their focus on protein and energy.

Food Policy & Application Case Study

QLD Health have built a culture in which parties responsible for both food policy and its application work hand-in-hand to explore ways to improve the patient food experience and nutrition outcomes.

Context

QLD Health Structure & Operation

- QLD nutrition planning, strategy, and policy for food services is led by the Coordinator of State-wide Foodservices QLD. All other nutrition policy is handled by the QLD Health Nutrition & Diet Leaders Coalition (QHNDLC).
- Food service operations is fully decentralised but application of the nutrition standards is coordinated by the Dietitian of State-wide Foodservices QLD, in consultation with the Dietitians and Food Service managers.

QLD Nutrition Standards Application

- Standards are only focused on nutritionally at-risk patients and not nutritionally well patients, and are tailored to specific patient architypes (i.e. acute short stay, acute long stay, maternity, paediatrics, residential aged care, mental health and acquired brain injury).
- Patient menus are be designed to give nutritionally well patients a selection of meals compliant with nutrition goals, whilst also providing a selection of meals which are not, enabling patients to make their own choices.
- Patients are allowed to refuse meals if they do not have the appetite.
- Banding specifications focus on protein and energy, whilst steering away from setting sodium and saturated fat thresholds.
- Meal weight specifications differ to NSW, allowing for variety in serving sizes.
- QLD Health and The National Allergy Strategy in partnership have developed a food allergen management in food service best practice guideline.

What can we learn?

Working Relationship

✓ Cross-network working relationship
✓ Collaboration in standards design & application

The working relationship between the planning & development and central foodservice coordination is highly effective, as all relevant parties provide input (e.g. Dietitians, representatives from mental health facility and hospitals, and Food Service Managers). This allows for standards to be mutually agreed and updated accordingly to meet the working group requirements.

Decentralised Model

\- Mixed patient food experience
× Complex assurance of standards

The decentralisation of operation and application of standards in hospitals and health facilities has resulted in a mixed patient food experience. The standards provide flexibility to tailor model to local patients, scale and logistical needs and in some cases has led to innovation and excellence.

The application of standards are inconsistent (e.g. due to multiple SDM models) making it's assurance more complex.

Flexible Interpretation

✓ Greater optionality in SDM design
✓ More tailored outcomes for hospitals & patients

Greater flexibility in interpretation of the standards has allowed tailoring of food model designs across QLD, enabling innovative hospitals to implement a best-in-class patient food experience.

1. Interview from Coordinator of Statewide Foodservices at Queensland Health.

04

Food Service Delivery

How does the NSW Health food service delivery environment work in practice?

An Introduction To Food Service Delivery

Food service delivery is made up of five dimensions which collectively help enable optimal patient and NSW Health outcomes.

Food Service Delivery Context

1 Dimensions of Patient Food Service

Food service delivery is a core part of the patient food experience, the design of which has a direct impact on meal and service outcomes, as well as NSW Health systems outcomes.

There are five dimensions which encompass food service delivery:

1. Product Development & Menu Design
2. Menu Selection or Assignment
3. Meal Preparation & Plating & Presentation
4. Meal Delivery
5. Collect & Capture Intake & Dispose

2 Food Service Delivery Considerations

It is critical to account for the patient food experience considerations when developing a food service model, as local patient and hospital considerations will influence the most effective design to employ.

There are five patient food experience considerations to account for:

1. Acuity
2. Diet
3. Demography
4. Length of Stay
5. Locality

Food Service Delivery Models In NSW Health[1]

There are two main food service delivery models in place across NSW:

1. Non-MFC (Legacy)	2. MFC (Emergent)
Current bed coverage: ~40%	Current bed coverage: ~60%
> Model uses cook-chill (bulk), cook-freeze (meal packs), and cook-fresh (salads & sandwiches) across facilities (including MPS and regional hospitals). > Food service processes under Non-MFC are predominantly paper-based and lack technology enablement. > Much of the food and patient data is not captured effectively, leading to a lack of analytics available in waste, intake, labour efficiency, etc. > Meal ordering is generally 12-24 hours prior to meal time.	> Model allows use of any cook serve approach (cook-fresh, cook-chill, cook-freeze), however has been almost exclusively implemented today using cook-freeze (meal packs). > Food service processes are consistent and well defined across all MFC hospitals, with specialised technology and infrastructure to support. > Large amount of patient and food data are captured to provide greater insight into intake, waste, labour efficiency, etc. > Meal ordering is generally 2.8 hours prior to meal time.

1. Total beds in scope (excludes Multipurpose Services, Mental Health, Paediatrics) is 13,596 with MFC in place for 8,196 beds (~60.3%).

The Original Vision for My Food Choice

My Food Choice began introduction across NSW in 2014, is currently in place across in 47 hospitals, and planned to be implemented across the rest of the network over the next 3 years.

My Food Choice	
OVERVIEW & INTRODUCTION	In order to tackle major challenges (e.g. inconsistent legacy processes and different food services models with varying efficiencies and costs), Food Service Delivery has been undergoing transformation since 2012. Transformation initiatives included the introduction of nutritionally compliant menus and an upgraded ICT system, the trial of pre-packaged meals and real-time data capture through tablets. The new "My Food Choice" (MFC) model was piloted at Mona Vale Hospital in March 2014 before the state-wide program launch and roll-out in 2015. The transformation of the Food Service Delivery Model has been driven by patient centricity and supported by a sustainable, compliant Food Service Delivery system. > Each Local Health District has a unique combination of hospital categories (based on location and number of beds) and patient mix, requiring an adaptive Service Delivery Model, which supports mitigation of the risk of hospital-acquired malnutrition. > MFC aims to integrate simplicity, transparency, technology and information to change hospital based food services. > Choice is a key enabler of the model; choice provides variety to patients (even with complex nutritional requirements), and in doing so drives patient satisfaction, consumption and positive nutritional outcomes.
OVERALL GOAL	Create an enhanced food service delivery model that drives > Patient satisfaction; > Patient nutrition; > Sustainability; and > Compliance.
KEY DIMENSIONS	1. Redirect focus onto the patient as a person, rather than another meal tray to complete 2. Empower patients through choice and engagement at both individual and system level as the model adapts based on feedback. 3. Deliver the right food at the right place in a timely manner to enable patient consumption.
OVERARCHING PRINCIPLES	1. Process: Orders taken close to meal times (less than 4 hours) for lunch and dinner, breakfast orders the night before. 2. People: Redirection of resources to core activities (i.e. Patient Food Services staff taking meal orders, dietetics focusing on screening, monitoring and escalation), small teams providing an end to end patient meal experience. 3. Products: Option to incorporate PPMs into the menu, product choices made by the LHD / Specialty Networks . 4. Technology & Equipment: Use of ICT and tablets to enable the use of compliant menus and consumption data tracking. 5. Governance & Engagement: Three tiers of governance oversee and manage the transformation of Patient Services.

Patient Menu Design

Patient menus are intended to be co-designed by Dietitians and HealthShare NSW, selecting from HealthShare developed products available as buy-in, bulk, PPMs, and specialty meal packs.

Non-MFC Menu

Menu Options: ~3 Mains/Meal

Menu Cycle: 2 Weeks

Customer: All Hospitals

- Original patient menu, often paper based, based on the Adult Inpatient Nutrition Standards, currently being replaced as MFC program rolls out.
- Meals assembled from bulk cook chill or components (can also offer PPM if hospitals choose to carry stock).
- Often limited choice for patients on special diets.
- Standard menu will phase out as MFC is implemented in hospitals.

MFC Menu

Menu Options: ~15 Mains/Meal

Menu Cycle: Static

Customer: All Hospitals

- Standard, Vegetarian, Minced, Puree, and Mental Health Patient Menus based on Adult Inpatient Nutrition Standards.
- Dietitians choose which menus are required for their LHD / Specialty Network and design them based on local demography.
- Meal packs don't allow flexibility in combination of components or portion serve sizes.

Background Menu

Menu Options: Many Components

Menu Cycle: Static

Customer: All Hospitals

- Menu on the Adult Inpatient Nutrition Standards, designed to allow customisation for patients who have restrictive diets that cant be serviced by standard MFC menu.
- Menu is in the process of being standardised across the network.
- Meals assembled from bulk cook chill or components.
- Ongoing requirement for menu under MFC due to the diversity of patient dietary requirements.

MPS Menu

Menu Options: ~3 Mains/Meal

Menu Cycle: 4 Weeks

Customer: Multi-Purpose Service

- Menu based on the Adult Inpatient Nutrition Standards, with broader application of No Band food items to account for long-term residents.
- Meals assembled from bulk cook chill or components.
- Ongoing requirement for menu due to specific patient need not delivered by other menus.

Product & Recipe Development

Products are bought in or developed locally by HealthShare NSW working in conjunction with Dietitians, Speech Pathology Advisory Network, and the Nutrition & Dietetic Network.

Buy-In Products

Supplier: Market (801 Contract)

Customer: All Hospitals

- Fruits, vegetables, spreads, drinks, juices, dairy, bread/cereals/biscuits, sauces, desserts, soups, sandwiches, and mixed cooked foods are bought in via the 801 contract to form part of a balanced main and mid-meal menu.
- Buy-in items are available via a HealthShare NSW managed catalogue of products, although off-catalogue purchases by LHD / Specialty Networks are anecdotally high.
- Interpretation of the Guidelines for Food Service To Vulnerable Persons impacts the introduction of some fresh items for service to patients.

Bulk Products

Supplier: HealthShare FPUs

Customer: All Hospitals

- The bulk range covers “normal”, vegetarian, puree and minced meal components which are then pumped into either 1kg and 2.5kg bags (400g bags are currently being introduced).
- Bulk product is chilled to 3 degrees Celsius and comes with 5 – 6 weeks shelf life.
- Bulk is used to assemble patient meals on site through the standard or background menus and is also used to assemble specialty meal packs in the FPUs.

Pre-Packaged Meals (PPMs)

Supplier: Market (937 Contract)

Customer: All Hospitals

- PPMs meals (i.e. not vegetarian, puree, minced) are assembled out of 2+ pre-cooked components.
- PPMs are snap frozen after assembly and come with 12 months shelf life.
- Both MFC and Non-MFC hospitals serve PPMs (Non-MFC hospitals can choose to stock them prior to the arrival of the MFC program).

Specialty Meal Packs

Supplier: HealthShare FPUs

Customer: All Hospitals

- Specialty meal packs (i.e. vegetarian, puree, minced) are assembled out of 2 or more pre-cooked components.
- Specialty meal packs are snap frozen after assembly and come with 6 months shelf life.
- Both MFC and Non-MFC hospitals serve PPMs (Non-MFC hospitals can choose to stock them prior to the arrival of the MFC program).

Meal Selection or Assignment

NSW Health use two of the three common models to enable patient meal selection, which is based on accurate diet order and allergy recording by nurses and ward clerks.

Meal Selection

	Standard	Tablet	Bedside
OVERVIEW	> Predominantly paper-based ordering. > Food service or Dietitian Assistants attend to patients the day before to manually record their meal choices for the next day.	> Choices are recorded on a tablet. > Food service or Dietitian Assistants attend to patients 2 hours before the meal time to record their meal choice for lunch and dinner.	> Patients use a bedside device to record their choice. > Options include calling a call centre via phone, using an app on the patient's own device or on a bedside tablet.
HS APPLICATION	> This meal selection model is currently used in 70% of hospitals which have not switched to MFC yet.	> This is the model used in MFC hospitals, which is the model in place for approximately 60% of NSW hospital beds.	> The bedside meal selection model is currently not in use across NSW but has been piloted and launched in other states and the private sector.

Meal Assignment

	Defaults	Substitutions	Late & Spare Meals
OVERVIEW	> Default meals are standardised and not chosen by the patient. > Patients who have received a diet code but not offered a meal choice receive a default meal (due to late arrival, or changes to diet order throughout stay).	> Substitutions are meals offered when a patient's meal choice is unavailable or the kitchen has changed the order as the item is not in stock.	> Late & Spare meals are often ordered for new admissions of those who have missed a meal.
HS APPLICATION	> Defaults are avoided when possible as they remove patient choice and create waste. > Defaults served in MFC hospitals average 20% compared to 40% in Non-MFC hospitals.	> Substitution rates can negatively impact the patient experience. > Availability can be influenced by logistics constraints, local infrastructure, or inventory management practices.	> Late & Spare meals do not address patient choice, diet, or allergies leading to waste.

Meal Preparation & Plating & Presentation

Each primary meal preparation model is deployed in some form across NSW Health today to align with local constraints and patient needs.

Primary Models

Cook Fresh

Meals that are made-to-order with fresh or pre-cooked ingredients on-site. This model enables 'in-house' quality control and requires little specialised equipment or huge storage space. On the other hand, it leads to daily, busy meal times and requires a larger number of resources, including cooks and kitchen staff, to prepare.

Cook Fresh is a favoured model for rural and MPS hospitals with fewer patients, higher proportion of seniors, & complex logistics.

Cook Chill

Meals are prepared in advance in bulk and chilled until ready for consumption. A hot and cold plating/retherm mechanism is used to reheat meals. This allows for uniform workflow, increased menu variety, reduced production costs and area wide menus. However, this requires specialised equipment, storage, and heating cycles, and some products perform poorly during reheating.

Cook Chill is the predominant model used today across a broad mix of hospital sizes, locations, and patient types.

Cook Freeze

Meals are prepared, frozen, and a hot or cold plating/ retherm mechanism is used before consumption. The model has similar pros and cons as the Cook Chill model. Some recipes might also require modification and an additional thawing step needs to be added into the workflow. Staff is required to plate and reheat the meals.

Cook Freeze is becoming the dominant approach in NSW Health driven by MFC and the current procurement model.

Unregulated Models[1]

Hospital Cafe

On-site cafes and restaurants offering a variety of nutritious meals such as salads, sandwiches and other freshly cooked meals. The hospital can ensure meal quality control and nutrition adequacy while the patients can benefit from additional choice and variety.

BYO

Food supplied by patients' families and friends. This can include full meals, snacks and drinks. While it can increase patient intake as they are able to request desirable food, there may be safety issues involved with disposal and correct storage of perishable items.

Takeaway

Takeaway meals ordered by patients via online food ordering and delivery apps. Although patients have the appetite to consume these meals, nutrient intake is not being controlled and the increasing prevalence causes issues for nursing and admin staff in hospitals.

Vending Machine

Vending machines can provide healthy snacks and meal choices (including fresh fruit or salads and heat-and-eat dishes e.g. noodle dishes and soups). This provides a low-cost option to create some additional choice, flexibility and 24/7 access to food for patients.

1. These models must be acknowledged as they have emerged over the years, however they are not endorsed by NSW Health or Hospital Services, and thus are not controlled or regulated in any form.

Meal Delivery, Collection, Intake Capture, & Disposal

The two key food service delivery models in place across NSW bring very different approaches to meal delivery, waste collection, intake capture, and waste disposal.

Meal Delivery

	MFC	Non-MFC
OVERVIEW	Meals are delivered in burlodges or regithermic trolleys by food service staff, providing an end to end patient meal experience.	Meals are delivered in burlodges or regithermic trolleys by food service staff, providing an end to end patient meal experience.
OUTCOMES	**Time:** Meals average 2.8hrs between order & delivery. **Process:** Optimised workflow with high management control. **Patient experience:** The MFC model allows patients to order their food close to meal time, which reduces default meals and increases intake.	**Time:** Meals average 12 to 24hrs between order & delivery. **Process:** No optimised workflow, limited management controls. **Patient experience:** Patient appetite decreases with minimal notice on meal timeframes, therefore reducing patient experience and intake.

Collection & Intake Capture & Disposal

	MFC	Non-MFC
OVERVIEW	> **Collection**: Waste gets collected by staff. > **Intake**: Captured via tablet and recorded per meal component. > **Disposal**: Waste gets disposed of by staff, with an increase in single-use plastic due to use of CPET meal pack trays.	> **Collection**: Waste gets collected by staff. > **Intake**: Intake is not captured. > **Disposal**: Waste gets disposed of by staff, meals are served on plastic plates or crockery which is then disposed of or cleaned to be re-used.
OUTCOMES	**Intake:** Intake data can be used to reduce food waste to save cost and optimise patient nutrition outcomes. **Patient experience:** Intake data provides insights into meal preferences and can be leveraged to build a better view on patients nutrient intake and better manage nutrition outcomes.	**Intake:** The lack of intake data collection makes waste reduction difficult and limits transparency into patient nutrition. **Patient experience:** The lack of intake data collection and consumption monitoring makes it difficult to track patients' nutrient intake and meal satisfaction.

Food Service Case Study

The Prince Charles Hospital (TPCH) has launched a restaurant-quality room service model which is the first of it's kind in a public hospital in QLD.

Description	Patients at TPCH can now order all-day hot breakfasts, burgers, stir fries or even pancakes on demand, under Queensland's Health's first public hospital Room Service Initiative. TPCH leverages state of the art kitchen equipment such as induction cooktops and turbo chef ovens to prepare an estimated 768,000 fresh meals in-house. The hospital has staff, including cooks to prepare meals fresh and in house, and staff to take phone orders. The aim of the new model is to improve nutrition outcomes in order to facilitate a better and speedier recovery process for patients. The hospital will be expanding the variety on offer, as well as incorporating a much greater food selection for our patients with specific dietary requirements, allergies or restrictions.
Patient Experience Outcomes	> Patients can order meals anytime between 6.30am and 7pm through their bedside phones. This enables them to plan their meal times around treatments and tests. > Patients have flexibility to choose what they want to eat at a certain point in time. > Patients are more engaged and in control of what they eat and when they eat. > Patient choices tends to be simple foods (fresh fruit, toast, and freshly made sandwiches).
Health System Outcomes	> The hospital has significantly reduced plate waste, which is more efficient economically and environmentally, and leads to cost savings and a reduced ecological footprint. > Reduced plate and tray waste, and a net reduction in food production volumes.
Cost & Implementation Implications	> Requires a well-equipped commercial kitchen to prepare a broad range of food combinations at each patient's request. > May require the hiring or reskilling of additional labour, including chefs and experienced kitchen staff with the knowledge and skills to design creative compliant menus and prepare fresh and varied meals. > Further opportunities for innovation include the employment of robots to transport meals within the hospital to increase efficiency and reduce labour costs.
Relevance to NSW Health	This is a viable model option that is currently run in TPCH as well as Brisbane Mater Public, can be considered for NSW hospitals with suitable demographics. If this model is run in an efficient and optimised manner, it can lead to cost savings via waste reduction.

i. TPCH launches restaurant-quality room service, Queensland Government, 2019. https://metronorth.health.qld.gov.au/news/tpch-launches-restaurant-quality-room-service
ii. Six Award-Winning Innovations in Hospital Foodservice, Hamilton Beach Commercial Blog, 2015. https://blog.hamiltonbeachcommercial.com/food/six-award-winning-innovations-in-hospital-foodservice
iii. Transforming the mealtime experience for patients, Mater Hospital, 2013. https://www.mns.org.au/patients-visitors/patients/meals-food-services
iv. Gold Coast Private sets new standard for hospital food, myGC, 2019. http://www.mygc.com.au/gold-coast-private-sets-new-standard-for-hospital-food/

Food Service Case Study

Royal Brisbane & Women's Hospital (RBWH) introduced vending machines that provide healthy, nutritious, and convenient meal choices for patients which enable "after hours" access to food.

Description	Some vending machine providers are specialised in providing healthy snacks (like nuts, fruits, crackers, protein bars etc.) and meal choices (including some fresh options salads and some heat-and-eat dishes e.g. noodle dishes, rice, vegetable and soups) in hospitals and medical centres. This provides a low-cost option to create some additional choice and flexibility for patients. The Royal Brisbane and Women's Hospital is an example where the vending machine concept is currently used as a complementary food service delivery model for meals outside of regular meal times. Recent QLD-wide studies found that 20% of patients missed a meal in the previous 24 hours without receiving a replacement; vending machines can address this issue.
Patient Experience Outcomes	Grant patients access to healthy but delicious snacks 24/7 to create additional choice and convenience through access to food outside of meal times.
Health System Outcomes	> Comply with the primary purpose of health care centres to provide improvements to people's health, which also includes encouraging healthy dietary choices. > Cost effective and easy option to provide snacks and some ready-made meals to complement Cook Freeze or Cook Chill models.
Cost & Implementation Implications	> Most vending machine providers offer fully serviced vending machines that are monitored (chilled foods have 3 day shelf life) and automatically restocked and maintained. They provide product choice and hospitals can decide which healthy snacks and meals to offer patients. > Vending machines provide a low cost and low wastage option to provide more choice to patients, staff and visitors. While nurses use a dongle to pay for patient's meals, visitors and staff can also purchase from the machine to make it financially viable. Weekly ongoing costs are estimated between $75 -166 as quoted by City Pantry. > The meal delivery process is compliant with ACI standards as nurses use a diet and allergen information chart to cross reference from and ensure that meal/snack served is compliant with patient's dietary and nutrient requirements.
Relevance to NSW Health	This is an option that could be easily implemented in every NSW hospital to complement the primary food model and create additional choice and satisfaction at almost no additional cost.

i. How do you get Snack Savvy?, Snack Savvy, 2012. https://www.healthyvending.com.au/how-it-works/
ii. Vending machines to provide healthy food at hospital, Sunshine Coast Daily, 2016. https://www.sunshinecoastdaily.com.au/news/vending-machines-to-provide-healthy-food-at-hospit/2970695/
iii. 6 things to know about vending machines in hospitals, Becker's Healthcare, 2015. https://www.beckershospitalreview.com/healthcare-information-technology/6-things-to-know-about-vending-machines-in-hospitals.html
iv. Healthy Vending Machines For Hospitals and Medical Centres, Ausbox Vending, 2019. https://www.ausboxgroup.com.au/healthy-vending-machines-for-hospitals-and-medical-centres/
v. Food, shops and services, Queensland Government, 2019. https://metronorth.health.qld.gov.au/rbwh/patients-and-visitors/food-shops-and-services
vi. City Pantry is a world-first in mouth-watering fresh, healthy food vending, Hanik's City Pantry, 2014. http://citypantry.com.au/

Food Service Case Study

Peter MacCallum Cancer Centre has introduced patient-directed bedside meal ordering through the use of a dedicated bedside terminal.

Description	Peter MacCallum Cancer Centre has one of the best examples of a patient centric food services system which includes an electronic bedside meal ordering system. Patients can use a computerised system to order their meals on an iPad or the bedside computer instead of paper. The meal ordering system has gone live in 2016 with the move to a new facility. Patient diet codes are recorded on admission, which then restricts the meal selection at the time of ordering. Patients are able to order on bedside terminals (Rauland Cockpit) which has a web link to order directly in CBORD. Ward clerks, nurses and Dietitians can assist or order for patients. Standing orders are issued for outpatient departments. The front end interface is built with notifications which informs a patient if they order items which push them outside their nutrient RDIs.
Patient Experience Outcomes	> Patients are in control and can make food choices when suitable for them, whilst also assuming personal responsibility for choices which exceed their recommended nutrient thresholds. > Patients feel more engaged and empowered about their meal selections and nutrition care.
Health System Outcomes	> Meal ordering process becomes more accessible and menu communication is improved. > Studies show that patient experience can be improved through a patient-directed bedside electronic meal ordering system. > Eliminates manual labour of food staff having to record patient choices. > Can help reduce food wastage as orders are made closer to the consumption time.
Cost & Implementation Implications	> Bedside electronic terminals require a significant investment by the hospital. However they can form an integrated solution providing access to clinical records, communication systems, and patient entertainment options, all from one powerful thin client platform. > The solution can also be complemented through an app that patients can access on their own electronic devices. While this is more cost- effective other potential issues such as technical difficulties need to be accounted for.
Relevance to NSW Health	This is a model that requires investment in technology but in the long run can provide an integrated platform that assist providing an improved patient meal experience through patient engagement and empowerment.

Bedside Cockpit Terminal

App used on patients' own device

i. Barrington, V, Maunder, K,& Kelaart, A 2018, 'Engaging the patient: improving dietary intake and meal experience through bedside terminal meal ordering for oncology patients', vol. 6, pp. 803-806.
ii. HiMed Cockpit Point-of-Care Terminals, Rauland Australia, 2019. http://www.rauland.com.au/product-and-services/patient-entertainment/himed-cockpit
iii. Engaging the patient: Improving patient meal experience through patient-directed bedside meal ordering, Dietitian Connection, 2019. https://dietitianconnection.com/product/engaging-the-patient-improving-patient-meal-experience/

Food Service Case Study

Lady Cilento Hospital in Brisbane is being proactive about managing the emergence of food deliveries to hospitals, to offset the risk of food safety hazards and logistical challenges.

Description	Food deliveries to hospitals are on the rise as patients, staff and visitors are increasingly opting to order-in during hospitals stays (especially after-hours), making use of delivery services (e.g. UberEats). However, the delivery traffic is distracting and disruptive for nurses on duty as it is causing logistical issues. QLD Nurses Union Secretary, Beth Mohle stresses the matter, emphasising that it is creating a distraction, saying "*this diverts resources away from things that need to be done*". However, Lady Cilento Hospital in Brisbane are opting to collaborate with delivery services to mitigate some of the logistical issues and other risks. Uber has been working with Lady Cilento Hospital to establish a designated delivery area for food to better manage the delivery process and ensure compliance with hospital regulations.
Patient Experience Outcomes	> Facilitating access to a broader variety of foods that patient would normally eat and thus reduce risk of malnourishment by increasing intake. > Meal deliveries can be valuable for patients to access food outside regular meals times as most hospitals do not have after-hours food services.
Health System Outcomes	> Delivery drivers blocking the front entrance can impact patient drop-offs and emergency vehicles. > Acknowledging and proactively managing food safety and health hazards of food/ meals from outside sources to ensure compliance with nutrition standards and hospital regulations.
Cost & Implementation Implications	> A designated delivery area can be implemented at no additional cost to the hospital. > Delivery services have suggested that they are open in collaborating with hospitals to achieve better outcomes for their customers.
Relevance to NSW Health	This is an option that could be implemented in NSW hospitals that is impacted by food deliveries at no additional cost while helping manage food safety hazards and logistical challenges. There is also an opportunity to further collaborate with meal delivery services to address these challenges.

i. Food deliveries to hospitals on the rise but they're putting nurses in a pickle: https://www.abc.net.au/news/2017-07-25/increase-in-food-deliveries-to-hospitals-for-patients-disruptive/8740516
ii. Patients skip bland hospital food and order meal deliveries: https://www.dailytelegraph.com.au/news/nsw/patients-skipping-bland-hospital-food-and-ordering-meal-deliveries/news-story/c82558906c6ba0169f6b36f85f56c5e9

05

Current State Patient Food Outcomes

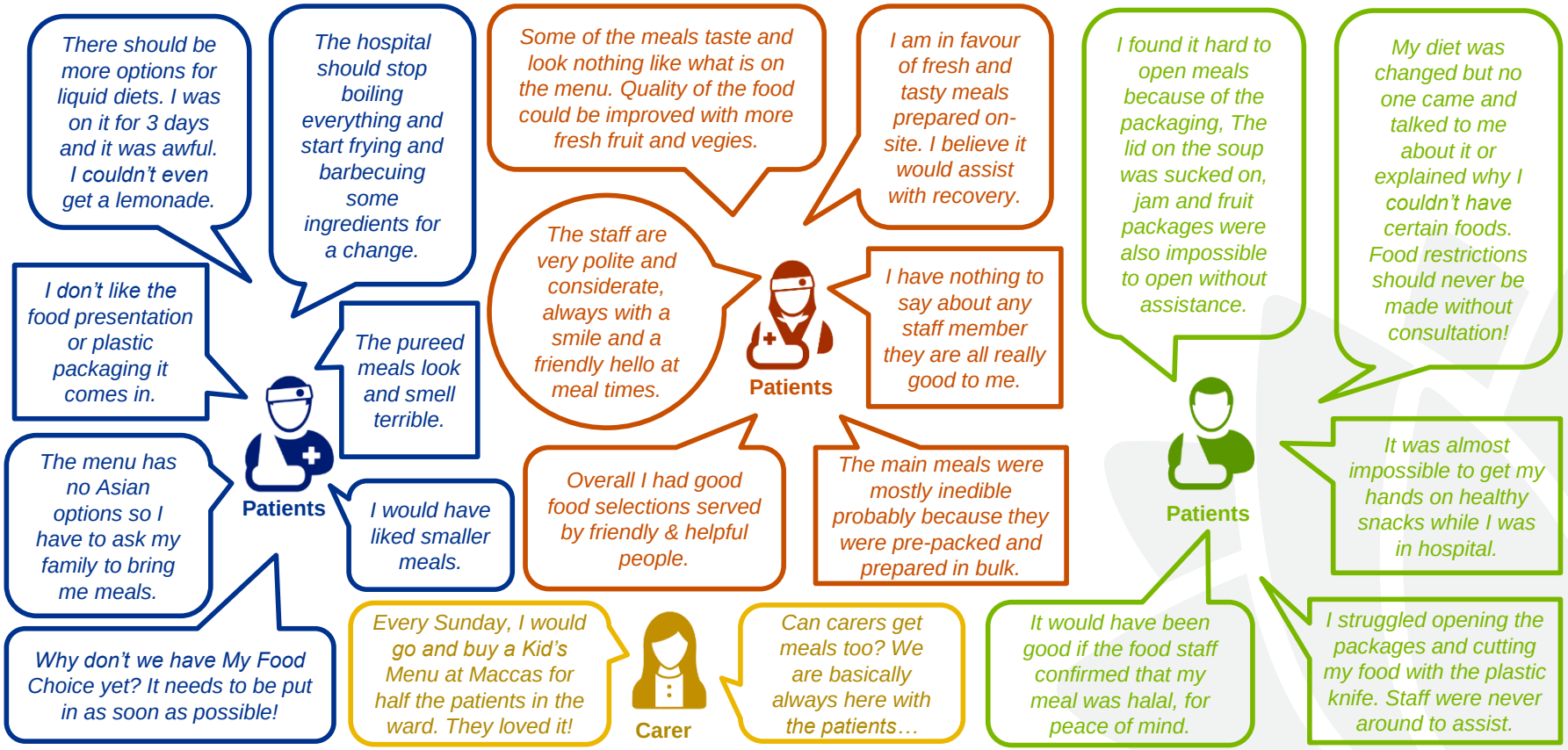
What are the current state patient experience and NSW Health outcomes?

05-01

Patient Food Experience Anecdotes

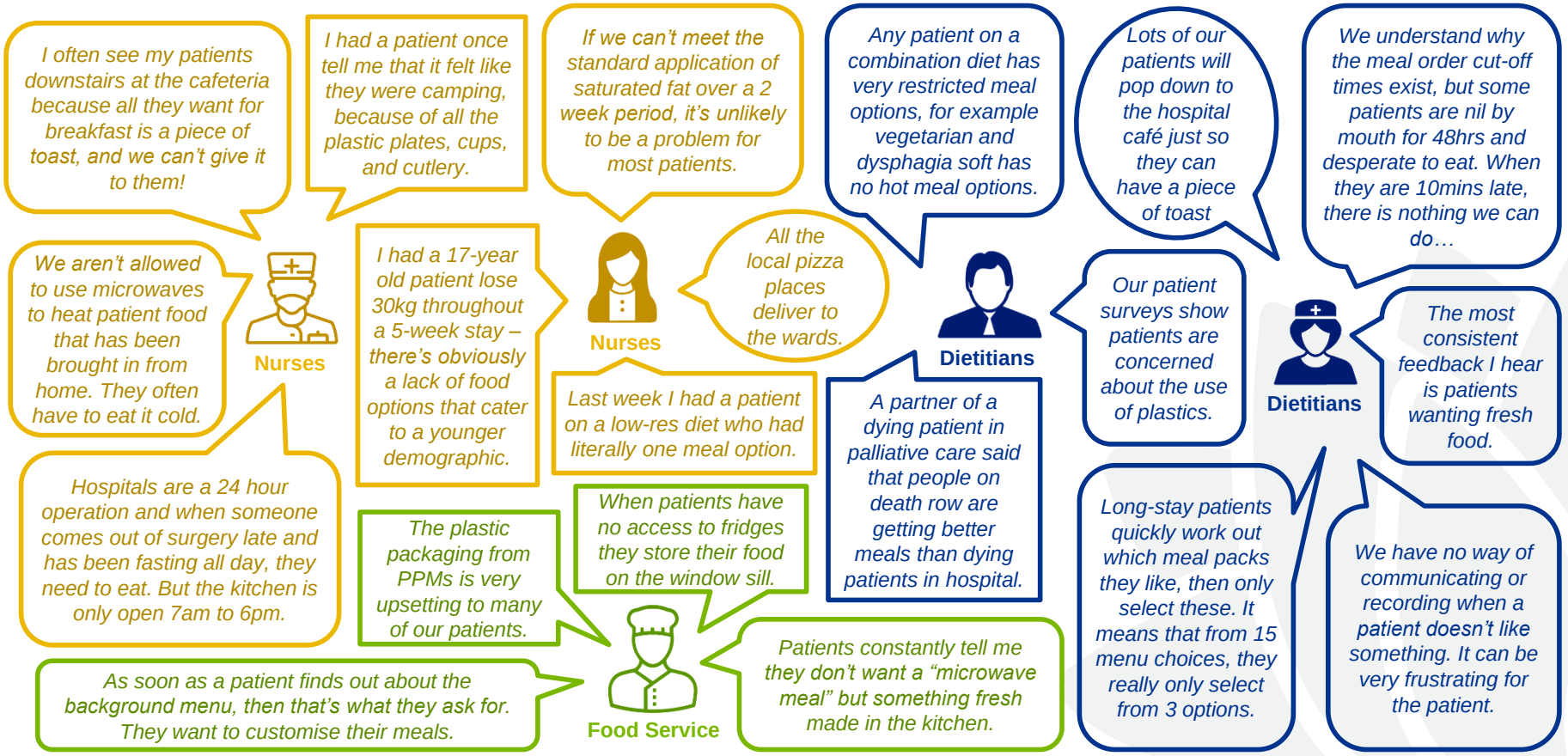
Patient Experience Feedback

Patients and carers bring first hand knowledge of patient food and have passionate views about the current issues with the food experience.



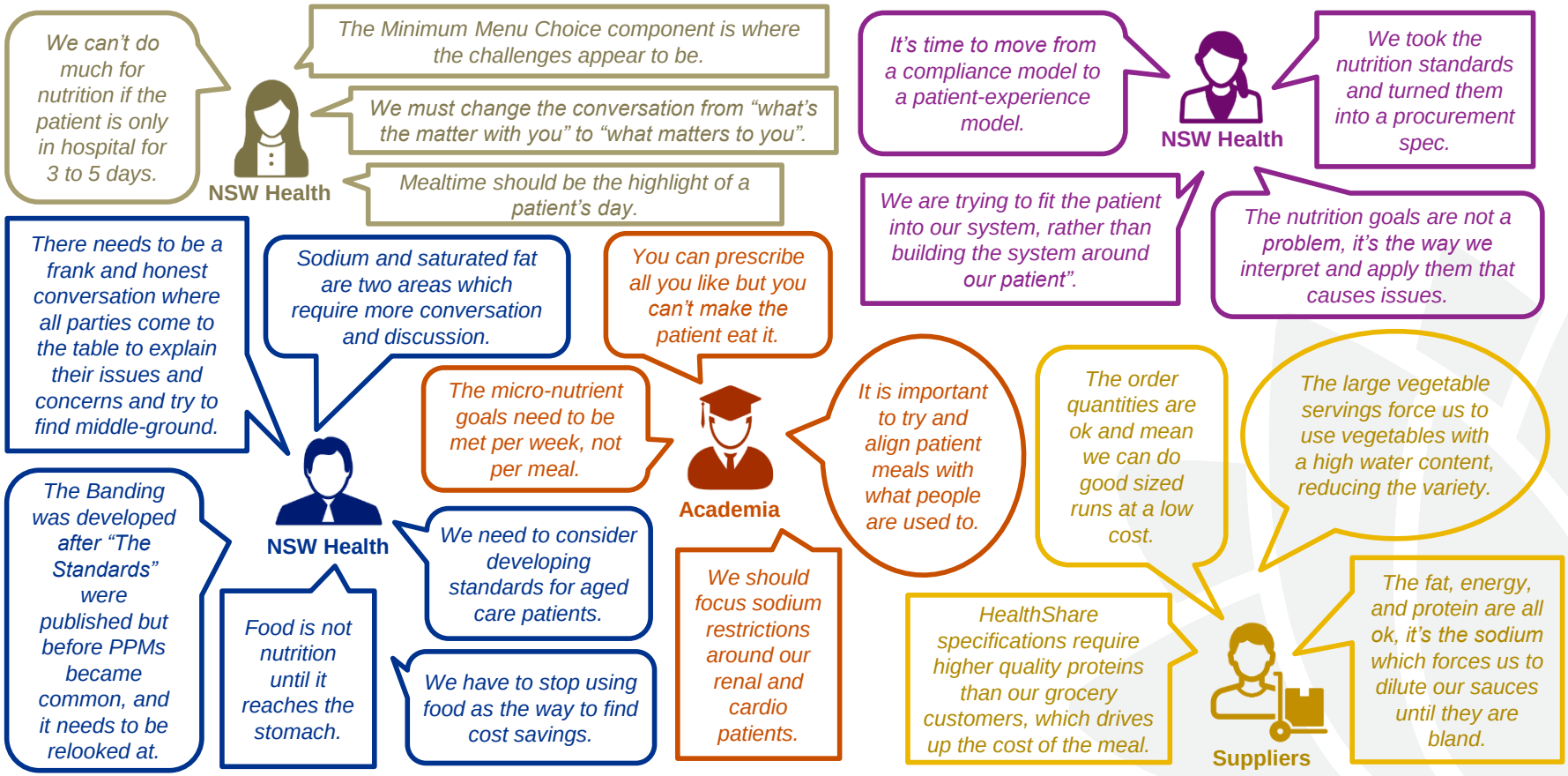
Patient Experience Feedback

The front-line staff who engage with the patients each day bring a deep understanding of the patient experience and the areas which cause the most distress.



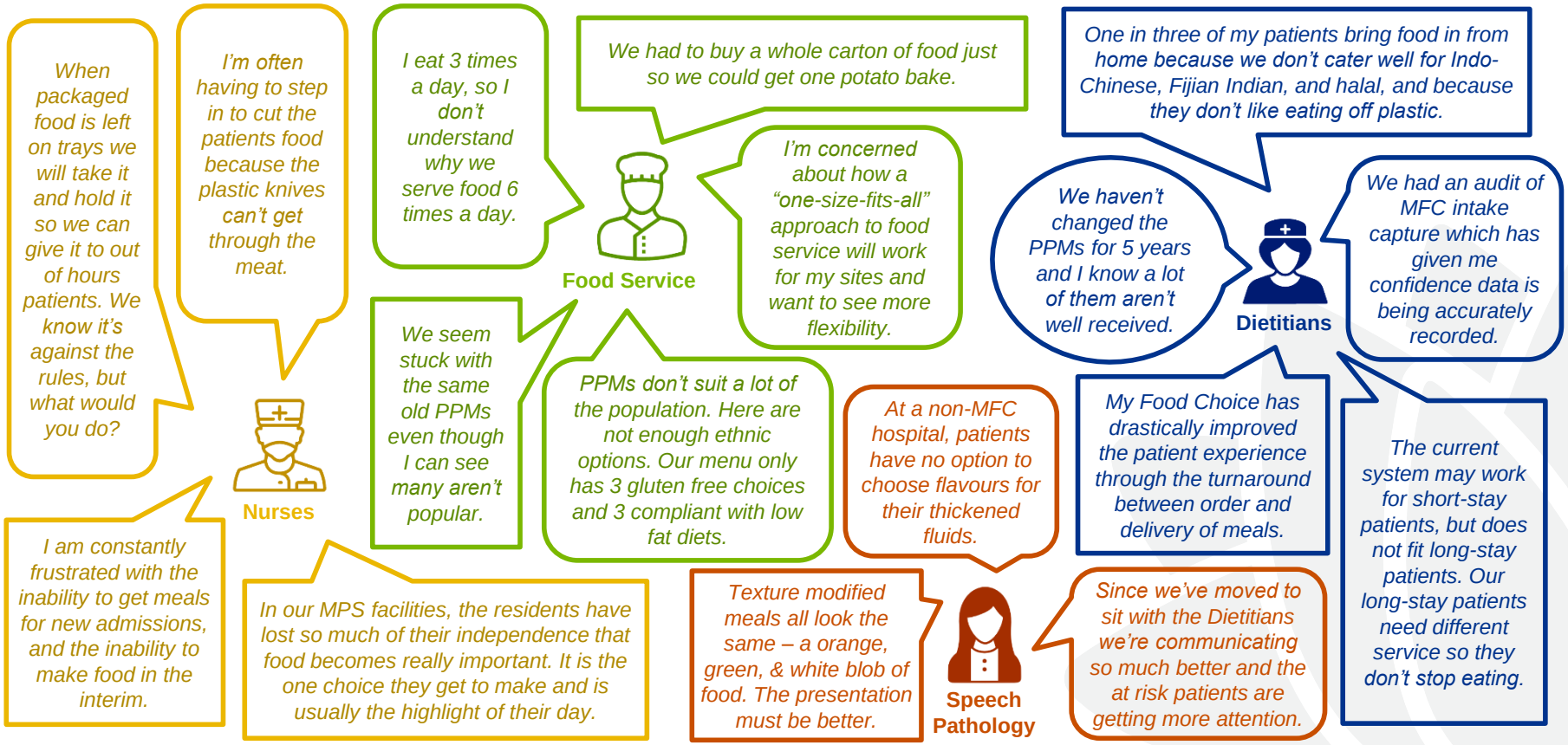
Food Policy & Application Feedback

Feedback from across NSW Health and with external stakeholders indicates there is consensus around the need to work together around the application of the Nutrient Goals ("The Standards").



Food Service Delivery Feedback

There are a broad range of food service perspectives across NSW Health, which reflects the differences between the two main food service delivery models.



05-02

NSW Hospital Case Studies

MFC Hospital Case Study

A number of focus group interview sessions have been conducted at a MFC Hospital to capture a view of the patient nutrition experience from all the critical touch points.

Hospital Overview

- Focus groups were conducted at a MFC hospital with a maximum capacity of 232 beds in the Northern NSW Local Health District, which introduced MFC in November 2017.
- The hospital is a regional referral, level 5 base hospital. Each year, the hospital sees more than 30,000 admissions and performs around 11,000 surgical procedures.
- The hospital's patient demographics are predominantly Australian born with a small percentage of foreign cultures (mostly European and Asian).

Clinical, Food and other Hospital Staff Experiences

Clinicians (Dietetics, Speech Pathology, OT)	> We are not using the intake data as we should, as we require greater support around how to interpret it. We also don't have time to see everyone that comes through the dashboard. Cross-department collaboration is needed and possibly a greater management support. > Food service policy preventing food services from being more flexible and patient-centred. > Long stay patients need a different service that meets their unique needs. > The biggest complaints are the lack of fresh foods and the lack of variety on the menu. Patients also don't like PPMs as they are basically microwave meals. > Thickened fluids are too sweet and create huge amounts of waste as no one eats them.
Physicians and Nurses	> Lots of patients are not enjoying eating and drinking out of plastic plates, cups and utensils. > We have to assist patients with cutting the food as the plastic knives don't cut through the meat. > There is a disconnect between nurses and food service staff as there is limited collaboration. > The new choices under MFC have been really well received by the patients but there are too many limitations around time of the day, communication etc. Patients fall through the cracks too often. > A room service model would fix it all. > We are a 24 hour service hospital but we are only offering food between the times of 8am – 6pm. > All the surrounding pizza places and McDonalds deliver to the wards especially after hours. > Our food services are not patient-centric today. > We can't reheat foods that families bring in for patients due to temperature requirements, and are not allowed to have toasters either. > When good food is left on patient trays, we hold onto it so we can give it to patients after hours.
Food Services Staff	> People are getting more selective, with around 60% of patients requesting the background menu so that they can get more customisation and don't always like the PPMs. > The MFC labour profiling was based on PPMs being the dominant model, but in practice that's not the case. Food services are struggling as they don't have the staff levels to deliver adequate service under the current model. > Our trays are not well designed and meal components "spread" when heated affecting presentation. > Patients bring in their own cutlery because they don't want to use the plastic one provided.

The Patient Experience

- Patients want more **customisation** and ability to use components which is why the background menu enjoys huge popularity.
- While MFC has improved choices for patients there is still a lot of room for improvement with regards to **menu variety,** especially for long stay patients who complain about the repetitive menu.
- Patients do not like PPMs due to their inferior quality, taste and smell. Patients would much prefer fresh foods.
- Patients are strongly against the use of **plastic cutlery** due to the sustainability impact and the negative impact on the meal experience.
- While MFC has shifted ordering times closer to meal times, there are still many issues around a **24/7 access to meals**.
- Limited meal choices and low meal quality on **special diets** incentives patients to use external sources to gain access to food.
- Patients don't feel **empowered** as there isn't a formal mechanism to provide feedback and inform food and product design.
- MFC has improved the customer service with better ordering processes and faster meal delivery, patients still experience a **lack of assistance** (e.g. eating meals) as staff is too busy to help.
- Hospital policy is not helpful in accommodating patients whose families bring in meals or patients who would like to refuse meals.

Non-MFC Hospital Case Study

A number of focus group interview sessions have been conducted at a Non-MFC Hospital to capture a view of the patient nutrition experience from all the critical touch points.

Hospital Overview

- Focus groups including feedback for the consumer were conducted at a Non-MFC hospital with a maximum capacity of 960 beds in the South Western Sydney LHD.
- The hospital is the major health service for south-western Sydney but also provides a range of state-wide services in areas such as critical care and trauma, and brain injury rehabilitation.
- The hospital has multi-ethnic patient demographics with many patients stemming from an Arabic, Asian or Indian background.

Clinical, Food and other Hospital Staff Experiences

Clinicians (Dietetics, Speech Pathology, OT)	> We struggle to entice patients to eat as there aren't enough modern, appetising meals on the menu. Sometimes we cancel meals because the smell of the meal alone makes patients sick. > We can't offer patients on texture modified diets much choice as all the meals look the same ('three coloured 'blops') and there is limited choice of flavours. At breakfast for texture modified there is only pureed fruit and thickened fluids. > More and more families are bringing in meals for patients because the menu options are so limited and repetitive. This causes issues around the correct disposal as there is no clear accountability nor process around it. > It is upsetting that we can't even offer our patients (especially the ones on thickened fluids) simple things like coffee or tea in many cases. I had the wife of a patient who was dying desperate for his favourite food.
Physicians and Nurses	> Food service staff are never around to help patients open the packaging and assist with eating. > Food service staff are always in a rush to deliver meals and don't appropriately match meals and patients, which can have severe consequences e.g. patients with nil-by-mouth receiving meals. > Can't offer meal options to many patients with a foreign background, which forces them to buy their own food or ask family members to bring it in. > Nurses don't get training putting in the correct diet codes which leads to many errors and patients being put on wrong codes. > Food service staff don't show a customer service mentality as they refuse to run late meals and make nurses come pick up the food in the kitchen. > Many times patients are starving but there is never any spare meals for late arrivals and only few sandwiches shared between wards.
Food Services Staff	> We have to assist patients all the time with opening the meal packaging and using the plastic cutlery as it is difficult to use.
Chaplain	> Many patients from various ethnic backgrounds prefer to receive home-cooked meals because it is part of their culture.

The Patient Experience



- Access to **healthy and nutritious snacks** is very difficult in hospital. Even the sandwiches offered aren't healthy (no multi-grain, lettuce etc.)
- The **meal packaging** is hard to open, for example the lid on soup containers and fruit bowls tends to get stuck.
- The meals served taste **bland and boring**. There aren't any modern and appetising options on the menu.
- The **meal presentation** is horrendous. The meals never look like or taste like what you think you are ordering.
- Food service staff are friendly but never really offer their **assistance** to help with opening packages or cutting the food.
- **Starving patients** have no choice but to order Uber Eats or go to the café because there is no food available after hours or between meal times.
- Especially the **younger patient population** struggles to find items on the menu that is similar to their diet outside of hospital e.g. nutritious, high-protein foods such as salads etc.).
- Patients on a special diet, e.g. vegetarian or vegan have very **limited meal choices** and struggle to find meals they can eat.
- The quality of meals is very low, there is not enough **fresh ingredients** that are used and menu choices lack **variety**.

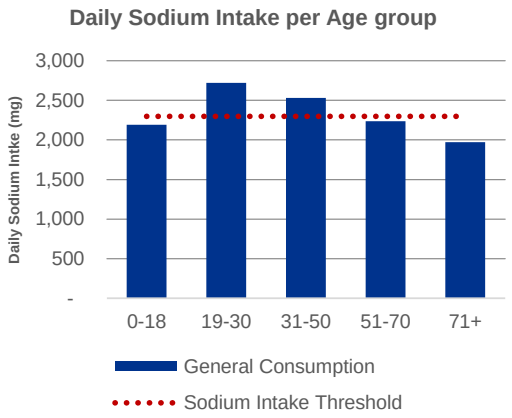
05-03

The NSW Health Reference Patient

The Australian Public Dietary Preferences

To develop a truly patient-centric food experience it is necessary to understand and where feasible mirror the dietary habits, consider the clinical needs, and account for preferences of the consumer.

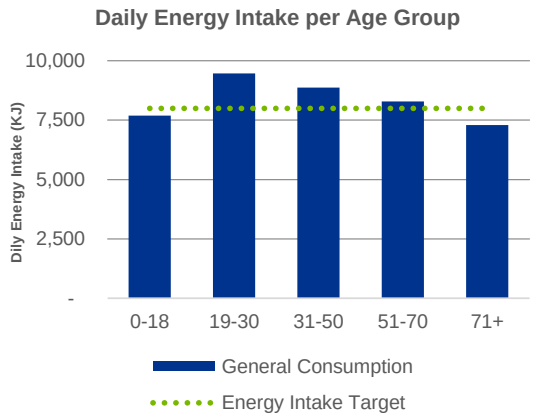
Australian Public Sodium Intake[1]



> The sodium intake threshold set under the Adult Inpatient Nutrient Goals is 2,300mg per day, averaged over a period of 1 week.

> Based on the Australian Health Survey data, the Australian general public's average sodium intake is closely aligned to the Adult Inpatient Nutrient Goal.

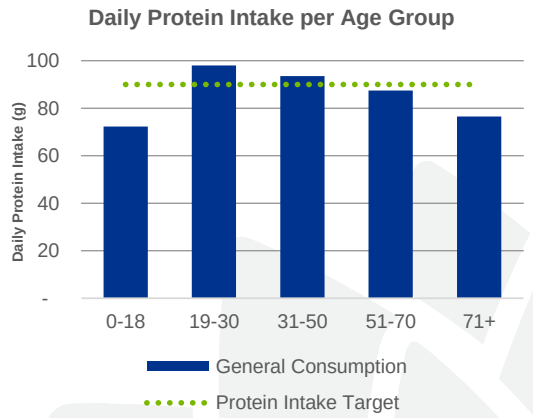
Australian Public Energy Intake[1]



> The energy intake target under the Adult Inpatient Nutrient Goals is set at 8,000 kilojoules per day, averaged over a period of 24 hours.

> Based on the Australian Health Survey data, the Australian general public's average energy intake is closely aligned to the Adult Inpatient Nutrient Goal.

Australian Public Protein Intake[1]



> The protein intake target under the Adult Inpatient Nutrient Goals is set 90g per day, averaged over a period of 24 hours.

> Based on the Australian Health Survey data, the Australian general public's average protein intake is closely aligned to the Adult Inpatient Nutrient Goal.

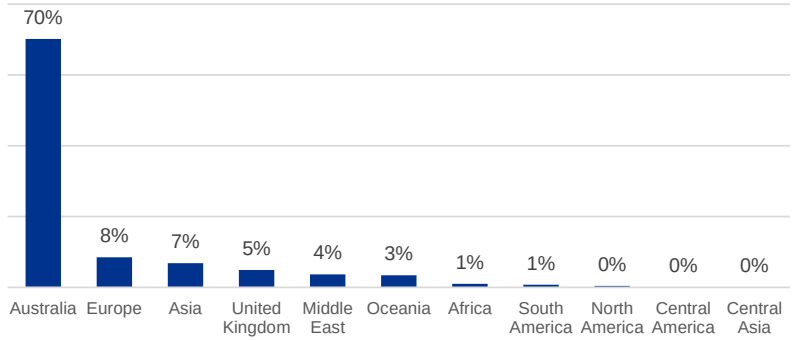
1. Australian Health Survey: Nutrition First Results – Food and Nutrients, 2011-12 – Australia, Australian Bureau of Statistics.

NSW Adult Patient Demography

The majority of bed days in NSW public hospitals were occupied by patients born in Australia or "Western" countries, who live predominantly in metropolitan areas.

Patient Origin of Birth [1]

Total Bed Days by Origin Of Birth

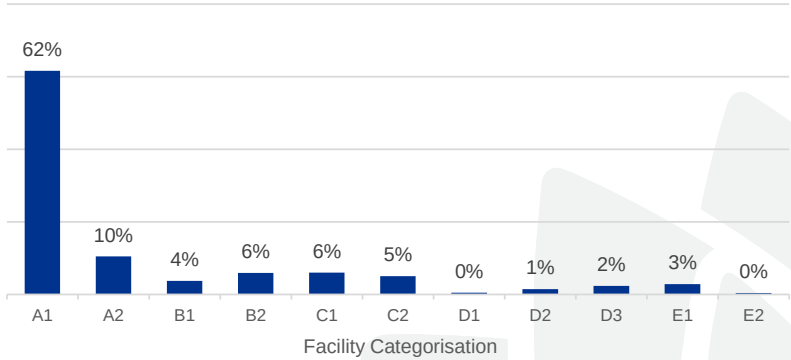


> Based on the NSW Ministry of Health data, 70% of patient bed days in NSW Health system were occupied by people born in Australia.

> A further 13% of patient bed days in NSW Health system were occupied by people born in Europe, the UK, or North America.

Patient Locality [2]

Bed Days by Hospital Categorisation



Group	Patient Mix	Location	Beds
A1	Acute / clinically complex	Metro	>200
A2	Acute / clinically complex	Regional	>200
B1	Acute, sub-acute w/long LOS	Metro	>100
B2	Acute, sub-acute w/long LOS	Regional/Rural	>100
C1	Acute, sub-acute w/long LOS	Regional/Rural	<100
C2	Acute, sub-acute w/long LOS	Rural	<60
D1	Residential Mental Health	All	n/a
D2	High Residential / Aged care	All	<150
D3	Low Residential / Aged / Acute MPS	Rural	<50
E1	Children's	Metro	<200
E2	Sydney / Sydney Eye	Metro	<150

> Based on the NSW Ministry of Health data, around 70% of NSW patient bed days are in metro located hospitals.

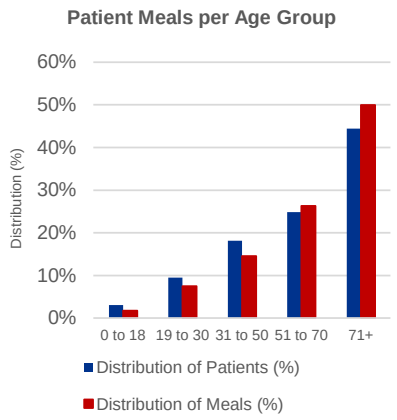
> Hospitals with an acute patient mix account for 85% of bed days.

1. Bed Days for overnight admitted patients – 2019-19, by age group and country of birth – excludes newborns, ED only admissions, Day Only admissions.
2. The hospital categorisation used was taken from the Food Improvement Program SDM design program and is not the standard NSW Health hospital categorisation.

Patient Age Groups

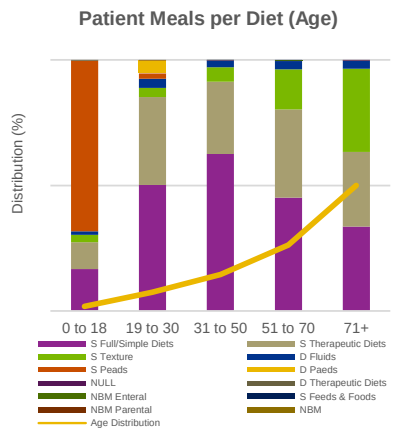
The different patient age groups bring unique nutrition, dietary, and acuity requirements which influence their food experience.

Meals per Age Group



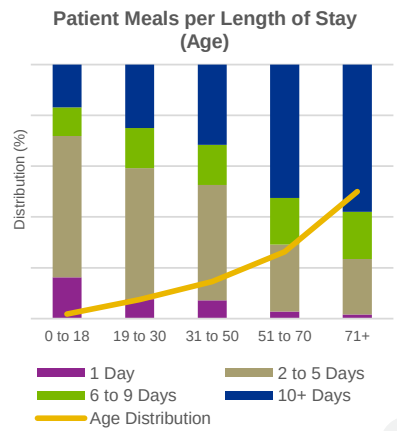
> Based on the sample patient data, over 75% of all meals served are to those over the age of 50.

Diet Type per Age Group



> Based on the sample patient data, two thirds of the 71+ age group are receiving texture modified or therapeutic diet meals.

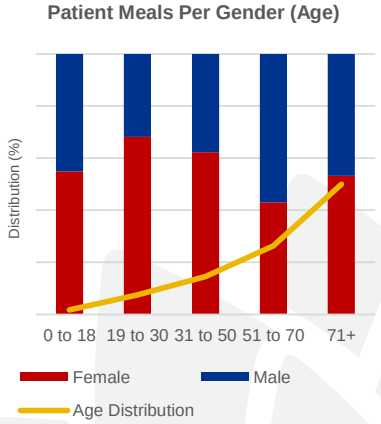
LOS per Age Group



> Based on the sample patient data, the 71+ age group have the highest proportion of meals being served to patients designated as long stay.

> The older the patient the more likely that will have experienced and extended length of stay.

Gender per Age Group



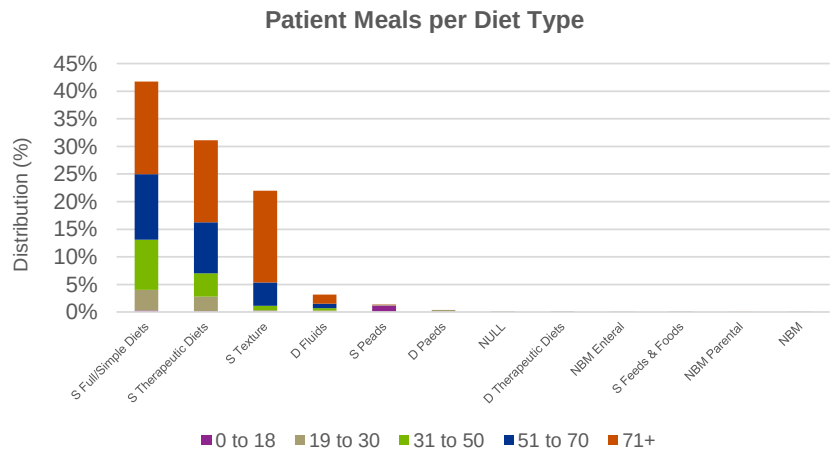
> Based on the sample patient data, younger persons being served meals are more likely to be females, while it is males who consume more meals in higher age categories.

1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.

Patient Diet Types

The vast majority of patient meals served are full/simple, therapeutic, or texture modified, and are predominantly served to the 71+ age group.

Meals per Diet Type[1]



- Based on the sample patient data, full/Simple, therapeutic, and texture modified diets account for around 95% of all diets.
- The largest age group on the full/simple diet is 71+ year old's.
- The 71+ year age group is also by far the largest group consuming therapeutic foods and texture modified foods.

Full/Simple Diet Specifications[2]

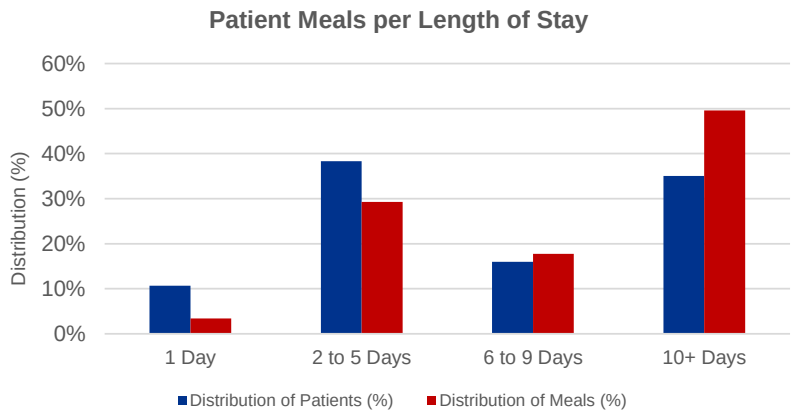
S Full/Simple Diets	Descriptions
FULL	Patients with no acuity or preferential diet restrictions.
VEG, VEGLAC	Patients with vegetarian preferences with milk and with or without eggs.
NOPORK, NOBEEF, NOCHICKEN, NOGARLIC, NOCAPS, NOMUSH, NOONION, NOLAMB, NOTOMATO, NOFRUIT , NOVEG, GRAPEFR,	Patient dietary preferences which excludes certain foods and fluids.
CAFFFR, FISHFR, SEAFR, EGGFR, CITFR, LATXFR, WHTFR, LACTL, SAFATL	Patients with low complexity allergy types which must be limited or completely restricted in meals.
FR1200, FLTHMO, NHOTFL	Patients with unique Fluid restrictions & requirements.
PROTH, FIBH	Patients needing high-protein or high-fibre diets.
MINBR, MINMOS, DENSOFT, CUTUP	Patients with low complexity texture modified diets including minced moist, cut-ups, and soft dental.
HALAL, KOSHER	Patients with special religious diets.
DIAB, DIABHE	Diabetic patients without a set CHO threshold.
MAT	Maternity patients which may need additional energy / calcium, or avoid certain foods (shellfish, soft cheese)
LARGE, SMALL	Patient meal size considerations.
OPENPK, EARLYB, MUG, NOTRAY	Patient service needs and preferences (packaging assistance, early breakfast, drinks served in mugs, etc) which do not impact diet.

1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.
2. Sample of diet codes taken from rolled up diet categories.

Patient Length of Stay

Patient age has a strong correlation with length of stay, with “long stay” patients accounting for half of all meals served in the NSW Health system.

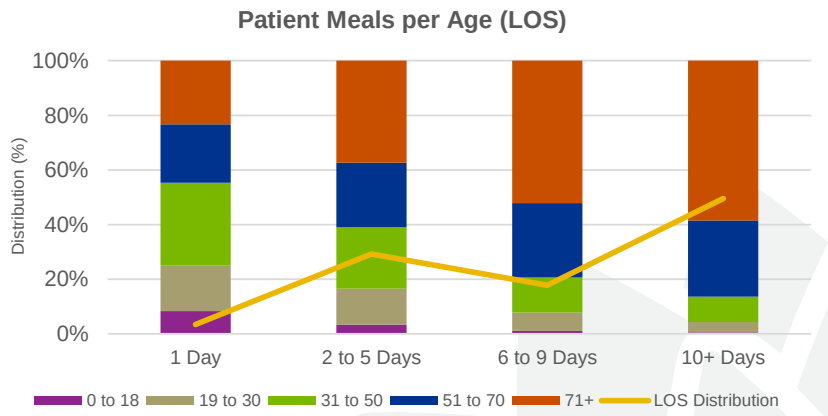
Meals per Length of Stay



> Based on the sample patient data, most patients only have a length of stay for 2-5 days, patients who have a longer length of stay (10+ days) are the biggest patient meal category and account for around 50% of all meals served.

> 1 Day patients have a disproportionate number of ‘Nil By Mouth’ diet orders.

Age per Length of Stay



> Based on the sample patient data, an increasing length of stay is closely correlated with increasing patient age, with the 71+ age group representing around 60% of all meals served for stays in the “6 to 9 days” and “10+ days” range.

1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.

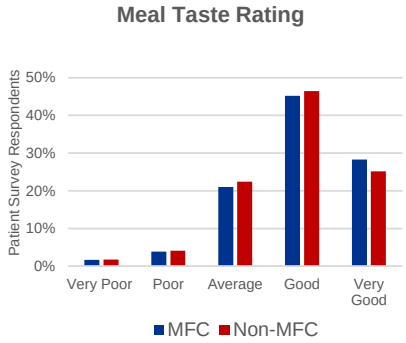
05-04

Patient Experience Feedback

Patient Meal Feedback

Patient survey results[1] indicate that patients do not significantly differentiate the meal experience under MFC hospital and Non-MFC hospitals.

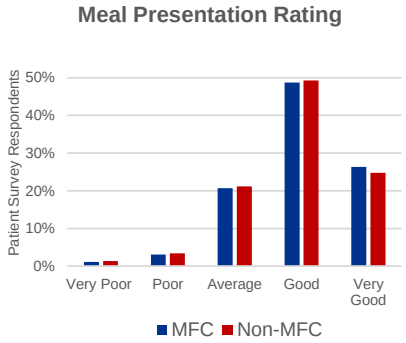
Meal Taste



> In the highest rating category for meal taste, MFC hospitals rated ~10% higher than that of Non-MFC hospitals.

> Aggregated results from across both the food models, indicates that 72% of patients rated meal taste as ‘good’ or ‘very good’.

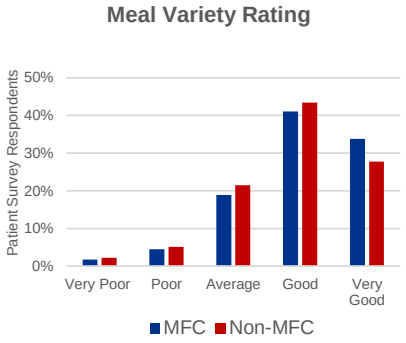
Meal Presentation



> There is subtle improvement in meal presentation under MFC, with most patients satisfied under both models.

> Aggregated results from across both the food models, indicates that 75% of patients rated meal presentation as ‘good’ or ‘very good’.

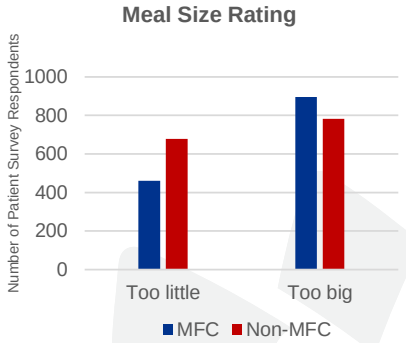
Meal Variety



> In the highest rating category for meal variety, MFC hospitals rated ~20% higher than that of Non-MFC hospitals.

> Aggregated results from across both the food models, indicates that 73% of patients rated meal variety as ‘good’ or ‘very good’.

Meal Size



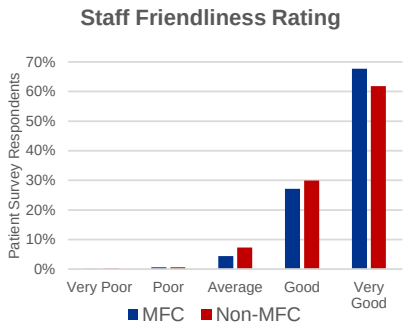
> Twice as many MFC patients say that the serving sizes are ‘too big’ as opposed to ‘too little’, which is a much wider gap than that observed at Non-MFC hospitals. This is believed to be a result of greater serve size customisation under a cook chill model.

1. Survey data collected throughout (8 months) and 2019 (6 months) recording 21,750 meal experiences (breakfast, lunch & dinner)

Patient Service Feedback

Patient survey results[1] indicate that patients rate the MFC hospital service experience higher than Non-MFC hospitals.

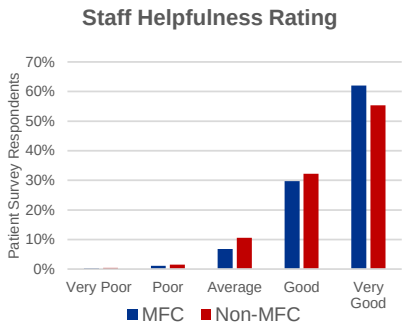
Friendliness of Staff



> In the highest rating category for staff friendliness, MFC hospitals rated ~10% higher than that of Non-MFC hospitals.

> Aggregated results from across both the food models, indicates that 93% of patients rated friendliness of staff as ‘good’ or ‘very good’.

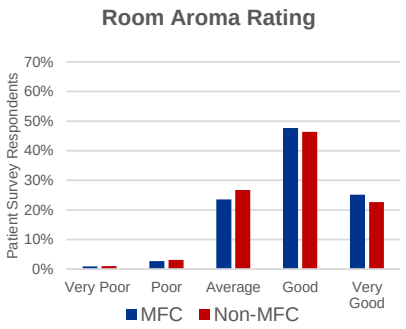
Helpfulness of Staff



> In the highest rating category for staff helpfulness, MFC hospitals rated ~12% higher than that of Non-MFC hospitals.

> Aggregated results from across both the food models, indicates that 89% of patients rated helpfulness of staff as ‘good’ or ‘very good’.

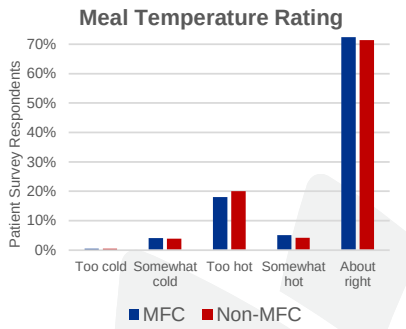
Aroma of Room



> Patients feedback recognises a subtle improvement in satisfaction with the aroma of rooms or wards under MFC, than under Non-MFC hospitals.

> Aggregated results from across both the food models, indicates that 71% of patients rated room aroma as ‘good’ or ‘very good’.

Meal Temperature



> Patient feedback on the temperature of hot meals show that around 70% of patients are satisfied, with similar ratings for MFC and Non-MFC hospitals.

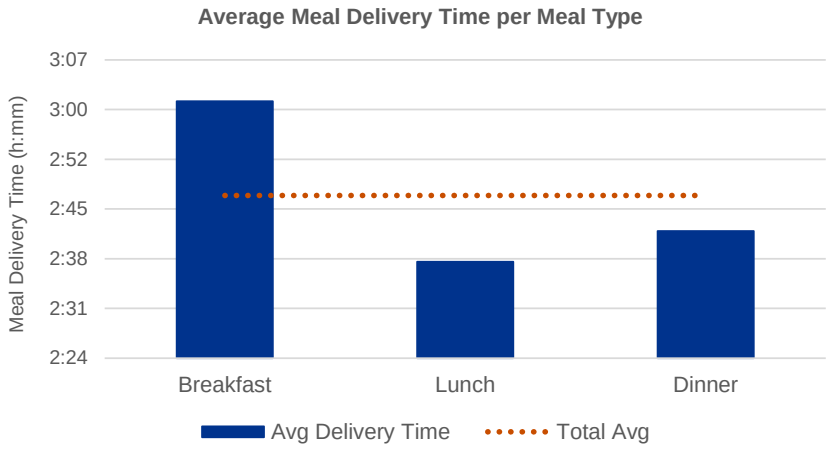
> Aggregated results from across both the food models, indicates that 71% of patients rated meal temperature as ‘about right’.

1. Survey data collected throughout (8 months) and 2019 (6 months) recording 21,750 meal experiences (breakfast, lunch & dinner)

Food Delivery Timing

MFC has shortened meal delivery times to an average of ~2.8 hours across breakfast, lunch, and dinner, as opposed to between 12 and 24 hours under Non-MFC.

MFC[1]



- Patient orders are entered directly into an ICT system via tablets, reducing manual data entry and rework.
- Based on the sample meal delivery timing data, meal delivery times[2] at MFC sites average around 2.8 hours across breakfast, lunch and dinner.
- This presents a significant improvement from the Non-MFC system and contributes to a better patient experience as well as improved intake.

Non-MFC

- Meal orders are taken from patients predominantly through paper-based menus the day before, which means that delivery time is between 8 to 24 hours after the patient orders.
- Research suggests that allowing patient meal choice closer to mealtimes is a key factor in improving patient intake and reducing plate waste.[3]
- A study conducted at the Mater Hospital provides evidence that shorter delivery times improve meal intake and increase patient satisfaction.[4]
- Studies suggest that an electronic meal ordering system increases patient intake compared to a paper based menu, with paper based menus or electronic device averaging 76% of patients beating more than half their meal, compared to meal ordering systems with 98% of patients eating more than half their meal.[5]

NSW GOVERNMENT HealthShare

1. Tray line data collected at Westmead -T1, Westmead -T2, Westmead -T3, Westmead -T4; Meals: Breakfast, Lunch, Dinner; from 20/08/2019 to 30/08/2019.
2. Meal delivery time defined as time frame between order taking to order delivery.
3. Reducing hospital food service plate waste through optimising meal order timing and providing flexibility in choice, Sally McCray et al.
4. Room Service in a public hospital improves nutrition intake and increases patient satisfaction while decreasing food waste and cost.
5. Energy and protein intake increase with an electronic bedside spoken meal ordering system compared to a paper meu in hospital patients, Kirsty Maunder et al, Clinical Nutrition ESPEN 2015.

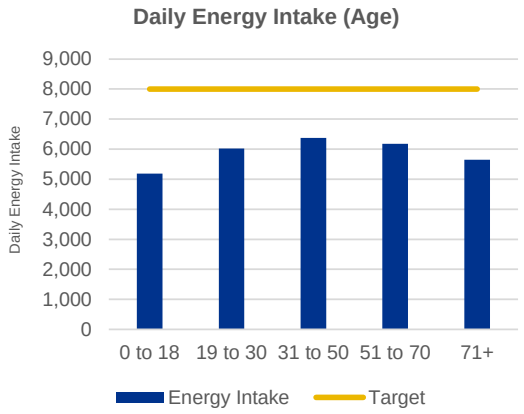
05-05

Patient Food and Nutrient Intake

Patient Energy Intake

An examination of intake for patients with Full/Simple diets, suggests the majority of patients are falling short of the energy targets set under the Adult Inpatient Nutrition Standards.

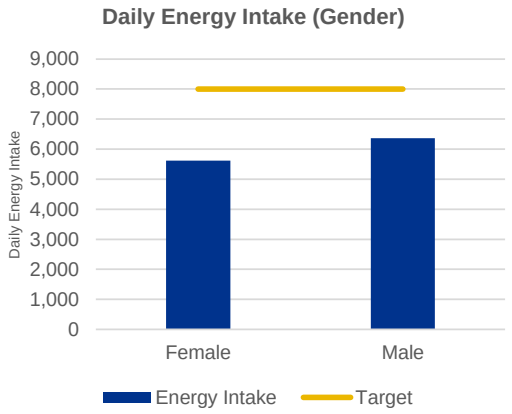
Energy Intake Per Age Group



> Based on the sample intake data and including all food and drink items ordered across a day, average energy intake for all age groups is below the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

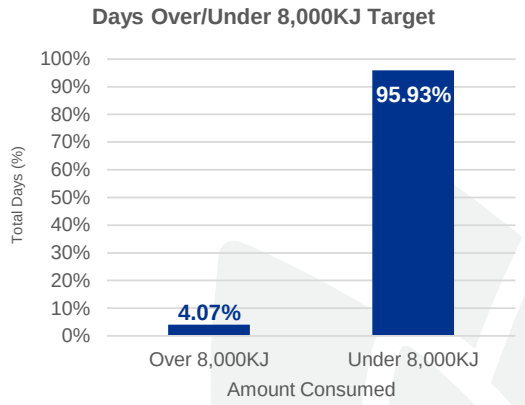
Energy Intake Per Gender



> Based on the sample intake data and including all food and drink items ordered across a day, average energy intake is lower for females than it males, with both groups below the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

Over/Under Target



> Based on the sample intake data and including all food and drink items ordered across a day, around 96% of patients fall below the 8,000KJ energy intake target set in the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

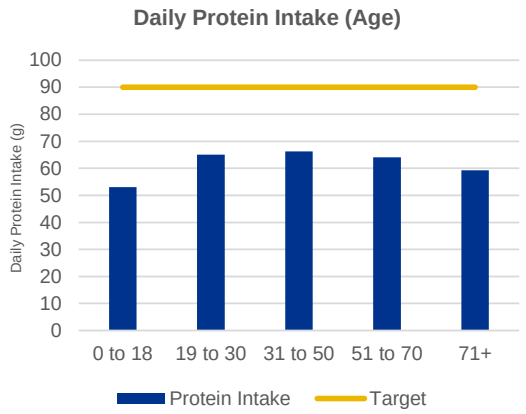
1. Patient food intake data taken from four hospitals within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019. Analysis includes Full/Simple diets only, and covers both main and mid meals.

NSW GOVERNMENT HealthShare

Patient Protein Intake

An examination of intake for patients with Full/Simple diets, suggests the majority of patients are falling short of the protein targets set under the Adult Inpatient Nutrition Standards.

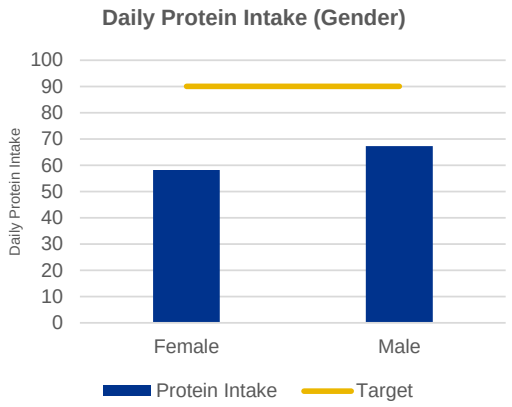
Protein Intake Per Age Group



> Based on the sample intake data and including all food and drink items ordered across a day, average protein intake for all age groups is below the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

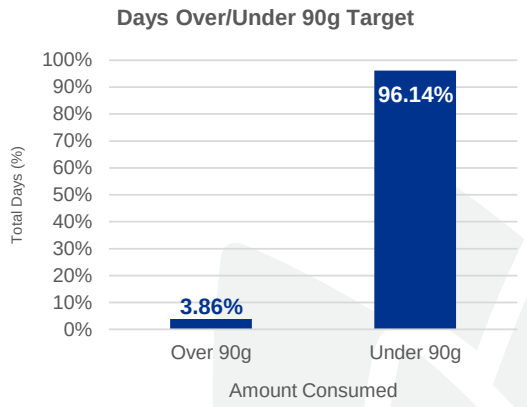
Protein Intake Per Gender



> Based on the sample intake data and including all food and drink items ordered across a day, average protein intake is lower for females than it males, with both groups below the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

Over/Under Target



> Based on the sample intake data and including all food and drink items ordered across a day, around 96% of patients fall below the 90g protein intake target set in the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

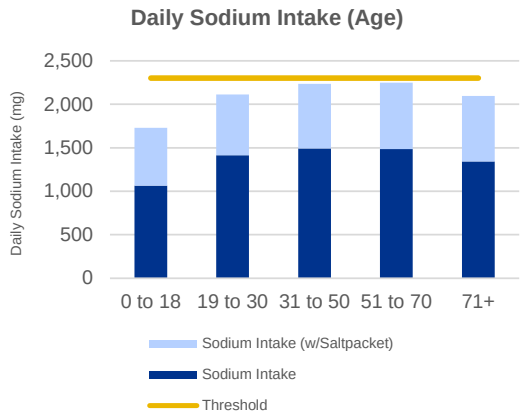
1. Patient food intake data taken from four hospitals within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019. Analysis includes Full/Simple diets only, and covers both main and mid meals.

NSW GOVERNMENT HealthShare

Patient Sodium Intake

An examination of intake for patients with Full/Simple diets, suggests the majority of patients are falling well within the sodium thresholds set under the Adult Inpatient Nutrition Standards.

Sodium Intake Per Age Group

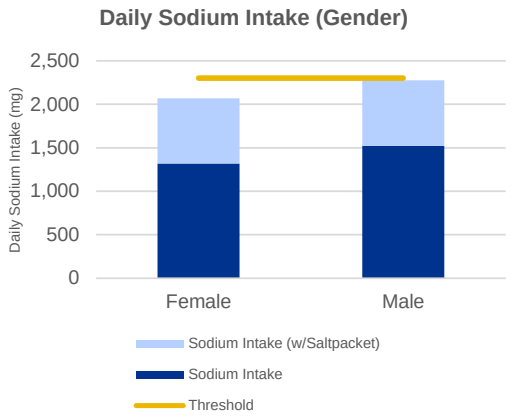


> Based on the sample intake data and including all food and drink items ordered across a day, average sodium intake for all age groups is below the ACI Nutrient Goal for NSW Health patients.

> The average sodium intake for patients on a Full/Simple Diet (excluding salt packets) is 1413mg per day.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

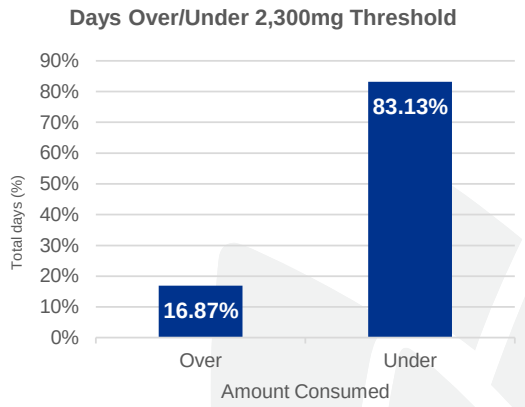
Sodium Intake Per Gender



> Based on the sample intake data and including all food and drink items ordered across a day, average sodium intake is lower for females than it males, with both groups below the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

Over/Under Threshold



> Based on the sample intake data and including all food and drink items ordered across a day (excluding salt packets), around 83% of patient days fall below the 2,300mg sodium threshold set in the ACI Nutrient Goal for NSW Health patients.

> Diet inclusions used in this analysis are Full / Simple roll-up diets only.

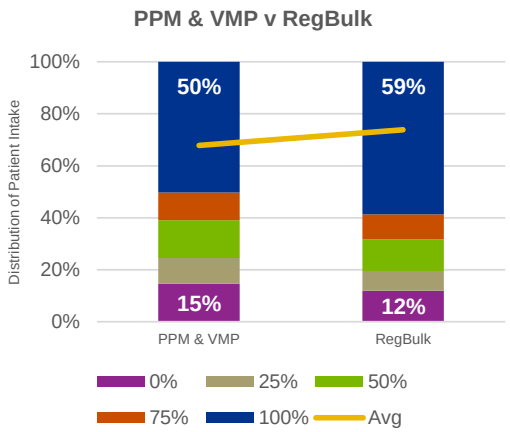
1. Patient food intake data taken from four hospitals within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019. Analysis includes Full/Simple diets only, and covers both main and mid meals.

NSW GOVERNMENT HealthShare

Meal Type Intake

An examination of intake for patients with Full/Simple diets, suggests that bulk component assembled meals (via the 'background menu') have a higher intake than meal pack meals.

PPM & VMP v Regular Bulk

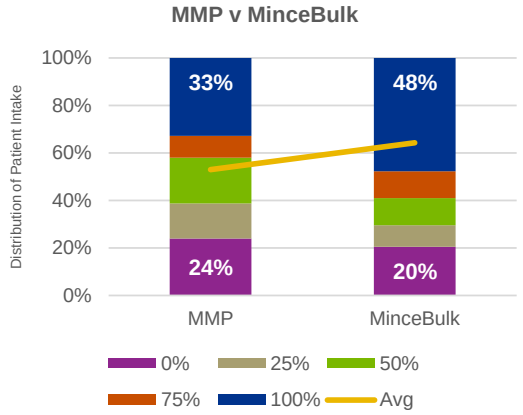


> Based on the sample intake data, bulk meals have a higher average consumption.

> PPM & VMP sample size of 31,804 and RegBulk (any full texture bulk) sample size of 16,147.

> There is anecdotal evidence that food service staff will regulate serve size when plating bulk meals, which may distort the intake analysis, however this does not account for the net reduction in 0% intake.

MMP v Mince Bulk

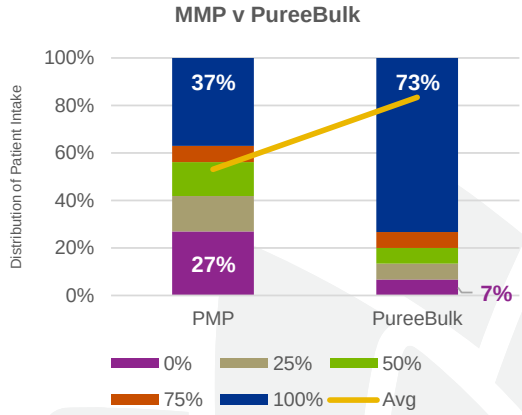


> Based on the sample intake data, mince bulk meals have a higher average consumption.

> MMP meals sample size of 1,284 and MinceBulk sample size of 44.

> There is anecdotal evidence that food service staff will regulate serve size when plating bulk meals, which may distort the intake analysis, however this does not account for the net reduction in 0% intake.

PMP v Puree Bulk



> Based on sample intake data, puree bulk meals have a higher overall average consumption.

> PMP meals sample size of 2,473 and PureeBulk sample size of 15.

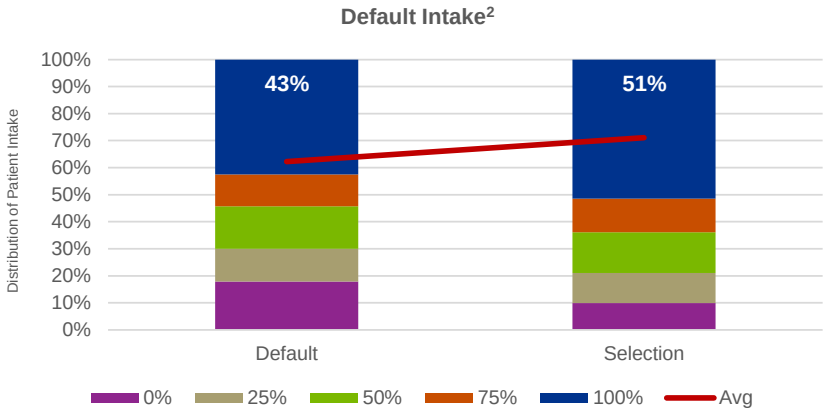
> There is anecdotal evidence that food service staff will regulate serve size when plating bulk meals, which may distort the intake analysis, however this does not account for the net reduction in 0% intake.

1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.

Default Meal Intake

Offering patients the opportunity to select their own meals has a correlation with improved patient intake and food waste outcomes.

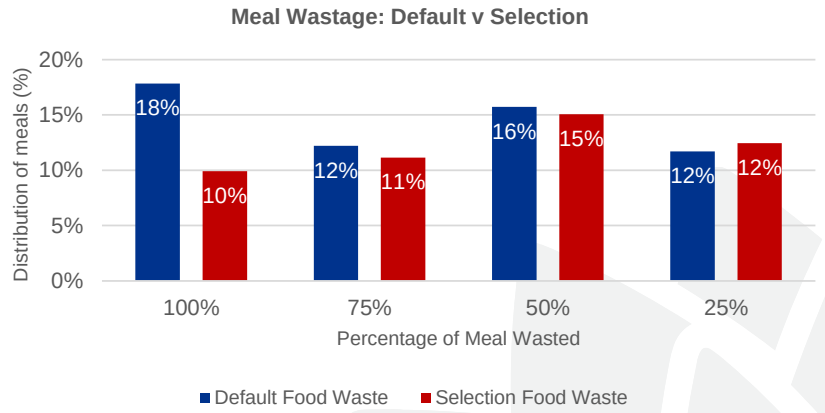
Default Meal Intake



> Based on the sample intake data, patients served a default meal are 80% more likely to not eat any of their meal than a patient allowed to select.

> In aggregate, patients allowed to select their meal eat 15% more than patients served a default meal.

Default Meal Food Waste



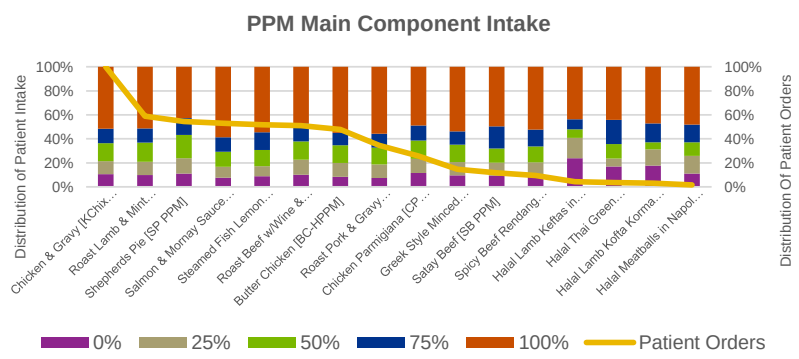
> Based on the sample intake data, the overall wastage for default meals is significantly higher than for menu selection meals.

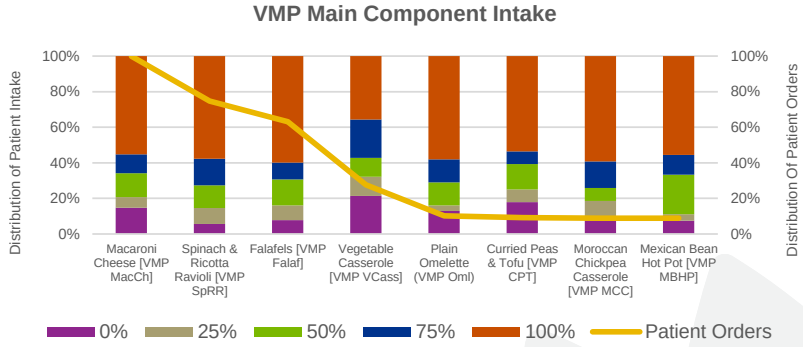
> When a patient is given a default meal, it is almost twice as likely that that meal will have 100% wastage.

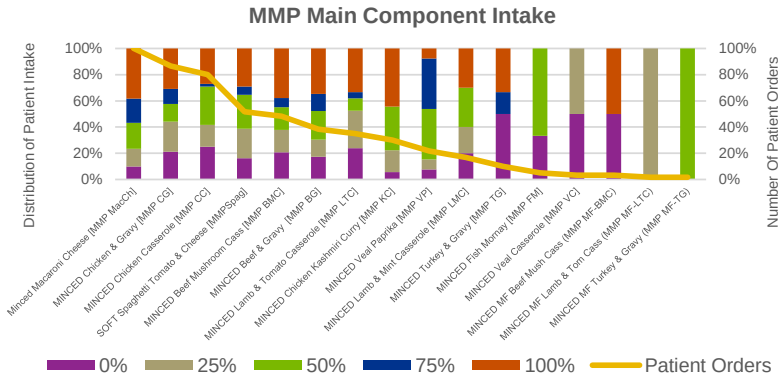
1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.
2. Main meal served during the sample data period.

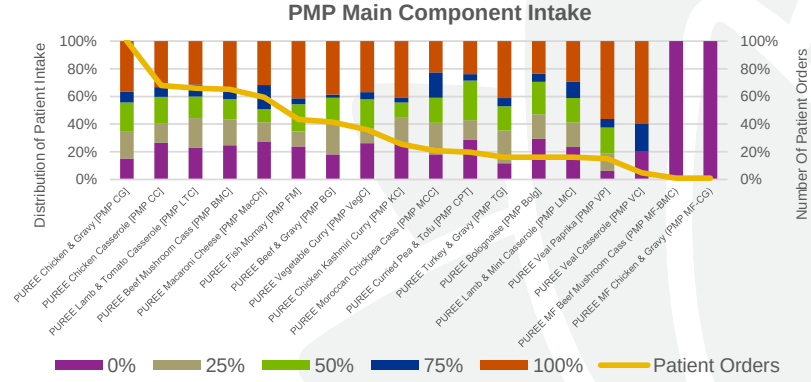
Meal Pack Demand & Intake

An examination of order habits for patients with Full/Simple diets suggests a high degree of variability in demand for both full texture and modified texture meal packs.









1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.

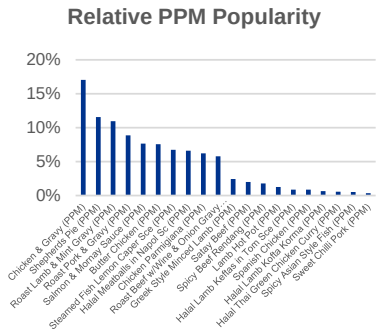
05-06

Patient Meal Choice

PPM Development & Menu Design

The application of Nutrition Standards to frozen meal packs has led to a lack of recipe innovation, limited products, inconsistent menu design, and over prescription of the banding.

PPM Design & Demand

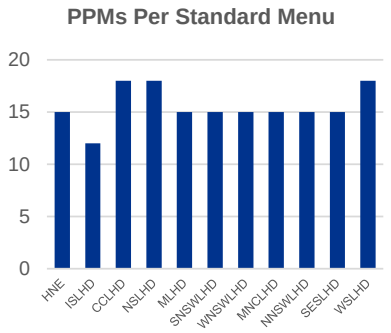


> There are 20 PPMs supplied to HealthShare NSW by the market, which have not changed or been further developed in the 5 years since they were first introduced.

> There is a high degree of variability in meal pack demand across the PPM range, with anecdotal evidence that certain flavours are unpopular with patients.

> The top 4 PPMs account for ~50% of volume.

MFC Menu Choice



> Although MFC is a centrally designed and run program built around patient choice, the Standard Menus developed in LHD / Specialty Networks are using between 12 and 18 PPMs.

> Meal food lists are district designed. While districts have visibility of all catalogue products, they don't always have access to all of them.

PPM Nutrition Standards Alignment

PPM Selections[1]	Energy(kJ)	Protein (g)	SFA (g/100g)	NA (mg)	Banding
Chicken Parmigiana, Roast Potato & Vegs (1 - *)	2296	29.7	1.8	585	2
Roast Pork, Gravy, Roast Potato & Vegs (1 - *)	1572	36.8	0.5	296	1
Roast Lamb, Mint Gravy, Mash Potato Vegs (1 -	1849	32.7	2.1	297	1
Chicken, Gravy, Roast Potato & Vegs (1 - *)	1712	34.8	0.4	276	1
Roast Beef, Gravy, Roast Potato & Vegs (1 - *)	1628	37.6	0.6	296	1
Butter Chicken, Rice & Vegs (1 - *)	1953	31.5	2.3	559	2
Greek Style Minced Lamb, Lentils & Pasta (1 - *)	1336	21.5	0.7	444	2
Lamb Keftas in Tomato Sauce, Rice & Vegs	1701	21.8	1.1	382	2
Lamb Kofta in Korma Sauce, Rice & Vegs (1 - *Pref)	2289	22.7	2.9	517	2
Thai Green Chicken Curry, Rice & Vegs (1 - *Pref)	2037	29.8	1.9	315	2
Lamb Hot Pot , Mash Potato & Vegs (1 - *)	1619	25.5	1.3	380	2
Meatballs in Napoletana Sc, Pasta & Vegs (1 -	1936	25.6	1.7	530	2
Salmon, Mornay Sce, Mashed Potato & Vegs (1 - *)	1531	31.9	1.6	251	1
Satay Beef, Noodles & Vegs (1 - *)	2184	40.7	0.9	298	2
Shepherds Pie & Vegs (1 - *)	1298	21.8	0.8	454	2
Spanish Chicken, Potatoes & Vegs (1 - *)	1360	23.6	1.1	524	2
Spicy Asian Style Fish, Rice & Vegs (1 - *)	1817	30.8	1.7	246	1
Spicy Beef Rendang, Rice & Vegs (1 - *)	1900	29.3	2.4	445	2
Steamed Fish, Lemon Caper Sauce & Vegs (1 - *)	1548	26.6	2.7	303	1
Sweet Chilli Pork, Noodles & Vegs (1 - *)	1970	32.8	0.2	454	2

> PPM meals are allocated into band 1 & 2 or 3 based on nutrient contents. Band 1 & 2 meals are required to meet a far more prescriptive application of the nutrient requirements than band 3.

> The minimum Menu Choice Standards dictate that "at least one hot dish per meal must meet the standard for band 1 or band 2 main dishes…all other dishes should meet band 3" and "10% of meals can exceed the sodium threshold of 575mg".

> The existing PPM design options for the MFC Standard Menu are all band 1 & 2, with <575mg sodium, meaning all patients in an MFC hospital must select products which are more prescriptive than the standards dictate.

1. A tolerance of 10% is used when assessing band compliance with nutrition standards.

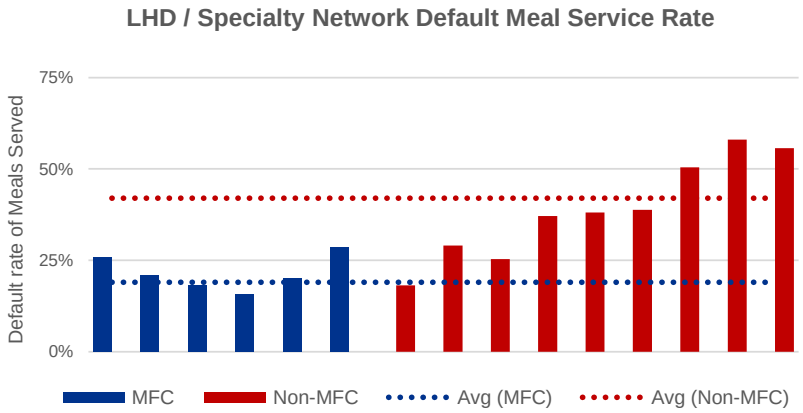
Band 1
Band 2
Band 3

NSW GOVERNMENT HealthShare

MFC Impact On Defaults & Substitutions

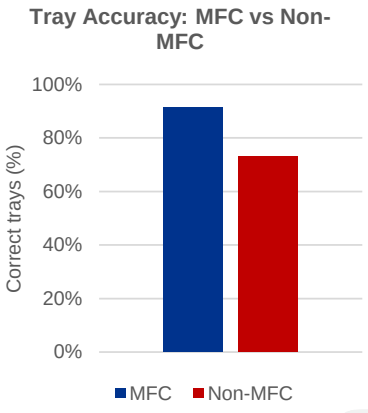
Patient experience and intake is impacted by default meals and substitutions, with MFC successfully reducing default meals served and improving tray accuracy.

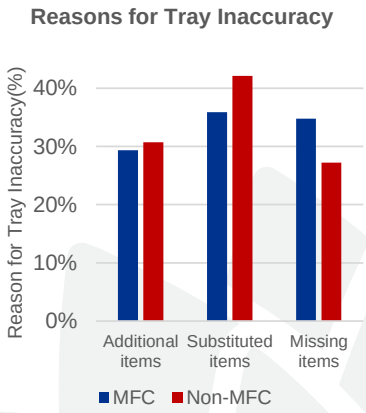
Default Meal Rates



- LHD / Specialty Networks with a greater adoption rate of My Food Choice[1] illustrate a significant reduction in default meals.
- The average rate of default meals served under MFC is 19% as opposed to 42% served under a Non-MFC service delivery model.
- The majority of patients who receive default meals did not have an opportunity to choose themselves, which negatively impacts the customer experience.
- Some patients choose not to select a meal and are given a default.

Tray Accuracy [2]





- MFC has significantly improved tray accuracy, which reaches around 91% at MFC sites compared to 73% at Non-MFC sites.
- The most prevalent reason for tray inaccuracy at MFC hospitals and Non-MFC hospitals alike are substituted items.
- Tray accuracy not only impacts the customer experience but can also be a safety risk (e.g. for patients with food allergies) as the patient does not receive the correct meal as per their order.

1. Greater MFC adoption defined as LHD's serving >50% of meals under the MFC service delivery model.
2. Data taken from FOOD - Internal Audit: Results for Sec 12. Service Set up, plate and clear for 12 months to Aug-2019 at MFC and Non-MFC sites.

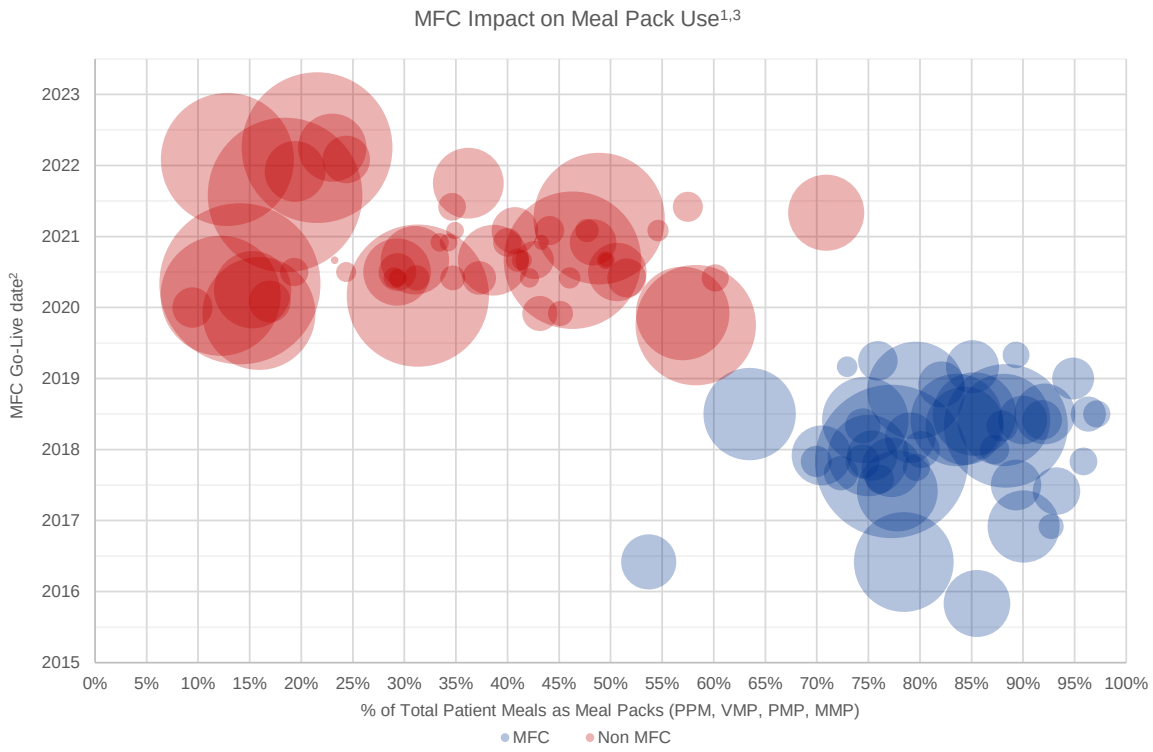
05-07

Meal Pack Use Under MFC

MFC Impacts On Meal Pack Demand

Although the original MFC vision recommended a tailored implementation based on hospital size, location, and patient mix, the cook freeze (PPM) model has become the dominant application.

Meal Pack Demand Under My Food Choice



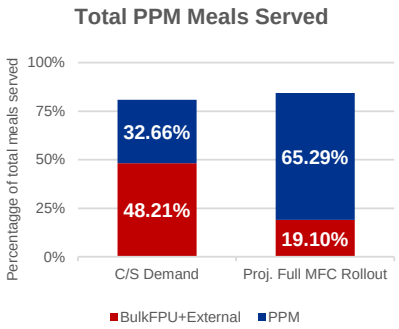
- The proportion of meals consumed as frozen meal packs (standard, vegetarian, puree, minced) in MFC hospitals is significantly higher than that of Non-MFC hospitals.
- The majority of MFC hospitals consume 75% to 90% of meals as frozen meal packs, averaging 81%.
- The majority of Non-MFC hospitals consume between 15% and 50% of meals as frozen meal packs, averaging 30%.

1. Bubble size represents hospital size (overnight bed stays).
2. MFC Go-Live for Non-MFC sites is illustrative only.
3. Based on all of network patient consumption for one whole month (April 2019).

MFC Impacts On Meal Pack Demand

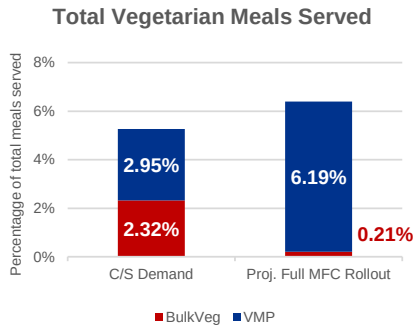
The MFC Program has increasingly been affiliated with the introduction of frozen meal packs and under current projections will constitute over 80% of patient meals once at maturity.

Standard Meals[1]



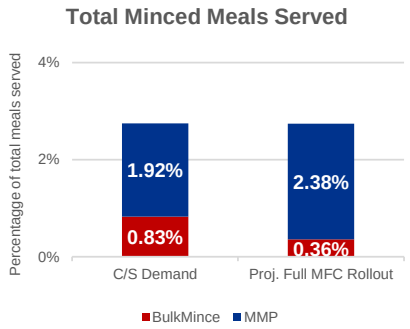
- Pre-packaged as a portion of total meals served have grown in demand due to the application of MFC preferencing cook-freeze (meal packs) rather than other models.
- PPMs will more than double as a portion of total meals served. This is a result of a reduction in 'bulk' products used as well as increased adoption of PPM's through the MFC program.

Vegetarian Meals[1]



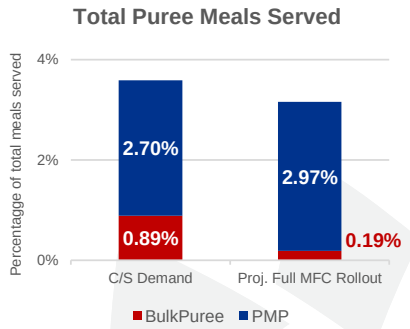
- Vegetarian meals were originally only offered to those with dietary or other preferences requiring a vegetarian meal. Under the MFC program VPM's are now offered for, and can be ordered by those on a full or simple diet.
- Vegetarian meals served as a portion of total meals will grow in NSW hospitals. This growth will be sourced almost exclusively as VPM meals.

Minced Meals[1]



- PPMs were originally designed only for patients on full or simple diets, however uptake of texture modified meal packs in advance of the MFC program suggests their convenience and variety are in favour within hospitals.
- Minced meal packs served as a portion of total meals served will continue to grow in NSW hospitals, the portion of bulk mince will reduce.

Puree Meals[1]



- As with minced meal packs, the uptake of puree meal packs suggest they are favoured within hospitals due to their convenience and variety.
- Puree meal packs will continue to grow as a portion of the total meals served in hospitals, the portion of bulk puree served will reduce significantly.

1. Based on all of network patient consumption for one whole month (April 2019).

05-08

Market Meal Pack Comparison

Market Meal Pack Design Comparison

The patient meal choices available for fully textured meal packs are predominantly traditional and anglicised meals as opposed to contemporary and multicultural meals.

NSW Health Full Texture Meal Pack Designs [1]

Standard meal packs are generally designed to have a protein accompanied with three vegetable and/or starch components. These can be separated into two categories:

1. Meat / poultry / fish

Consists of 3 bands (solid, wet and mix of meat and vegetables) that have specific specifications that need to be met with a 10% range tolerance.

These meal packs predominately employ a 'meat & 3 veg' design, whilst also limiting the ability to choose meal components and select smaller portion sizes.

MEAT / POULTRY / FISH

2. Vegetarian

Consists of 2 bands (higher and lower protein) with portion sizes varied depending on the main vegetarian component in the meal pack.

The vegetarian meal packs comprise of a hot main component that's primarily made up of vegetables, with the accompanying side dishes also being vegetables. Main component can be up to 180g and sides totally 140g. The large vegetable portion size can be challenging in meal design, considering the portion restrictions are stringent.

VEGETARIAN

Market Full Texture Meal Pack Designs

> 'Off the shelf' meal packs offer both simple traditional meals with specific and separate components and 'composite' meals which are designed to incorporate a broader variety of vegetables and sauces to make meals tastier and more appealing to customer.

Wholemeal Sicilian Tuna Bake Components [2]

- **Protein:** tuna and cannellini beans
- **Starch:** Wholemeal pasta
- **Vegetables:** kale, spinach and olives
- **Sauce:** sundried tomatoes, red capsicum, capers
- **Other:** lemon, cheese, parsley

> These meal packs may contain noticeably smaller portions of vegetables and can be limited in the variety of vegetables offered due to the high water content contained in certain products. Whilst suppliers generally design meal packs to be nutritionally balanced[3], in cases of low vegetable component, additional vegetable side servings can be offered with these 'off the shelf' items if requested.

CHINESE

THAI

ITALIAN

> Market offered meal packs is also shifting towards more international cuisines that can accommodate different cultures and appetite, seeing that Australia is very diverse and multicultural.

1. ACI. Nutrition Standards for Adult Inpatients in NSW Hospitals. 2011
2. Super Nature, 2019. http://supernaturefoods.com.au/
3. Market Overview: Frozen And Chilled Prepared Meals, Flanders Investment & Trade, 2018, https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/FIT%20Australia-Frozen%20and%20chilled%20prepared%20meals.pdf

Market Meal Pack Nutrient Comparison

An assessment of the nutrient values of comparable retail products indicates Band 3 alignment for energy, protein, and fat, but not sodium thresholds.

Meal Pack Nutrient Comparison (Meat Dishes)

Frozen Meal (Meat Dishes)	Serving size (g)	Energy (kJ)	Protein (g)	Fat (g)	SFA (g/100g)	Sodium (mg)
NSW Nutrition Standards – Complete Meal Band 3	380	>= 990	>= 12	< 10	< 3	< 620
McCain						
Healthy Choice Wholegrain Frozen Chicken & Tomato	320	1470	18.2	9.6	1.6	736
Frozen Turkey Roast Meal	320	1260	16.6	5.8	0.6	800
Lean Cuisine						
Red Thai Chicken Curry	380	1500	17.1	6.8	1.3	912
Steam Salmon Pasta	370	1480	20.7	9.6	0.8	574

> An analysis of the nutrient values of frozen meat-based meal packs across a range of brands[1] (incl. Super Nature, McCain, Weight Watchers, Lean Cuisine and Woolworths) has revealed the following:
  - ✓ 91% of analysed retail products comply with energy, protein, and fat requirements for a Band 3 meal.
  - x 52% of analysed retail products did not comply with prescribed maximum sodium levels of 620 grams per meal.
> Under the current application of the Nutrition Standards, NSW Health are unable to purchase market designed meal packs for meat dishes.

Meal Pack Nutrient Comparison (Vegetarian Dishes)[2]

Frozen Meal (Vegetarian Dishes)	Serving size (g)	Energy (kJ)	Protein (g/100g)	Fat (g)	SFA (g/100g)	Sodium (mg)
NSW Nutrition Standards – Complete Meal Band 3	370	>= 990	>= 10	< 25	< 3	< 620
McCain						
Spinach & Ricotta Ravioli	350	1670	15.4	9.1	1.2	627
Healthy Choice Wholegrain Frozen Meal Pumpkin Pasta	320	1530	14.1	9.6	2.0	832
Lean Cuisine						
Vegetable Cannelloni	400	1460	19.6*	6.0	0.9	800
Wholegrain Lasagna Pumpkin Spinach & Ricotta	400	1550	20.0*	4.8	0.7	1080

> An analysis of the nutrient values of frozen vegetarian meal packs across a range of brands[1] (incl. Super Nature, McCain, Weight Watchers and Lean Cuisine) has revealed the following:
  - ✓ 88% of analysed retail products comply with energy, protein, and fat requirements for a Band 3 meal.
  - x 57% of analysed retail products did not comply with prescribed maximum sodium levels of 620 grams per meal.
> Under the current application of the Nutrition Standards, NSW Health are unable to purchase market designed meal packs for vegetarian dishes.

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1. Appendix B contains detailed analysis of retail products.
2. The market offering for vegetarian meals is a lot smaller than the one for meat dishes, which means the analysed sample size was less than half the size of meat dishes.

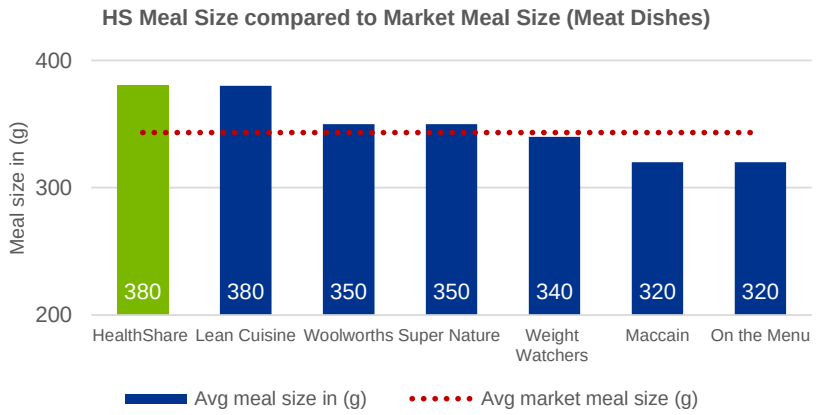
Does NOT comply with NSW Nutritional Standards

Compliant with NSW Standards (10% tolerance)

Market Meal Pack Portion Comparison

An assessment of the portion sizes found in comparable frozen retail products[1] indicates MFC PPMs are on average 11% larger for meat dishes and 13% larger for vegetarian dishes.

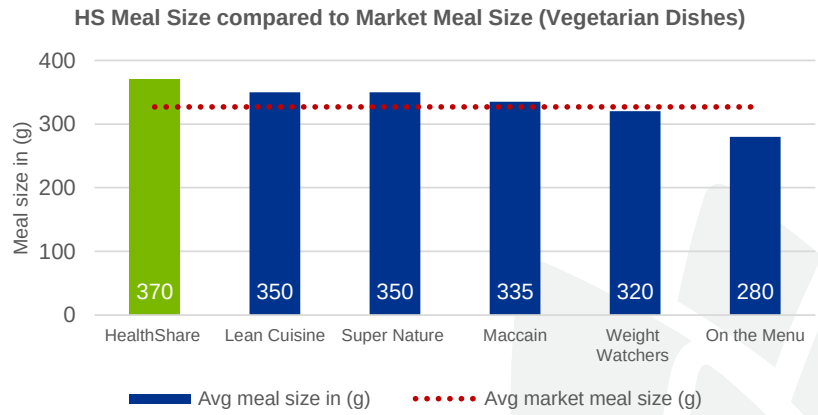
Meal Pack Portion Size (Meat Dishes)



> *Current HS meals have the following approximate component sizes:*
- *Protein source: 150g*
- *Vegetables: 140g*
- *Starch: 90g*
- *Average Total Meal size: 380g*

1. On average, HealthShare PPM meal sizes are 11% bigger than comparable meal options (meat dishes) offered by standard market suppliers that average around 340g.
2. Patient survey results support the hypothesis that meals are too large for some patients.

Meal Pack Portion Size (Vegetarian Dishes)



> Vegetarian meals are made of the same meal components as meat dishes, with the difference being that the protein comes from an alternative source (e.g. tofu).

1. Similarly to meat dishes, the vegetarian HealthShare PPM meal sizes are around 13% bigger than comparable meal options offered by standard market suppliers that average around 330g.
2. Vegetarian meals already include mostly vegetables as part of the 'hot main' e.g. vegetarian curry. As most marker suppliers do not include extra vegetables in their meals and still meet the protein and energy nutrient requirements, it raises the question whether it is necessary to offer an additional 140g vegetables as a side to patients.

1. Used average sizes of products currently sold at major retailers (e.g. Woolworths) for each supplier. Please note the vegetarian product offering is much smaller than the offering of meat dishes.

Market Meal Pack Cost Comparison

HealthShare's cost for meal packs are around 18%-28% higher compared to the cost of comparable retail products.

Supplier Cost Comparison (Meat Dishes)

Supplier	Average RRP ($)	Estimate Margin (%)	Average Cost ($)	Average Cost per 100g ($)
HealthShare PPMs	NA	NA	7.70	2.00
Super Nature	6.30	15%	5.40	1.50
Maccain	6.00	15%	5.10	1.60
Weight Watchers	10.00	15%	8.50	2.40
Lean Cuisine	5.70	15%	4.85	1.30
On the Menu	6.50	15%	5.50	1.70

> The cost analysis of market suppliers[2] has revealed the following insights:

- RRPs for the listed suppliers range from $5.70 - $10.00
- An assumed margin of 15%[1] leads to a average market product cost (per 100g) of $1.70. HealthShare's meat-based meal pack average cost is around 18% higher than those of major frozen meal market suppliers
- The cost for HealthShare products is driven by the quality of fresh and nutritious ingredients used rather than the batch size.
- Overall, by buying products off the catalogue from market suppliers at an estimated average cost of $1.70 the annual cost saving opportunity would be $624,442.[2]

Supplier Cost Comparison (Vegetarian Dishes)

Supplier	Average RRP ($)	Estimate Margin (%)	Average Cost ($)	Average Cost per 100g ($)
HealthShare PPMs	NA	NA	6.50	1.80
Super Nature	6.30	15%	5.40	1.50
Maccain	6.00	15%	5.10	1.60
Weight Watchers	5.00	15%	4.25	1.30
Lean Cuisine	4.50	15%	3.80	1.10
On the Menu	5.50	15%	4.70	1.70

> The cost analysis of market suppliers[2] has revealed the following insights:

- RRPs for the listed suppliers reach from $4.50 - $6.30
- An assumed margin of 15%[1] leads to a average market product cost (per 100g) of $1.40. HealthShare's vegetarian meal pack average cost is around 28% higher than those of major frozen meal market suppliers.
- The cost for HealthShare products is driven by the quality of fresh and nutritious ingredients used rather than the batch size.
- Overall, by buying products off the catalogue from market suppliers at an estimated average cost of $1.40 the annual cost saving opportunity would be $77,976.[3]

1. Research on supplier margin in frozen foods industry.
2. Calculated based on monthly PPM quantities as per Patient Meal Service data from April 2019.
3. Calculated based on monthly VPM quantities as per Patient Meal Service data from April 2019.

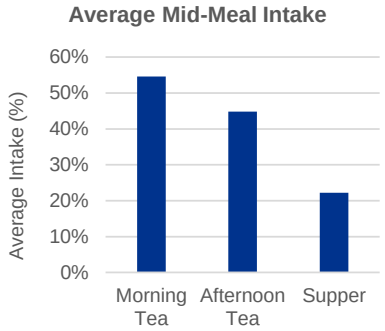
05-09

Mid-Meal Service

Mid-Meal Food Service

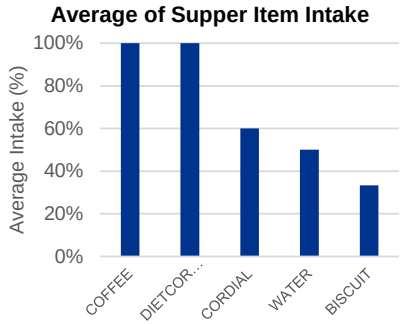
A recent audit into mid-meal intake has indicated that supper intake is as low as 22% and can introduce food safety risk through undisposed perishables.

Mid-Meal Intake



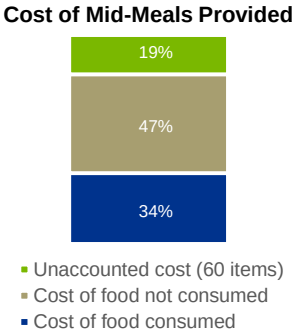
- Mid-meals were set up with the intention to complement main meals and provide energy & protein intake opportunities for patients.
- Based on a sample study conducted in Westmead hospital, mid-meal intake is low, averaging between 55% (Morning Tea) to as low as 22% (Supper).
- Further investigation is underway via a Mid-Meal project to understand the root cause of low intake.

Supper



- Drinks (coffee, tea, cordial and water) are the only items with 50% or greater consumption at supper.
- The sample analysis suggests that supper has limited uptake by patients and when taken is not consumed.

Waste & Cost



- Over a day, the cost[2] of food not consumed makes up 47% of the total cost of mid-meals provided.

Perishable Food Risk

- Mid-meals often include perishable food items such as yoghurt, which can present a food safety risk.
- There is currently no adequate process in place to ensure that these perishable items get disposed of before they become potential safety and health hazards for patients or visitors.

1. Mid-meal intake data collected 24th and 26th of April 2019 across all 3 mid-meal services at 3 wards at Westmead Hospital.
2. Costs sourced from CBORD.

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05-10

Texture Modified Meal Presentation

Texture Modified Meal Presentation

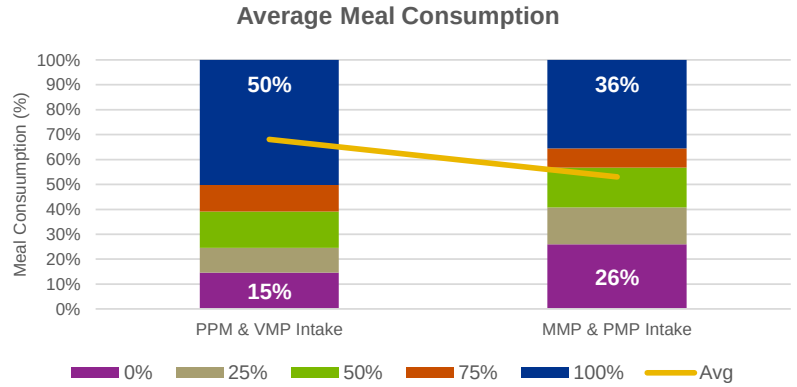
Texture modified foods are a significant and growing proportion of all meals in NSW public hospitals each year and are served to a nutritionally at risk segment of the patient population.

Texture Modified Diets

> Texture modified (TM) food is predominantly used to service people with disabilities and elderly people who are more likely to suffer from dysphagia.

> The level of consumption of texture modified meals is significantly lower than that of full texture meals, which makes patients on texture modified diets at higher risk of malnutrition than most full diet patients.

> The presentation of texture modified meals is an important factor in assisting patients to consume as much of the meal served as possible, with studies showing that it can increase intake and also renew patient interest and pleasure in the dining experience[1].



The Texture Modified Market

> Texture modified products are a low volume range of products which none the less form a critical and growing part of patient nutrition needs.

> HealthShare NSW are currently the only producer of meal pack and bulk texture modified products to the LHD / Specialty Networks, with a large range of low volume SKUs offered.

> In time, growing demand for high quality texture modified meals is likely to create a market for texture modified goods, however it is currently in its infancy in Australia, with key suppliers lacking both the expertise and appetite for production of NSW Health needs.

> HealthShare NSW are likely to remain the key supplier for texture modified goods and are exploring ways to innovate through improvement in texture modified meal presentation.

> The Royal Commission into aged care quality and safety is likely to have an impact on food supply for aged care facilities, with increasing public scrutiny of suppliers and expectations for improvement of food presentation.

> HealthShare NSW currently suppliers texture modified foods into both hospitals and MPS facilities which service aged care residents.

1. LHI meal presentation for modified meals https://journalofdementiacare.com/re-designing-texture-modified-foods/

Texture Modified Presentation Innovation

Food mould technology offers a way to improve the visual appeal of texture modified meals, however off the shelf moulds do not meet the serve size specifications of the nutrition standards.

Precast Silicon Moulds

> Silicon moulds are clinically suitable - enabling food to be delivered to patients in the nutritional profile, process and cost efficient, socially and environmentally sustainable, and visually appealing.

> A number of Australian and global suppliers exist for the provision of precast silicon food moulds:

- **Culinary Puree**
  https://www.dysphagia-diet.com/c-488-puree-molds.aspx
- **Flavour Creations**
  https://www.flavourcreations.com.au/
- **Pürierformen**
  http://www.shop.tsw-gastro.de/category.php?id_category=20

Barriers to Implement

> A scan of the globally available precast mould serve sizes shows that they do not align with the portion sizes allowed under the adult inpatient nutrition standards, and customised moulds are prohibitively expensive.

> HealthShare products would need to be redesigned to be used in food moulds, including the addition of thickening agents and potentially fortification to improve the final product.

3D Printing

> One emerging field in improving food presentation for patients with dysphagia, is printing of texture modified meals using a 3D food printer.

> 3D printed food allows for the layering of different tastes, textures and colours into a desired shape, to create meals with a highly complex flavour profile and mouthfeel, and also being visually appealing.

> In Australia, Deakin University and CSIRO are leading the way on research in this area:

- **DEAKIN - 3D printing of food for people with swallowing difficulties**
  http://dro.deakin.edu.au/view/DU:30096143

> Some examples of 3D printing currently used in hospitals and aged care across Europe:

- **3D Printed Food: “Performance” helps Patients with Dysphagia**
  https://all3dp.com/3d-printed-food-performance-helps-help-patients-with-dysphagia/

Barriers to Implement

> 3D printing is very slow today, making it near impossible to scale for NSW Health to produce around 2 million texture modified meals per annum.

> Product changeovers are inefficient because 3D printers are hard to clean, also introducing food safety risks.

> 3D printing costs are still relatively high per meal and a large degree of recipe adjustment would be needed to ensure ingredients work in a printer.

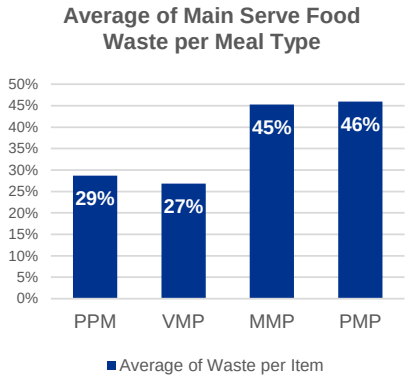
05-11

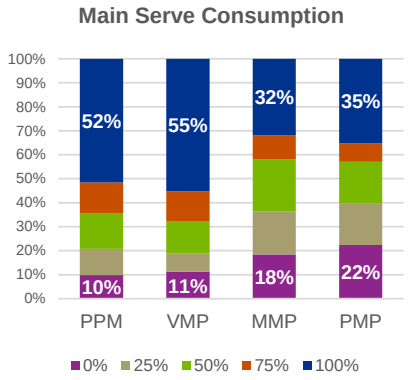
Patient Food Waste

Food Waste Under MFC

MFC intake analysis provides compelling evidence that waste is a significant issue with major cost and sustainability implications.

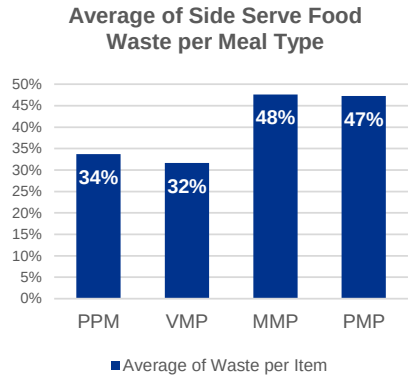
Main Serve Food Waste (Protein)

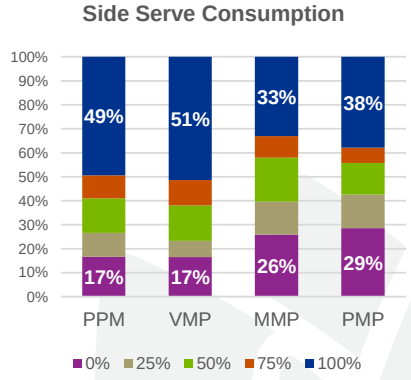




- On average, just over 50% of full texture main serves are wholly consumed, with around 10% of full texture main serves are disposed of without being touched by the patient at all.
- Texture modified main serves have a significantly higher level of wastage than full texture products.
- On average, just over 30% of texture modified main serves are wholly consumed with around 20% of texture modified main serves are disposed of without being touched by the patient at all.

Side Serve Food Waste (Vegetable & Starch)





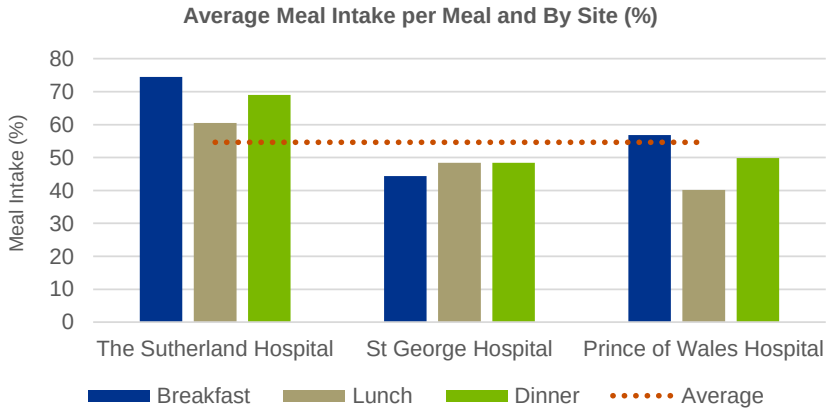
- On average, 50% of full texture side serves are wholly consumed, with around 17% of full texture side serves are disposed of without being touched by the patient at all.
- Texture modified side serves have a significantly higher level of wastage than full texture products.
- On average, just over 30% of texture modified side serves are wholly consumed, with around 25% of texture modified side serves are disposed of without being touched by the patient at all.

1. Data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.

Food Waste Under Non-MFC

Food waste analysis for Non-MFC hospitals closely aligns with MFC intake analysis results, with average meal intake as low as 55%.

Patient Food Waste[1]



> Meal waste varies greatly for Non-MFC hospital sites.

> On average, patients only consume around 55% of their meals, which is closely aligned to MFC waste data.

> Based on the sample data, lunch appears to be the meal generating the highest amount of food waste.

Finished Goods Waste

> Bulk bags are chilled to 3 degrees immediately following production, which ensures they receive between 4 and 6 weeks of shelf life (shelf life approval is based on the time the chilling system needs to take product to 3 degrees).

> Storage and distribution will generally reduce shelf life by an additional 1 to 2 weeks before the product reaches the LHD / Specialty Networks.

> Bulk bag shelf life expiration is not captured across NSW Health, however interviews with food service staff suggests it is high (albeit improving following the introduction of Tidy Stores).

> Once a bulk bag has been opened to assemble a patient meal, food safety rules dictate that any remaining product in that bulk bag must be used with the next 5 days.

> Standard Non-MFC menus work on a 2 week cycle, meaning that open bags generally reach the 5 day expiration and are discarded before they have the chance to be offered to another patient.

> There is widespread anecdotal evidence that 1kg and 2.5kg bulk bags of chilled product are frequently discarded when more than half full.

1. Data collected over a 3-4 week period at The Sutherland Hospital, St George Hospital, Prince of Wales Hospital and the Sydney Eye Hospital between July 2018 to March 2019.

Patient Food Packaging Waste

The MFC model has introduced more packaging waste than Non-MFC, due to the single use plastic containers for serving the meals and the cardboard packaging required for transportation.

MFC Packaging Waste

Meal Pack Packaging

> PPMs are made from crystallized polyethylene terephthalate (CPET) material, which despite being marketed as reusable, they are treated as single-use.

> There are approximately 250,000 PPM servings in April 2019 alone, therefore equating to 3 million meal pack containers that ends up in landfill annually.

> PPMs currently account for 30% of total servings in NSW, which at MFC maturity would be ~10 million meal pack containers annually.

1 x CPET Container = 1 Meal

Transportation Packaging

> Cardboard cartons are used to transport meal packs from suppliers and the FPUs to hospitals throughout NSW.

> Each carton contains 12 PPMs, which under current conditions require 250,000 cartons to transport each year.

1 x Cardboard Carton = 12 Meals

Non-MFC Packaging Waste

Bulk Bag Packaging

> Bulk bags are made from plastic film which is hermetically sealed for chilling and transport, before decanting in hospitals and served on crockery with real cutlery, which is collected, washed and reused.

> Meal components are packaged in 1kg or 2.5kg bags, with each bag equating to 2.5 or 12.5 meals respectively (patient meal net average 400g).

1 x 2.5kg Bulk Bag = 12.5 Meals

Transportation Packaging

> Reusable plastic crates are used for the transportation of bulk bags, and no additional packaging is required to support the movement of products.

> Each plastic crate carries 25kg of product, or 125 meals from bulk servings.

1 x Reusable Crate = 125 Meals

Environmental Sustainability Ministerial Correspondence

NSW Health receives a large amount of Ministerial correspondence related to the single use plastics, polystyrene, packaging and food waste prevalent in food services.

Date	Hospital/facility	MP	Issue(s)
August 2019	John Hunter	Sonia Hornery	> Quality of meals > Packaging of meals
May 2019	Blacktown		> Food wastage and donation to food bank
April 2019	Wyong		> Lack of fresh fruit, plastic utensils
March 2019	Statewide		> Use of Styrofoam cups and promotion of product
February 2019	Statewide		> Lack of recycling
February 2019	Statewide		> Use of polystyrene cups
February 2019	Mona Vale		> Dietary restrictions and food wastage
February 2019	RNSH/Mona Vale	Jonathan O'Dea	> Wrong meals and food wastage
January 2019	Lismore		> Use of plastic utensils
December 2018	Port Macquarie		> Quality and lack of variety of meals > Use of plastic
October 2018	Westmead		> Cardio ward meals > Use of plastic across the hospital
August 2018	Statewide		> Use of polystyrene cups
May 2018	Lismore		> Use of plastic
May 2018	Prince of Wales	Premier	> Quality of meals – soft diet > Use of plastic
April 2018	Lismore		> Use of plastic

05-12

Food Safety Impacts On Patient Food Experience

Food Safety Implications

The application of NSW food safety regulations and the food service costs are restricting the variety of fresh and processed foods that can be provided to NSW public health patients.

NSW Health Regulatory Environment

> HACCP (Hazard Analysis and Critical Control Points) accreditation is required for all hospital food suppliers. HCCP focuses on prevention of biological, chemical, or physical hazards within production.

> Guidelines for Public Health Units which focus on protecting health preventing disease, illness and injury, and promoting health and wellbeing at a population or whole of community level.

> Hospital meals need to comply with the requirements of the Food Safety Act 1990 and associated legislation relating to the composition, labelling, safety, handling, control and hygiene of food.

> Meal menu design, preparation and transport also need to follow Guidelines for Food Service to Vulnerable Persons issued by NSW Food Authority.

> There are different applications used by the Public Health Units which leads to variations in items served

> Food service operations can restrict fresh fruit and vegetables due to cost and logistics considerations.

Food Safety Assurance: Food Safety requirements have a major cost impact on the food system. While it is paramount to adhere to the above guidelines to ensure that food and meals served to patients in hospital are safe, some of the guidelines and subsequent restrictions have not been updated for a number of years. As suppliers have updated their preparation methods and minimised risks, it could be adequate to review prohibited items and food restrictions in light of the current environment.

Patient Experience Outcomes

> The Listeriosis Guidelines for Public Health Units[1] and the Guidelines for Food Service to Vulnerable People have listed a number of foods deemed 'high risk' resulting in some districts not allowing them on menus, and food service operations restricting them due to perceived risk, cost or logistics:

- Salad items (e.g. lettuce)
- Chilled seafood (e.g. sushi, prawns)
- Soft and surface ripened cheeses
- Ice cream (soft serve)
- Unpasteurised dairy products
- Certain fresh fruit (e.g. rockmelon, strawberries)

> Additionally, a range of foods are not offered because they are deemed too difficult to prepare and serve.

Low Patient Satisfaction: Overall, the restrictions mean that the meal variety served to patients is limited. Long-term patients are particularly impacted by limitations in food access.

Food Risk Compliance: Patients within HealthShare facilities are more likely to go to secondary sources in an effort to replicate their usual diet. Bringing in external food and meals makes it difficult to capture nutrient intake and can create allergen risk for other patients.

1. NSW Health, Control Guidelines for Public Health Units, https://www.health.nsw.gov.au/Infectious/controlguideline/Pages/listeriosis.aspx

06

Principles For The Patient Food Experience

What principles underpin a patient-centred food experience and how could it be realised?

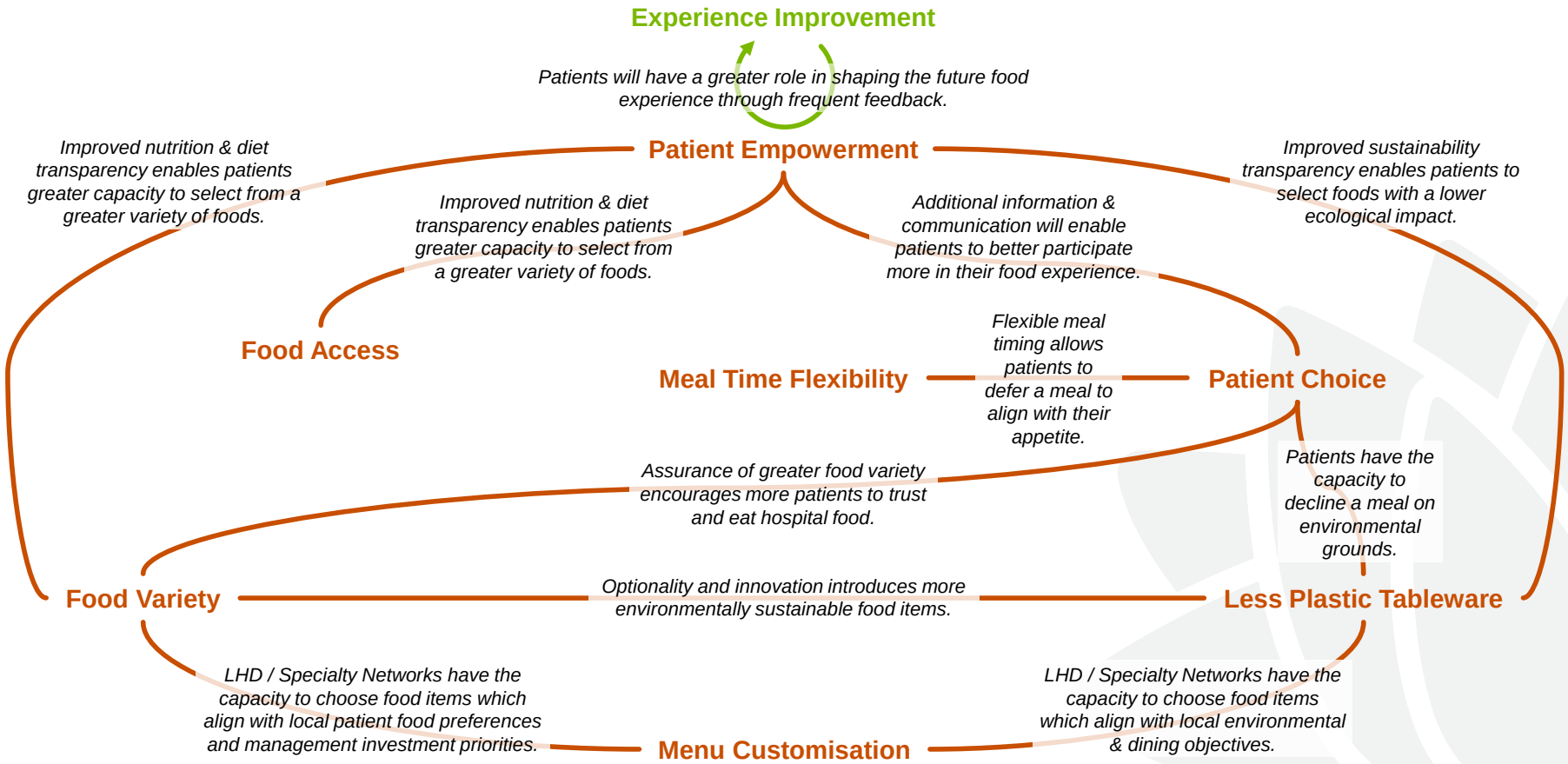
Patient Food Experience Principles

The principles for the new patient food experience will require the alignment of nutrition standards & food safety policy, the application of relevant policy, food service delivery, and critical enablers.

Patient Food Experience	
Food Variety	Alignment between a new vision for patient food and the application of food policy, to enhance variety in food presentation & taste, serve size, and nutrients provided.
Menu Customisation	Common access to a diverse set of foods which enable LHD / Specialty Network customers to align local menus to their unique patient needs and supply chain constraints.
Patient Choice	Respecting but not promoting a patient's right to obtain food externally or refuse delivery of a meal, whilst always striving for patient safety and appropriate nutrition care.
Meal Time Flexibility	LHD / Specialty Network alternatives for short-order service delivery models, that allow patients greater flexibility around when they choose to eat.
Food Access	Food service delivery options which enable access to safe and appropriate foods across out-of-hours periods and for patients outside of common ward areas.
Less Plastic Tableware	Targeted use of plastic tableware which more closely aligns dining experience & sustainability outcomes with patient, community, staff, and NSW Health expectations.
Patient Empowerment	Access to near 'real-time' patient nutrition data & diet information to empower patients and families to make educated choices about what they eat and when they eat.
Experience Improvement	Data-driven 'agile' redesign of the food experience for patients, clinical staff, and food service staff to enable continual optimisation of outcomes.

Food Experience Principle Interdependencies

The interrelationship between the principles delivers mutualism of outcomes and leads to greater cohesion in the patient food experience.



Food Variety

Alignment between a new vision for patient food and the application of food policy, to enhance variety in food presentation & taste, serve size, and nutrients provided.

Context For Principle

- The Adult Inpatient Nutrition Standards are designed for nutritionally well and nutritionally at risk patients, and are based on a reference patient who is male, 76kg, and 51 to 70yrs old.
- Within the Nutrition Standards, Banding is used to classify menu items in order to simplify nutritional profiles for both manufacturers and food services.
- NSW Health always ensure patients have the option of selecting foods which satisfy The Bands detailed in the Adult Inpatient Nutrition Standards and foods which meet the Guidelines For Food Service To Vulnerable Persons.
- Under the Adult Inpatient Nutrition Standards the provision of food outside of The Bands (i.e. “No Band foods”) is currently limited to ~10% of all menu choices, with many menus not providing any No Band food choices.

Overview Of Principle

- The principle for ‘Food Variety’ is to facilitate more tailored meal choices through the application of nutrition standards, to align more closely with key patient archetypes, rather than for a single reference patient.
- The principle for ‘Food Variety’ establishes the provision of a variety of patient food choices which extend beyond The Bands detailed in the Adult Inpatient Nutrition Standards, for a material proportion of the menu.
- The principle for ‘Food Variety’ also establishes the provision of patient foods which are allowed under the Guidelines For Food Service To Vulnerable Persons, but are often not served in hospitals due to intervention by local Public Health Units or food service operations (e.g. lettuce).
- The intent of this principle is to provide eligible patients with greater personal accountability for their meal choices (within the constraints of their diet order and food safety policy), enabling selection from a greater variety of food types, serve sizes, and nutrient densities, which aligns with their patient type and personal needs.
- For some patients this may mean a smaller meal, a culturally specific dish, or a food choice with high sodium or saturated fat content, or a salad at both lunch and dinner.

Food Variety

Alignment between a new vision for patient food and the application of food policy, to enhance variety in food presentation & taste, serve size, and nutrients provided.

Patient Experience Outcomes

- Increased variety of meal choices, tastes, presentation, serve sizes, and nutrition specification increasing the likelihood of a familiar food experience.
- Increased access to quality fresh fruit and vegetable choices.
- More choice for patients on restrictive or culturally diverse diets, enabling greater satisfaction.
- Improved texture modified food variety, to encourage alignment of choices with the clinical progression supported by Speech Pathology (e.g. puree to minced to dysphagia soft).

NSW Health Outcomes

- Potential for cost savings through procurement of 'off the shelf' meal packs.
- Potential for improved nutrition outcomes through increased fresh foods and consumption.
- Improved patient experience driven through increased ability to customise meals.
- Greater standardisation in the application of food policy across the LHD / Specialty Networks, improving consistency across the system.
- Less prescriptive food design parameters may help enable commissioning of outcomes.
- A reduction in food waste driven through more appropriate food serve sizes.

Food Policy & Application

- Greater flexibility in the application of nutrition standards via banding for 'eligible' patients (portion sizes, nutrient specifications, % of No Band items available).
- Standards are developed to support design of contemporary 'composite' meals (mixed protein, vegetable, starch) rather than the predominant 'meat and 3 veg' design.
- More patient-centric approach to the implementation of the Food Safety standards in the LHD / Specialty Networks to allow greater choice of fresh fruit & vegetables.
- Agile approach to food policy application, continually optimising patient experience without introducing risk, leveraging data on intake, nutrition, and food safety.

Food Service Delivery

- Redesign and continuous optimisation of both recipes and menus to align with application of Adult Inpatient Nutrition Standards and Guidelines For Food Service To Vulnerable Persons.

Critical Enablers

Funding & Pricing	A transparent pass-through pricing model for food products and services to allow LHD / Specialty Network customers to make informed financial decisions.
Governance	Design of food policy governance to balance a patient-centric approach with compliance requirements. Oversight of recipe design, adjustment, and rationalisation.
Capability & Culture	A culture of collaboration between clinicians, public health, MoH, ACI & food service to inform food policy & execute on 'Food Variety'. Clarity of roles and accountabilities in the 'application' of policy.
Policy & Process	Realignment of the application of Food Standards to enable a more patient-centric food experience. Collaborative and structured recipe design processes.
Infrastructure & Equipment	Consideration given to retherm and food preparation equipment to enable meal variety and serve sizes across different service models.
Industry Partnerships	Market engagement around 'off the shelf' meal pack designs. Innovative designs for a modular meal pack, frozen bulk components, or small serve sizes which minimise impact to food service labour. Flexibility in serve size will enable innovation with texture modified food moulds and fortification.
Analytics & Improvement	Leverage data from patient intake and patient feedback data to optimise recipe designs and local menu design.

Menu Customisation

Common access to a diverse set of foods which enable LHD / Specialty Network customers to align local menus to their unique patient needs and supply chain constraints.

Context For Principle

- A central food catalogue has been developed and governed by HealthShare NSW to accommodate all NSW patient food needs.
- There are currently constraints around catalogue access via defined meal food lists, which restrict an LHD / Specialty Network capacity to purchase from the full suite of items available, creating a downstream impact on patient choice in the hospital.
- The procurement process does not currently have the agility to respond to price variations in a timely manner to take advantage of seasonal movements.

Overview Of Principle

- The principle for ‘Menu Customisation’ establishes the principle for common access to a patient-centric catalogue, which has been co-designed by Dietitians, food service staff, patients and HealthShare NSW Procurement, and is considerate of supply chain complexities, cost-to-serve implications, and responsive to seasonality.
- The intent of the principle is to enable an LHD / Specialty Network to better customise their menus to fit their local patient archetypes, and drive an improved patient food experience.

Menu Customisation

Common access to a diverse set of foods which enable LHD / Specialty Network customers to align local menus to their unique patient needs and supply chain constraints.

Patient Experience Outcomes

> Access to greater variety of meals which offer diversity in presentation & taste and increase the likelihood of a familiar food experience.
> Greater equity amongst the LHD / Specialty Network customers to access a shared catalogue of meals, allowing improved customisation of their hospital menu to align with local patient needs.
> Greater variety and a more tailored experience for patient food minority groups (cultures, religions, diets, allergies, etc).

NSW Health Outcomes

> Potential for improved patient nutrition outcomes as a result of increased consumption.
> Improved patient experience due to closer food alignment with local patient archetypes.
> A reduction in food waste driven through more appropriate food choices tailored to local patient archetypes.

Food Policy & Application

> Simplify the application of Diet Specifications, to expand patient meal choices and empower patients, without introducing patient risk (delineation of therapeutic requirements, dietary restrictions, allergy considerations, food preferences, operational diets, etc).

Food Service Delivery

> LHD / Specialty Networks have equitable access to a common catalogue to select items for menus which will best suit their hospital population (acuity, diet, demography, LOS, locality).
> Redesign and continuous optimisation of common catalogue in collaboration with key stakeholders to provide greater variety and choice.
> Introduction of clinical products (e.g. supplements, fortified foods) which are more customised to certain patient archetypes and create a better food experience.

Critical Enablers

Funding & Pricing	> A transparent pass-through pricing model for food products and services to allow LHD / Specialty Network customers to make informed financial decisions.
Governance	> Design of catalogue and menu governance to balance a patient-centric approach with compliance requirements.
Capability & Culture	> Collaborative culture around catalogue design which engages both customers and clinicians. > Innovative menu design capabilities. > Accountabilities for recipe and menu design roles. > Accountability for decisions around meal options for patients with complex or restrictive diet orders.
Policy & Process	> Collaborative process for catalogue design & management which captures key stakeholder input. > Collaborative and structured menu design processes.
Information Technology	> Changes to LHD / Specialty Network databases to enable equitable catalogue access.
Industry Partnerships	> Distribution consideration for accessibility of food items impeded by supply chain constraints (e.g. potato salad).
Analytics & Improvement	> Leverage data from patient intake and patient feedback to optimise catalogue design.

Patient Choice

Respecting but not promoting a patient's right to obtain food externally or refuse delivery of a meal, whilst always striving for patient safety and appropriate nutrition care.

Context For Principle

- NSW Health will have appropriate food options available for all patients at all times, but this does not preclude a patient from choosing not to eat or electing to bring food in from an external environment.
- Whilst patients can refuse to eat a meal today, in most cases they can not refuse the delivery of a meal; this creates a large amount of food and packaging waste as well as distress for patients who feel personally accountable for this outcome.
- It is common for patients to manage their own intake through the introduction of external foods, for reasons including food preference, cultural grounds, a lack of confidence in the hospital food experience, or distrust of hospital allergen controls.

Overview Of Principle

- The principle for 'Patient Choice' establishes the right for a patient to refuse delivery of a meal, whilst establishing a risk-based approach to ensure safety for nutritionally at risk patients or patients on therapeutic diets.
- The principle for 'Food Variety' also establishes the communication of food safety risks to patients and encouragement of safe food management practices including food storage, reheating, and labelling.
- The intent of the principle is not to encourage patients to bring in external food, nor to discharge NSW Health of its duty to provide high quality and diverse meal options for all patients, but rather to acknowledge patient behaviours and attempt to remodel them to reduce patient risk and improve the patient experience.

Patient Choice

Respecting but not promoting a patient's right to obtain food externally or refuse delivery of a meal, whilst always striving for patient safety and appropriate nutrition care.

Patient Experience Outcomes

- Empowering patients by recognising their right to eat the food they want, when they want.
- A more accommodating experience for patients which plan to bring in external food.
- A reduction in angst amongst patients with no appetite who are not nutritionally at risk.
- Visible reduction in avoidable food waste reduces likelihood of patient distress.
- Acknowledgement of the cultural use of foods to assist the healing process.

NSW Health Outcomes

- Reduced patient risk through patient and family food safety awareness for external food sources.
- Potential reduction food waste & cost, allow greater investment into 'specialty' meals.
- Opportunity to realign labour used to handle, heat, serve, and dispose of unconsumed meals.
- Improved partnerships between staff, patients, and families in the treatment & recovery journey.
- Improved sustainability outcomes as a result of less food and packaging waste.
- A more complete and accurate view of patient food intake provides more insight into patient risk.

Food Policy & Application

- Guidelines For Food Service To Vulnerable Persons must provide clear accountabilities within NSW Health for management of externally introduced food and ensuring that patient communication encourages food safety.
- Policy must provide guidance around when and how to intervene with nutritionally at risk patients and patients on therapeutic diets (e.g. low sodium diets, clear fluid diets, texture modified diets).

Food Service Delivery

- Changes to collection of patient food intake data to identify when a patient has consumed food obtained externally.
- Staff communicate with patients and families to provide consistent information on food from external sources.

Critical Enablers

Governance	> Oversight of new processes to ensure regulation of patient risk.
Capability & Culture	> A culture of engagement with patients and families, improving listening and communication of food safety & nutrition risks. > Defined accountabilities for monitoring of patient choice and decisions around patient intervention. > Defined accountabilities for communication with patients or families, oversight of brought in food, and patient compliance to policy.
Policy & Process	> Consistent policy and process to accommodate external food (reheating, takeaway delivery) whilst minimising impacts to staff. > Consistent policy and process to communicate food safety risks and instructions for safe storage, reheating, and labelling. > Consistent policy and process to ensure nutritionally at risk patient groups are managed appropriately to minimise their unique risks (e.g. some therapeutic diets, patients with cognitive difficulties).
Information Technology	> System enables capture of meal refusal or consumption of own meal. > Access to digital information on therapeutic needs and food safety.
Infrastructure & Equipment	> Requirement for food safe self-service storage, reheating, and labelling needs for patients.
Industry Partnerships	> Involve and encourage suppliers to innovate in recipe design, packaging, and food presentation to attractive meals for patients.
Analytics & Improvement	> Leverage patient intake and feedback data to inform patients regarding nutritional decisions.

Meal Time Flexibility

LHD / Specialty Network alternatives for short-order service delivery models, that allow patients greater flexibility around when they choose to eat.

Context For Principle

- NSW public hospitals serve main meals and mid-meals 6 times across a day in predefined service windows, with rostering and assignment of food service labour designed to balance workload peaks and troughs.
- Clinical processes which are usually the responsibility of nursing staff (e.g. medication delivery) are frequently designed around the assurance of a consistent patient meal time.
- Fixed food service times frequently results in patients missing meals due to patient unavailability (e.g. sleeping, tests / surgery, feeding infants) or lack of appetite at the specified meal time, leading to poor food intake and food waste.
- Evidence from hospital room service case studies suggest that when offered flexible meal time delivery, patients will eat on average 2.4 to 2.8 main meals/day, with preferred meal times that extend beyond the traditional breakfast / lunch / dinner periods.

Overview Of Principle

- The principle for ‘Meal Time Flexibility’ is built on the premise that patients appetite and availability should determine when they eat, rather than an experience dictated by the design of food service staffing and ward structures.
- The intent of the principle is to create greater meal time flexibility than exists today, recognising that there are a spectrum of well known food service delivery model options available, each of which brings specific advantages and disadvantages which relate to local site preferences and constraints.
- Fundamental to this principle is the provision of service choice equity for all LHD / Specialty Network customers, to ensure they can select a food service delivery model which matches their preferred patient experience, cost, sustainability, and risk appetite.

Meal Time Flexibility

LHD / Specialty Network alternatives for short-order service delivery models, that allow patients greater flexibility around when they choose to eat.

Patient Experience Outcomes

- A more customisable food experience which enables patients to eat when they are hungry and available, rather than when food service dictate.
- Improved ordering options (e.g. BYOD bedside ordering, phone systems, entertainment systems) enabling patient self-service.

NSW Health Outcomes

- Reduction in waste of food and packaging through targeted and flexible food delivery for patients.
- An improved patient experience which aligns food service timing with patient appetite & availability.
- Improved patient nutrition outcomes through alignment of food service timing with patient appetite & availability.
- Potential reduction food waste & cost, allow greater investment into 'specialty' meals.

Food Policy & Application

- Adult Inpatient Nutrition Standards are currently defined around the concept of 'main meals' and 'mid-meals', which will need to be re-examined for service delivery models which blur the line around specific meal times.
- Food safety policy application must be examined in light of menu design, to consider the use of perishable foods which may present food safety risks if not consumed soon after being served (e.g. yoghurt served late in the day and left unrefrigerated overnight).

Food Service Delivery

- The redesign of food service delivery must provide a range of model options which fit local site preferences and constraints, whilst endeavouring to provide service choice equity for all LHD / Specialty Network customers.
- An all day "light" or breakfast menu may create a way to offer food items which are low complexity to prepare (sandwiches, snacks, salads, pancakes, etc).
- Introduction of technology enabled bed-side self-service food ordering channels will help to offset an increase in patient food ordering (e.g. bedside ordering technology).
- An effective batching delivery method must be developed to optimise food service labour and deliver solutions cost effectively.
- An innovative and collaborative approach to align flexible timing of food delivery with meal time readiness (e.g. tray table place-mat decal) and medication management (i.e. nurse awareness and availability to intervene).
- Intake recording must be accounted for under all new model designs to ensure a comprehensive picture of patient nutrition information is retained.

Critical Enablers

Funding & Pricing	A transparent pass-through pricing model for food products and services to allow LHD / Specialty Network customers to make informed financial decisions.
Governance	Oversight and assurance of different food service delivery models.
Capability & Culture	Retraining of food service and clinical staff to align with different service delivery model designs. Collaboration with clinical staff (e.g. nursing, medical, Allied Health) to ensure alignment with medication management, out-of-ward tests, and other treatments or routines.
Policy & Process	Reengineering of service delivery processes to ensure collaborative work flows and labour efficiencies across ordering, meal preparation, batching, collecting, and washing or disposal. Processes which capture patient order frequency, and prevent exploitation of flexible meal service delivery by staff and visitors.
Information Technology	Technology to enable self-service bedside ordering.
Infrastructure & Equipment	Infrastructure & equipment designs which enable a fit for purpose food delivery model.
Industry Partnerships	Leverage partnerships to introduce design innovation and integrate technology and process
Analytics & Improvement	Leverage patient intake and feedback data to inform staff regarding nutritional decisions and identify early, patient food preferences that may not be accommodated by the food provided.

Food Access

Food service delivery options which enable access to safe and appropriate foods across out-of-hours periods and for patients outside of common ward areas.

Context For Principle

- Under The Australian Charter of Healthcare Rights, any person receiving health care in Australia has a right to safe and high quality health care.
- Whilst many NSW hospitals operate 24 / 7, patient meal delivery is usually constrained to 12-14 hours, commonly between the 0700 hrs breakfast service and the 1930 hrs supper service. Many times this means that patients are left hungry without access to food, which goes against the right of receiving appropriate access to care.
- Some clinical areas which care for patients for shorter time periods than traditional wards (e.g. emergency departments, recovery, birthing suites) do not have a consistent and defined food solution.
- A small number of hospitals currently have defined process and secure designated food storage (e.g. Illawarra) to enable access to food outside of kitchen hours, however in most cases this is not centrally managed.
- There is evidence that staff stockpile food items during the day to provide patient access to food overnight, introducing food safety risks and distorting patient intake data.

Overview Of Principle

- The principle for ‘Food Access’ is the principle of a consistent state-wide service for the provision of safe and appropriate food, inclusive of out-of-hours periods, for all patients.
- The intent of the principle is to create equity of access to food for patients across NSW, irrespective of the time of day or a patient’s setting in the hospital.
- The principle acknowledges that access to appropriate and nutritious food forms an important part of patient care and is required to facilitate the healing process.

Food Access

Food service delivery options which enable access to safe and appropriate foods across out-of-hours periods and for patients outside of common ward areas.

Patient Experience Outcomes

- Availability of food across times when kitchens are not staffed will improve the food experience for some patient groups (e.g. late admissions, patients fasted for surgery or tests, postnatal patients).
- Availability of food for patients outside of traditional wards will improve the food experience for some patient groups (e.g. emergency departments, recovery, birthing suites).

NSW Health Outcomes

- Potential for improved nutrition outcomes for patients through an increase in food intake.
- Improved patient experience through reduction in likelihood of patients being hungry.
- Potential reduction in likelihood of adverse patient events related to prolonged fasting and inadequate access to food.
- Greater standardisation in the application of food policy across the LHD / Specialty Networks, improving food safety outcomes and reducing patient risk.

Food Policy & Application

- Consideration must be given to food safety policy application to manage patient risk.
- Consideration must be given to diet requirements of the patient to ensure that provided foods are safe for the prescribed diet order.
- Food safety policy application must be examined in light of menu design, to consider the use of perishable foods which may present food safety risks if not consumed soon after being served (e.g. yoghurt served late in the day and left unrefrigerated overnight).

Food Service Delivery

- Controlled central access by nursing staff to agreed out-of-hours food options.
- Introduction of complementary technology such as vending machines, with products that align with dietary and nutrition requirements.
- Intake recording accounted for to ensure a comprehensive picture of patient nutrition information is retained.

Critical Enablers

Governance	> Oversight and assurance of food safety and diet order risk management under new processes.
Capability & Culture	> Nursing staff change management to enable introduction of new processes and technologies. > Clear accountabilities for nursing and food service staff, especially for out of hours service and intake capture.
Policy & Process	> Defined processes to enable changes to food access and ensure intake recording processes are realigned for out-of-hours.
Information Technology	> Technology to support the management of compliance, capture of patient food allocation, and intake.
Infrastructure & Equipment	> New equipment including fridges, vending machines, etc. > Consideration given to accommodation of food storage and challenges it may pose.
Industry Partnerships	> Potential to partner with suppliers to introduce innovations to support out-of-hours food access (vending machines, central storage management, etc)

Less Plastic Tableware

Targeted use of plastic tableware which more closely aligns dining experience & sustainability outcomes with patient, community, staff, and NSW Health expectations.

Context For Principle

- NSW Health has seen a system-wide shift towards the use of plastics in the food environment, spanning food containers, cutlery, and drinks service.
- There is demonstrable consensus across diverse patient groups, nursing staff, food service staff, and clinicians, around the need to reduce single-use plastics in the food environment, driven by contemporary views on environmental sustainability.
- Feedback surveys and interviews show that many patients feel that serving food on plastic plates negatively impacts the food taste, aroma, and the quality of the dining experience.
- The Packaging Accessibility Rating Standard acknowledges that food packaging can be a major barrier to patient nutrition, with difficulty in opening plastic packaged items and using plastic cutlery to eat food being among the most widespread food experience complaints for senior patients.
- A small number of hospitals across NSW are leading the way in rebalancing the use of plastic tableware, however this is not a centrally driven program.

Overview Of Principle

- The principle for ‘Less Plastic Tableware’ is to recognise the role NSW Health play in encouraging sustainable environmental practices through a reduction in the use of single-use plastics across the food environment.
- The intent of the principle is to change ‘patient perception’ in relation to the sustainability of the food service footprint, which is predominantly limited to food and plastic waste, rather than energy use, water use, or land use.
- A reduction in the prevalence of plastic tableware will also reduce the probability of a patient being inconvenienced by being unable to open packaged food items or cut foods with plastic cutlery.

Less Plastic Tableware

Targeted use of plastic tableware which more closely aligns dining experience & sustainability outcomes with patient, community, staff, and NSW Health expectations.

Patient Experience Outcomes

- A reduction in plastic waste reflects contemporary patient attitudes to environmental sustainability.
- A reduction of plastic in the food service environment creates a dining experience more aligned with what a patient is used to in their home.
- Less plastic in the food service environment will reduce unpopular tastes and aromas caused by plastic tableware.
- Moving away from plastic cutlery will improve a patient's capacity to cut various food (e.g. breads and meats).
- Less plastic packaging will reduce difficulties opening food containers for many patients.

NSW Health Outcomes

- Improved environmental sustainability through the health system.
- An improved patient experience through averting the potential for a crisis of conscience.
- An increase in patient nutrition outcomes by recreating a food experience which is more familiar and aligned with at home dining.

Food Policy & Application

- The application of policy (food safety, nutrition, WHS) must encourage a balance with system wide impacts to environmental sustainability (e.g. excess packaging).

Food Service Delivery

- Create a culture of accountability for all stakeholders to reduce wastage through the value chain.
- An operational approach to food service which balances labour impacts against the use of single serve items with individual packaging (e.g. individually packaged dessert items).
- Greater exploration of meal pack packaging to introduce circular design principles and sustainable packaging material innovation.
- More ecologically friendly and cost effective alternatives to rigid plastic disposable drinking cups.
- Coordinated approaches to explore the potential to phase out plastic cutlery or plates and reintroduce washable cutlery or crockery.
- Extension of sustainability plans to food composting and re-salvage of materials.
- Campaigns which encourage ambulant low-risk patients to reduce their footprint while at hospital (e.g. BYO drinking bottles).
- Menu choices provide sustainability information to enable patients to make informed choices.
- Improved communication and marketing to patients to illustrate the efforts being made to make food service sustainable (e.g. recycling programs).

Critical Enablers

Governance	Oversight and assurance of environmental sustainability programs, to drive real improvements and not transfer ecological cost.
Capability & Culture	Education of staff to enable effective delivery and communication to patients around sustainability practices in food delivery.
Policy & Process	Optimised work processes to enable sustainable food practices (washing cutlery, etc).
Infrastructure & Equipment	Examine requirement for equipment which supports a reduction of plastic use (dish washers, metal cutlery, crockery, etc). Consideration given to accommodation of equipment (dishwashers, etc) and challenges it may pose. Energy and water efficient equipment.
Industry Partnerships	Incentivise suppliers to invest in sustainable packaging innovation. Work with waste management vendors to explore and improve recycling practices.
Analytics & Improvement	Internal benchmarking of ecological footprint across the state.

Patient Empowerment

Access to near ‘real-time’ patient nutrition data & diet information to empower patients and families to make educated choices about what they eat and when they eat.

Context For Principle

> The NSQHS Standards describe the need for health organisations to collaborate with patients on the design of health services, which includes partnering with consumers and/or carers to design the way care is delivered to better meet patient needs and preferences.

> The MFC food service delivery model captures patient food intake in near ‘real-time’, translating detailed patient nutrition data into dashboards for use by clinicians, to better enable intervention for nutritionally at risk patients.

> Some MFC sites are not currently utilising the patient intake data to provide information about nutrition risks or to make day-to-day operational decisions around intervention.

> Patients and families are not provided insight into the way their diet order manifests itself through available meal choices, kept informed about how therapeutic decision impact their diet order, nor have visibility of their nutrition status.

Overview Of Principle

> The principle for ‘Patient Empowerment’ seeks to leverage the rich patient intake and food nutrition data available to create transparency around a patient’s personal dietary and nutrition circumstances, and provide relevant nutrition information in ‘real-time’ to enable informed and responsible food choices.

> The intent of the principle is to encourage eligible patients and families to play a greater role in their diet order to enable an increase the food option diversity, whilst also self moderating their food choices to suit an environment which provides more nutrient diverse food options than today (i.e. No Band food options).

> The principle acknowledges that patients have a right to be actively involved in their health care decisions, including nutritional choices.

Patient Empowerment

Access to near 'real-time' patient nutrition data & diet information to empower patients and families to make educated choices about what they eat and when they eat.

Patient Experience Outcomes

- Patients are empowered and engaged in selection of their meals.
- Patients and families can be informed of their real-time intake to guide decisions.
- Greater transparency around the rationale and impact of therapeutic decisions on food choices.
- Greater clarity for patients around the implication of diet orders on the food experience.

NSW Health Outcomes

- Improved patient nutrition with near 'real-time' data encourages patients to make food decisions that meet nutritional guidelines.
- A patient experience which creates empowerment through transparent nutritional information and patient nutritional status.
- Greater veracity of patient intake may aid Dietitians to prioritise more effectively and channel their efforts towards high acuity patients and education, improving system-wide clinical outcomes.

Food Policy & Application

- Simplify the application of Diet Specifications, to expand patient meal choices and empower patients, without introducing patient risk (delineation of therapeutic requirements, dietary restrictions, allergy considerations, food preferences, operational diets, etc).

Food Service Delivery

- Patients and families access to near 'real-time' intake of macronutrients and micronutrients such as protein, energy, sodium, to inform and encourage healthy meal choices.
- Menus which contain nutritional value information to help patients make informed choices.
- Focus on 'at risk' patients through notifications for patients not meeting their nutrition goals or exceeding their nutrition thresholds.
- Introduce patient communication and provide access to information surrounding the therapeutic impact of effective nutrition and a patient's responsibilities whilst in a clinical setting.

Critical Enablers

Capability & Culture	- Upskill food services, Dietitian Assistants, and nurses to support patients in making appropriate food choices and informing themselves about the impacts of effective nutrition. - Defined roles and accountabilities which encapsulate the changes to the patient experience.
Policy & Process	- Defined processes to enable changes to nutrition information transparency and communication.
Information Technology	- Technology to enable real time nutrition data made available on patients own device.
Industry Partnerships	- Work with technology vendors to enable the introduction of near 'real-time' patient nutrition information
Analytics & Improvement	- Improved analytics and local trends for Dietitians to aid patient intervention or food choice recommendations.

Experience Improvement

Data-driven ‘agile’ redesign of the food experience for patients, clinical staff, and food service staff to enable continual optimisation of outcomes.

Context For Principle

> Under the NSQHS Standards, patients should have the opportunity to frequently voice their feedback and be involved in the design of health care services.

> NSW Health currently captures large amounts of patient food related data today from patient food intake, nutrition, meal orders, patient satisfaction, and unordered food (e.g. default rates).

> HealthShare NSW have implemented a paper-based patient food survey which collects patient feedback for ~8,000 meals annually, which are processed manually and shared with LHD / Specialty Networks for review and interpretation.

> The introduction of MFC has seen a significant improvement in the use of operational data to drive efficiencies across food ordering, preparation, delivery, and disposal, whilst the introduction of nutrition dashboard to help inform Dietitians has seen less wide-spread uptake.

> Data is not being centrally leveraged to aid optimisation of the patient food experience via meal design, menu design, service delivery model design, food policy alignment, local staff right-sizing, or processes improvement.

Overview Of Principle

> The principle for ‘Experience Improvement’ is built around universal digital feedback from patients after each meal and utilised as part of an integrated data resource which combines nutrition intake to enable both strategic and tactical improvement of the patient food experience.

> The intent of the principle is to encourage ‘agile’ system-wide change and improvement which delivers a material impact to the patient food experience and supports the wellbeing of all NSW Health people.

Experience Improvement

Data-driven ‘agile’ redesign of the food experience for patients, clinical staff, and food service staff to enable continual optimisation of outcomes.

Patient Experience Outcomes

> Rapid and relevant improvements to the patient experience through data-driven insights.
> The patient feels valued through the ongoing requests for feedback.
> Meal choice, quality, and taste improvement driven through feedback and analysis.
> Service quality, availability, and convenience improvement driven through feedback and analysis.

NSW Health Outcomes

> Improved patient experience through analysis and actioning of direct feedback.
> Optimisation of system costs through a more integrated understanding of how food and model choices link to cost, nutrition outcomes, and the patient experience.

Food Policy & Application

> Patient and family feedback used to inform ongoing review and realignment of nutrition standards and food safety policy.

Food Service Delivery

> Regular menu improvement and meal redesign based on patient and family feedback and analysis of intake data.
> Optimisation of food service delivery models (ordering, preparation, delivery, collection) to balance the optimum patient experience against cost, risk, and sustainability outcomes.

Critical Enablers

Governance	> Streamlined governance with accountability to oversee decisions to improve the patient food experience.
Capability & Culture	> A central role or authority with accountability for the patient food experience which leads cross-Health collaboration on key patient experience decisions, and supports agile implementation. > Analytical capability to integrate, synthesise, and analyse relevant data sets to build insights and support management decision making. > A culture of agile patient experience design which tests new products quickly and assessing patient intake for further refinement. > Upskilling of on site staff to enable a CI culture which quickly and resolutely addresses patient feedback.
Information Technology	> Technology capability to capture and synthesise patient feedback in an intuitive and accessible way. > Analytics platform to improve accessibility and interrogation of data to develop patient experience insights.
Industry Partnerships	> Work with technology vendors to enable the introduction of digital patient feedback solution. > Leverage eHealth analytics capability.
Analytics & Improvement	> Utilise analytics to drive service improvement & planning. > Access to intake data to triangulate opportunities against patient feedback for further refinement

Critical Enabler Principles

The critical enablers which underpin the patient food experience and define how we work must be realigned to facilitate the shift towards a patient-centric paradigm.

Critical Enablers	
Vision & Strategy	A common vision for a patient-centric food experience across NSW Health, sustained by strategies to establish nutrition and food as an investment and a therapeutic lever, which returns value across the health system.
Funding & Pricing	A transparent, cost-reflective, 'user-pays' pricing model to allow customers (LHD / Specialty Networks) to select from food service delivery options to best align with local constraints and the preferred experience of their unique patient base.
Governance	A clearly defined and streamlined governance structure to provide decision oversight and effective monitoring of patient experience and NSW Health outcomes, to inform the continued food system evolution.
Capability & Culture	Distinct roles and accountabilities for all stakeholders, with a culture that drives collaboration between LHD / Specialty Networks and service providers to deliver the best patient experience outcomes possible.
Policy & Process	Nutrition and food safety policy will ensure patients have a role to play in their nutrition care and decision making, whilst standardised processes link accountabilities to all roles in delivery of nutrition and food to the patient.
Information Technology	A flexible information technology ecosystem to support clinician decision making, provide nutrition information transparency for patients and families, and enable a new patient experience.
Infrastructure & Equipment	A fit-for-purpose approach, tailored to local facility and equipment solutions, which balances long-term returns in patient experience against NSW Health capital investments.
Industry Partnerships	A cooperative and transparent approach to partnerships will encourage innovation in food solutions through collaboration across patient experience design and ethical supply solutions.
Analytics & Improvement	Parallel operational and strategic approaches to improvement which leverage data to drive continuous 'agile' design of the food system, improve the patient food experience, and demonstrate value to NSW Health.

Cost Recovery Opportunities

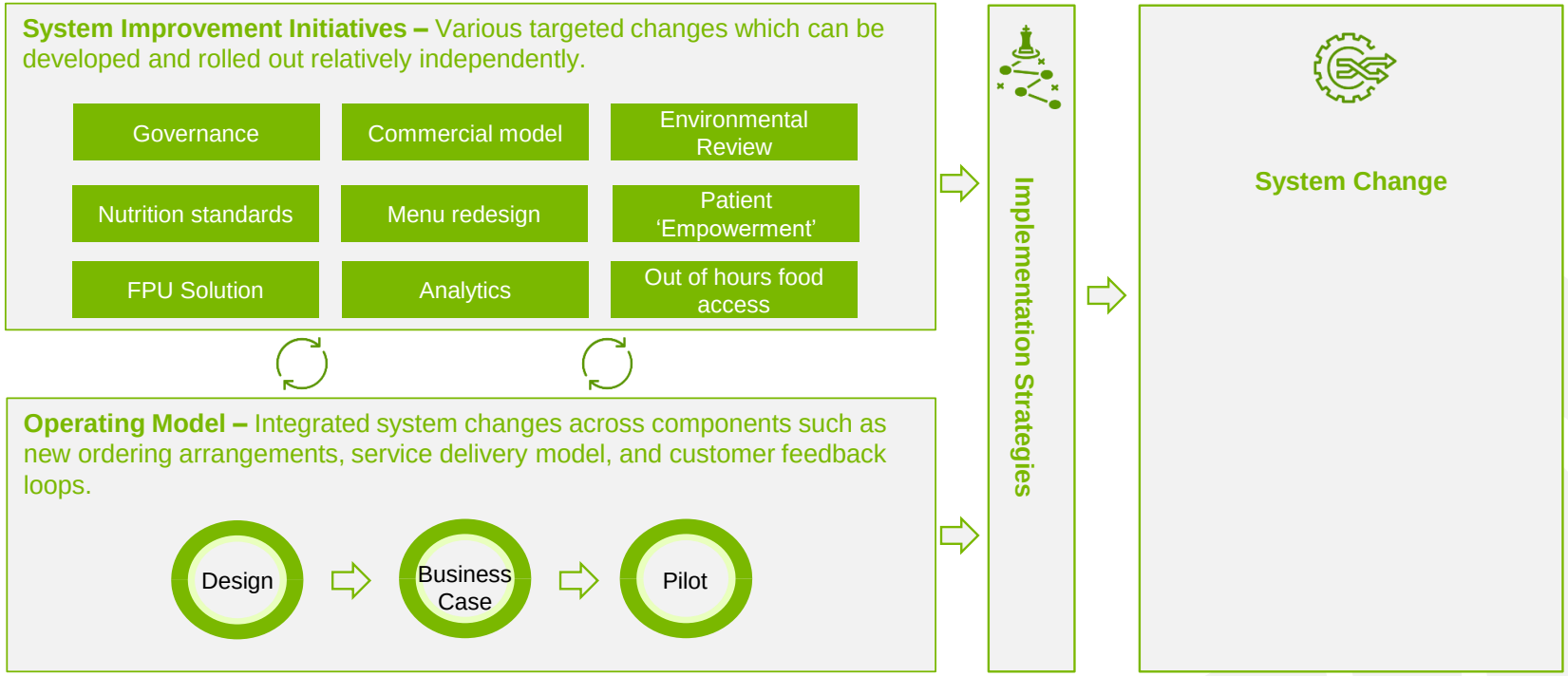
Reform of food policy application and food service delivery, will create unique cost recovery opportunities for each site, which are difficult to accurately quantify at this stage of design.

	Labour	Pre-Service Waste	Post-Service Waste
	Encapsulates the key activities delivered by Food Service staff, including meal ordering, preparation, delivery, food intake capture, collection of waste, and wash-up.	*Includes packaging, food ingredient, and finished goods waste created in the management of inventory and meal preparation activities.*	*Includes all irrecoverable tray waste created through uneaten or partially eaten meals, and items consumed by people other than the patients (e.g. staff, visitors).*
Non-MFC (Legacy)	**TBC** MFC program learnings suggests the rebalancing of labour between currently under and over-staffed sites will result in a cost neutral outcome. [1]	**TBC** Tidy Stores & a reduction in bulk bag size is delivering pre-service waste opportunities, however a shift away from a 'cook-chill' model can further reduce finished goods waste. [1]	**$7m - $10m** Meals with 0% intake represent 10% to 15% of all main meals served [2,3], with a significant number of these meals for patients who expressly asked not to be served and under a new food model, would not be served. Plate waste averages 26% to 47% today depending on diet type [2], which under a new food model would reduce to 17% (based on intake studies from model implemented in Mater Hospital Brisbane) [4].
MFC (Emergent)	**TBC** MFC will serve as the foundation of the new design and be further evolved, rebalancing existing labour across the new food service model to ensure a cost neutral impact. [1]	**TBC** MFC Program & Tidy Stores has largely delivered the pre-service waste opportunities through a transition to frozen meals and improvements in inventory. [1]	

1. Until there is a better understanding of LHD service preferences and the model options have been further developed, it is not possible to quantify potential labour or pre-service waste savings.
2. Intake analysis performed on data taken from four facilities within Western Sydney LHD between the dates of 17th August 2019 and 27th August 2019.
3. KPMG HealthShare Patient Food Services – Service Delivery Model (October 2014): "10% of meals prepared are spare meals representing $7m in food service spend".
4. Room service in a public hospital improves nutritional intake and increases patient satisfaction while decreasing food waste and cost; S. McCray, K. Maunder, L. Barsha, K. Mackenzie-Shalders

Indicative Roadmap

There is an opportunity to roll out many of the changes incrementally to help deliver material benefits from the outset and de-risk delivery, whilst the overall model changes are developed and rolled out



Prioritise and roll out system improvements, which are no regret changes that can be rolled out independently and that will deliver tangible benefits (e.g. patient 'empowerment' driving down food wastage). These can be done at the same time as the development of the over-arching operating model development and will provide design features and insights to incorporate into this more comprehensive design.

Pending the successful piloting of the new model, there will be a key decision around the roll out strategy and its alignment with My Food Choice – i.e. whether to target optimisation of My Food Choice sites with the new model or apply the new model to non-My Food Choice sites and 'leap-frog' progress.

A

The Patient Story

Illustrative Patient Story

Amir is a fit and healthy Australian-born Lebanese man with religious dietary restrictions and is anticipated to be in hospital for a few days for elective surgery on his knee.

Amir

Age	24
Gender	Male
Occupation	Builder
Ethnicity	Australian Born Lebanese
Condition	Knee surgery (low acuity)
Length Of Stay	4 days
Diet	Full, Halal
Hospital Type	Metro 600 beds
Food Service Model	MFC

Illustrative Current State Patient Journey:

Patient Admission

Amir arrives in hospital and goes through assessment, no major dietary requirements are identified as he is an overall healthy and fit person.

Amir receives the default breakfast order as he misses ordering. He doesn't like the plain bread or the coffee. He ends up not eating the meal as it does not meet his Halal requirements or his preferences.

For lunch time, he puts in his order but notices that there aren't many Halal options. He wants fresh salad but it's only offered at dinner and isn't a type of salad he likes anyway. He wants Lebanese bread but they don't offer it on the menu. At morning tea, he asks for a protein drink but is offered biscuits and a tea instead.

By day 2, Amir has started ordering his meals on UberEats. Even though he's made it clear he is getting food elsewhere, staff keep bringing him hot meals which go straight in the bin. He's getting increasingly frustrated and concerned with the food waste.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Amir arrives in hospital and goes through assessment, no major dietary requirements are identified as he is an overall healthy and fit person.

Amir uses an app on his phone to order breakfast. He is rather impressed with the menu as there is a range of tasty Halal options he can chose from.

He doesn't feel hungry at lunch time but feels like a fresh salad around 2.30pm. He orders a high-protein chicken and quinoa salad. He also gets some Lebanese bread on the side, his favourite. The next day morning he feels like a protein drink, he can't see it on the menu but when he calls the meal ordering helpdesk they check with the kitchen staff who say they can to make it for him anyways.

On day 2, Amir's friend comes to visit. The two of them order a pizza to share on UberEats as they always do this on Sundays. The nurses are really helpful and organise cutlery and plates for the two of them as the hospital has stopped using plastic to reduce waste.

Transfer Of Care

Illustrative Patient Story

Bob is an Australian born retiree with several health concerns (e.g. dysphagia and dementia), due to an extended hospital stay and his poor meal intake he is at risk of becoming malnourished.

Bob

Age	86
Gender	Male
Occupation	Retired
Ethnicity	Australian Born Anglo
Condition	Broken hip (high acuity)
Length Of Stay	85 days
Diet	Texture Modified
Hospital Type	Regional 200 beds
Food Service Model	Non- MFC

Illustrative Current State Patient Journey:

Patient Admission

Bob arrives in hospital with a broken hip, he has been transferred from a nursing home where he lives.

Bob is assessed and due to dysphagia from a previous stroke, is placed on a texture modified diet. It is also noted that he has dementia.

His meal intake is very poor over the following weeks. When asked why he doesn't eat he tells the nurses he is too tired. He struggles to open the meal packages and also doesn't have family who can come in and feed him and the nurses are often too busy.

After 4 weeks, Bob as lost weight as he isn't eating the pureed meal or drinking the thickened fluids. He is sick of the lack of variety and is only eating desserts. The thickened fluids are building up at his bedside as he finds them too sweet and only drinks one a day when he has assistance.

Over the course of his hospital stay, Bob becomes malnourished due to his lack of food and nutrient intake.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Bob arrives in hospital with a broken hip, he has been transferred from a nursing home where he lives.

Bob is assessed and due to dysphagia from a previous stroke, is placed on a texture modified diet. It is also noted that he has dementia and will require assistance with meal ordering.

The intake data shows that he is not eating enough and at risk of becoming malnourished. The dietitian sees Bob to put together a plan that will increase Bob's nutrient intake. As per Bob's request they include more sweet foods and also ensure that food staff know that he requires assistance with opening his meals.

The dietitian checks in with Bob once a week to monitor his nutritional outcomes. Bob gets a variety of meals, his favourites include Asian curries and pumpkin cream soup. He also tells the dietitian that he really likes smoothies and fruit juices, which the dietitian notes in the system.

Bob is feeling healthier and better from week to week. After a month he is even allowed to incorporate some normal foods in his diet. Soon he will be able to return to his home.

Transfer Of Care

Illustrative Patient Story

Navya is a foreign born healthy patient with dietary restrictions and allergies who is taken to the maternity ward to give birth.

Navya

Age	32
Gender	Female
Occupation	Lawyer
Ethnicity	Foreign Born (Indian)
Condition	Maternity (low acuity)
Length Of Stay	3 days
Diet	Vegetarian, Nut free
Hospital Type	Metro 100 beds
Food Service Model	Non- MFC

Illustrative Current State Patient Journey:

Patient Admission

Navya arrives in hospital late at night due to give birth to her daughter within the next hour.

In the rush to hospital she does not pack food. She gets very hungry during the night, but has no access to food. The following day she is served a default lunch because of her late arrival. However it is a beef curry which she can't eat as she is vegetarian with a nut allergy. The meal arrives just after she has finally settled her newborn, waking him up.

Navya is distressed about the amount of plastic waste she is creating. She needs to drink a lot of water as she is nursing, but the water comes in 150ml plastic bottles. She needs to drink 20 of these a day to stay hydrated. She can't believe her food is served with plastic forks, knives, and plates.

Trying to fill in the paper menu while managing her baby is very difficult and her order often gets collected before she has completed it. She is served dinner at 5pm which is not when she is hungry. Navya is so frustrated with the food experience that her partner starts bringing in food for her. Unfortunately, there is no access to a microwave and staff explain they are not allowed to heat things up for her either.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Navya arrives in hospital late at night due to give birth to her daughter within the next hour.

In the rush to hospital she does not pack food. She gets very hungry during the night and is happy to hear that the hospital has food available 24/7. She advises the nurse on duty of her dietary restrictions and her nut allergy which is captured in the system. When she places her meal order on a hospital tablet she is shown all the vegetarian options. Her meal arrives 20 minutes after ordering, which Navya is rather impressed by.

The nursing staff are a very helpful and make sure that Navya has access to sufficient water around the clock. They place big refillable water bottles in her room and Navya is pleased to hear that the hospital has gotten rid of all plastic bottles in an effort to become more sustainable.

Navya is very thankful that the hospital does not have fixed meal times but that she can order her meals whenever it is convenient to her which is a huge help in managing her baby. One day her partner brings in her favourite vegetarian curry to surprise her. The staff is very helpful and offer to reheat it and serve it on crockery for the two of them.

Transfer Of Care

Illustrative Patient Story

Lucia is an Australian born cancer patient who is also a diabetic and due to her illness and extended hospital stay at risk of becoming malnourished.

Lucia

Age	76
Gender	Female
Occupation	Retired
Ethnicity	Australian Born Italian
Condition	Leukemia, secondary spread (high acuity)
Length Of Stay	Indeterminate
Diet	Diabetic
Hospital Type	Regional 300 beds
Food Service Model	Non- MFC

Illustrative Current State Patient Journey:

Patient Admission

Lucia is brought in from the oncology day unit to the oncology ward due to severe side effects of her chemotherapy. She is also febrile.

She is assessed and placed on a diabetic diet. It is also noted that she is underweight and dehydrated.

When Lucia receives her dinner that day she refuses it, as she has no appetite. All she wants is a piece of toast. She also feels like some fresh, cold fruit like strawberries or rock melon. She is told none of these items are on offer.

Throughout her hospitalisation, Lucia continues to lose weight while her blood sugar levels vary widely. She only wants small meals that aren't bland, as she has a limited appetite and has lost much of her taste sensation from the chemo.

When her family brings in meals, the fridge is too small. The menu seems to be the same day after day and she doesn't like the taste of the plastic cups. Eventually, Lucia is transferred to palliative care.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Lucia is brought in from the oncology day unit to the oncology ward due to severe side effects of her chemotherapy. She is also febrile.

She is assessed and placed on a diabetic diet. It is also noted that she is underweight and dehydrated, which is why the dietitian makes a note in the system that ensures that she receives adequate nutritional support.

For dinner all Lucia feels like is a piece of toast. She would also like some fresh fruit Her daughter uses her tablet to order the toast and some watermelon as there is an all day breakfast menu.

The dietitian checks in regularly with Lucia to ensure she does not lose weight and that her blood sugar levels are managed. As she is only able to eat small meals, the dietitian monitors the food intake data and ensures she has access to high-energy, tasty snacks that stimulate her intake.

Lucia's family offers to bring in meals for her but Lucia is actually very happy with the hospital menu choices. The menu always incorporates fresh, seasonal items and allows her small serving sizes.

Transfer Of Care

Illustrative Patient Story

Tom is homeless with a history of alcohol abuse that has led to liver disease which he requires treatment for. He is placed on a restrictive diet, which increase his risk of malnourishment.

Tom

Age	68
Gender	Male
Occupation	Homeless
Ethnicity	Australian Born Anglo
Condition	Alcoholic, history of liver disease (mid acuity)
Length Of Stay	8 days
Diet	Full, low fat diet
Hospital Type	Rural 100 beds
Food Service Model	MFC

Illustrative Current State Patient Journey:

Patient Admission

Tom arrives in the Emergency Department on the weekend.

He is placed on a full diet but does not receive any food while spending 8 hours in ED. He gets transferred to the ward and is placed on a low fat diet as he may have pancreatitis, however his risk of malnutrition is not recorded.

Tom is asleep while lunch orders are taken and the staff choose a default meal for him. He hasn't eaten for 10 hours at this stage and he's starving. He eats some of the meal when it arrives but has no particular interest in the choices made for him.

Over the course of his hospital stay, Tom becomes increasingly malnourished due to his lack of food and nutrient intake as no one has explained his diet or asked his selection. He starts asking his neighbouring patients for food as he finds his own diet too restrictive and limited in choice.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Tom arrives in the Emergency Department on the weekend.

He is assessed and placed on a full diet. He is offered a sandwich while being treated in ER, which he gladly accepts. He gets transferred to the ward and is placed on a low fat diet as he may have pancreatitis. It is also recorded that he is at risk of malnutrition. The nursing staff explain that he is on a low fat diet and that they have referred him to a dietitian to discuss and assess his malnutrition.

Tom sleeps for 8 hours and when he wakes up at 4pm is starving. He rings the call centre and after asking for recommendations, selects a chicken stir-fry and a dessert. He also asks for a coffee and some lemonade. Tom is pleased as the food arrives not long after placing the order.

The next day the dietitian arrives to explain to Tom why he was placed on a low fat diet and go over any diet requests he might have. Tom says he doesn't like a lot of the low fat menu options and that he really craves a burger. The dietitian checks Tom's intake data and adjusts his diet to allow a few meals off the full menu, including the burger as he is malnourished and must be encouraged to eat.

Transfer Of Care

Illustrative Patient Story

Minh is a foreign born patient who is involved in a serious accident resulting in life-threatening injuries that require intensive care treatment and a long-term hospital stay.

Minh

Age	45
Gender	Female
Occupation	Gym Instructor
Ethnicity	Foreign Born Vietnamese
Condition	Internal injury, collapsed lung (high acuity)
Length Of Stay	40 days
Diet	Lactose free
Hospital Type	Metro 900 beds
Food Service Model	MFC

Illustrative Current State Patient Journey:

Patient Admission

Minh is involved in a serious car accident and gets air-lifted to a metro hospital.

She gets admitted into the intensive care unit. As Minh is still unconscious she is put on NG feed and after a few days starts trialling fluids.

After 10 days in ICU, Minh gets transferred to the ward. The handover does not record her diet restrictions.

She receives a meal that has lactose in it and suffers from severe stomach cramps. She gets told the error occurred due to substitutions in the kitchen. She feels sorry for the nurses as she can see they are busy, but she no longer trusts the system and calls her family to bring in food for her.

As Minh starts to recover, she really wants some traditional Vietnamese cooking as it will be a real comfort for her, but nonetheless is willing to give the menu a try. She orders from the full menu that she is given by staff whom she trusts.

Transfer Of Care

Illustrative Future State Patient Journey:

Patient Admission

Minh is involved in a serious car accident and gets air-lifted to a metro hospital.

She gets admitted into the intensive care unit. As Minh is still unconscious she assessed and put on NG feed and after a few days starts trialling fluids.

After 10 days in ICU, Minh gets transferred to the ward. The handover process is smooth as all her diet restrictions are captured on the main system.

She orders a Vietnamese congee, rice paper rolls and a green tea. The food staff member who delivers the meal checks the tray ticket with her ID band and also confirms that her meal is lactose free. Minh finishes the whole meal as it is almost as good as her mother's home-cooked meals.

As Minh starts to recover, she really wants some traditional Vietnamese cooking as it will be a real comfort for her. She is excited to see that the My Food Choice Menu has a full page of Asian meals, including lactose free options.

Transfer Of Care

B

Intake Data Analysis

Intake Data Analysis

Intake data from Western Sydney LHD was used to support a number of the key insights found in the current state patient experience.

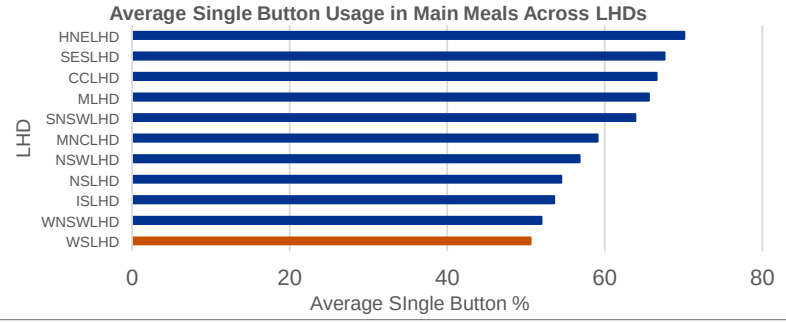
The Reference LHD

> The majority of patient days are spent in large Sydney hospitals, with WSLHD representing the geographic centre of Sydney and have 4 mid-large hospitals:
  - Westmead – 826 beds
  - Blacktown – 349 beds
  - Mt Druitt – 107 beds
  - Auburn – 124 beds

> WSLHD demographics are reflective of Sydney metropolitan areas and include a mix of Australian born, Indian, Chinese, Sri Lankan, Philippine, Korean, Lebanese, Malaysian and Fijian

> WS LHD fully transitioned to the MFC service delivery model over 2 years ago, suggesting the model is now mature and a good representation of MFC.

> Intake compliance rates[1] are the best of all MFC LHDs, which results in high data reliability (see graph below).



The Sample Period

> The sample period of intake data used spanned two weeks, from 14 to 27 August 2019.

> 2 weeks of data was used, as the scale of the data set represented ~49,000 meals served and ~352,000 items served, which is statistically significant and allows to make inferences about the WSLHD and then extrapolate for the state of NSW.

1. Compliance rates are determined based on the average single button usage in main meals. The lower the average single button usage the better as single button usage generally reflects not accurate capturing of meals. If meal intake is accurately captured the staff will have to use multiple buttons to record the intake of individual meal components.

C

Market Meal Pack Nutrient Comparison

Frozen Meal Comparison (Meat Dishes)

Nutritional Comparison of Retail Frozen Meals to NSW Nutritional Standards.

Frozen Meal	Serving size (g)	Energy (kJ)	Protein (g)	Fat (total) (g)	Fat Saturated (g)	Sodium (mg)
NSW Nutritional Standards – Complete Meal Band 3	380g	Min 990kJ	Min 12g	Max 10g	Max 3g/100g	Max 620mg
Super Nature						
Super Foods Pad Thai Chicken	350	1110	15.3	8.9	2.5	1715
Super Lunch Moroccan Lamb & Cous Cous	200	659	8.5	4.0	1.6	529
Mccain						
Healthy Choice Wholegrain Frozen Meal Chicken & Tomato	320	1470	18.2	9.6	5.1	736
Frozen Red Box Turkey Roast Meal	320	1260	16.6	5.8	1.9	800
Weight Watchers						
Mango Coconut Chicken	340	1390	16.3	7.5	4.4	655
Creamy Tuna Bake	320	1310	19.2	6.7	3.2	890
Lean Cuisine						
Steam Red Thai Chicken Curry	380	1500	17.1	6.8	4.9	912
Steam Salmon Pasta[1]	370	1480	20.7	9.6	3.0	574
Woolworths						
Delicious Nutritious Meals Spinach & Ricotta Chicken Pasta	395	1480	27.3	8.3	4.3	506
Delicious Nutritious Meals Beef Tomato Casserole*	350	1200	26.3	8.4	2.5	483

1. Fully compliant with Band 3 Meal Complete Meal

Does NOT comply with NSW Nutritional Standards

Compliant with NSW Standards (10% tolerance)

NSW GOVERNMENT HealthShare

Frozen Meal Comparison (Vegetarian Dishes)

Nutritional Comparison of Retail Frozen Meals to NSW Nutritional Standards.

Frozen Meal	Serving size (g)	Energy (kJ)	Protein (g)	Fat (total) (g)	Fat Saturated (g)	Sodium (mg)
NSW Nutritional Standards – Complete Vegetarian Meal Band 2	370g	Min 990kJ	10g - 16.9g	Max 25g	Max 3g/100g	Max 620mg
Super Nature						
Super Foods Wellness Bowl Green Green Chickpea Curry with Quinoa Brown Rice*	350	1230	12.4	10.1	5.2	658
Super Foods Split Pea & Lentil Dhal	350	1860	22.4*	9.4	3.2	868
Mccain						
Healthy Choice Spinach & Ricotta Ravioli[1]	350	1670	15.4	9.1	4.2	627
Healthy Choice Wholegrain Frozen Meal Pumpkin Pasta	320	1530	14.1	9.6	6.4	832
Weight Watchers						
Creamy Mushroom & Risotto	225	955	6.5	2.9	1.6	680
Lean Cuisine						
Wholegrain Vegetable Cannelloni	400	1460	19.6*	6.0	3.6	800
Wholegrain Lasagna Pumpkin Spinach & Ricotta	400	1550	20.0*	4.8	2.8	1080

1. Protein per serve of mind. 17g complies with Band 1 Vegetarian Meal

Does NOT comply with NSW Nutritional Standards

Compliant with NSW Standards (10% tolerance)

NSW GOVERNMENT HealthShare

Frozen Meal Comparison (Top Selling)

Nutritional Comparison of Frozen Meals (available in retail stores) to NSW Nutritional Standards.

Frozen Meal	Serving size (g)	Energy (kJ)	Protein (g)	Fat (total) (g)	Fat Saturated (g)	Sodium (mg)
NSW Nutritional Standards – Complete Meal Band 3	380g	Min 990kJ	Min 12g	Max 10g	Max 3g/100g	Max 620mg
On The Menu						
Plated Lamb Shank	320	1257	17.9	12.2	4.5	NA
Plated Chicken Parmigiana	320	1644	22.4	15.4	5.8	NA
Entrée Lasagne Beef	260	1508	16.9	17.2	7.8	NA
Mccain						
Man Size Chicken Kiev	480	3140	24.0	43.7	15.4	1390
Plated Chicken Parmigiana	320	1920	18.6	24.0	9.6	768
Healthy Choice Chicken Carbonara Bowl	300	1380	16.5	8.4	4.8	780

NSW GOVERNMENT HealthShare

Does NOT comply with NSW Nutritional Standards

Compliant with NSW Standards (10% tolerance)

Frozen Meal Comparison (Meat Dishes)

Nutritional Comparison of Supplier Frozen Meals to NSW Nutritional Standards.

Frozen Meal	Serving size (g)	Energy (kJ)	Protein (g)	Fat (total) (g)	Fat Saturated (g)	Sodium (mg)
NSW Nutritional Standards – Complete Meal Band 3	380g	Min 990kJ	Min 12g	Max 10g	Max 3g/100g	Max 620mg
Kuisine Kitchen						
Butter Chicken with Rice	375	2100	24.8	19.5	10.5	754
Butter Chicken with Rice & Veg (“Health Version”)	375	2306	21.0	26.6	12.4	769
Slow Cooked Beef in Red Wine	375	1535	18.4	16.9	8.3	705
Bangers & Mash	500	2700	29.5	38.0	19.0	2025
Chinese Chicken	280	1260	5.9	7.0	1.4	417
Chicken Carbonara*	300	1536	24.9	7.8	3.3	609
Chilli con Carne	350	1736	17.2	10.2	2.1	714
Thai Green Chicken Curry	320	1350	15.0	7.4	5.1	720
Cottage Pie	300	1140	15.6	7.8	3.6	996
Satay Chicken	300	1860	27.0	17.1	5.1	543
Reduced Veg Meals						
Roast Pork	400	1572	36.8	9.6	2.0	296
Roast Lamb	430	1849	32.7	23.7	9.0	297
Butter Chicken	420	2062	31.9	17.2	8.4	491

Does NOT comply with NSW Nutritional Standards

Compliant with NSW Standards (10% tolerance)

D

The Food Policy Environment

Global Policy Environment

The patient food experience design is governed by Global, Federal, and NSW State legislation, policies, frameworks, & guidelines.

Object Name	Domain	Object Type	Synopsis
IDDSI (International Dysphagia Diet Standardisation Initiative)	Global	Standards & Guidelines	Global standardised framework that provides terminology and definitions for texture modified foods and thickened liquids. IDDSI also developed a practical measurement technique for foods and liquids that could be used by anyone, including patients, caregivers, food service companies and health practitioners. On May 1, 2019 Australia adopted the new International Dysphagia Diet Standardisation Initiative.
Codex Alimentarius	Global	Standards & Guidelines	International food standards, guidelines and codes of practice (established by Food and Agriculture Organisation (FAO) and World Health Organisation (WHO)) contribute to the safety, quality and fairness of international food trade. Consumers can trust the safety and quality of the food products they buy and importers can trust that the food they ordered will be in accordance with their specifications international food standards, guidelines and codes of practice contribute to the safety, quality and fairness of this international food trade. As a WTO member, Australia is obliged, where possible, to harmonise its domestic regulations with Codex standards such as food additives, pesticide residues and veterinary drugs.
ISO 22000 Food Safety Mgmt (International Organisation for Standardization)	Global	Standards	ISO has developed international standards that prescribe solutions for ensuring quality and safety in the food industry. The standards cover food products, food safety management, microbiology, fisheries and aquaculture, essential oils as well as starch and its by-products. ISO closely collaborate with other relevant international and intergovernmental organizations.
WHO Nutrition Guidelines (World Health Organization)	Global	Guidelines	The Department of Nutrition for Health and Development, in collaboration with FAO, continually reviews new research and information from around the world on human nutrient requirements and recommended nutrient intakes. This is a vast and never-ending task, given the large number of essential human nutrients. These nutrients include protein, energy, carbohydrates, fats and lipids, a range of vitamins, and a host of minerals and trace elements.

National Policy Environment

The patient food experience design is governed by Global, Federal, and NSW State legislation, policies, frameworks, & guidelines.

Object Name	Domain	Object Type	Synopsis
Nutrient Reference Values for Australia & New Zealand including Recommended Dietary Intakes, 2006	National	Standards and Guidelines	The Nutrient Reference Values outline the levels of intake of essential nutrients considered to be adequate to meet the known nutritional needs of practically all healthy people for prevention of deficiency states. The document can be used by health professionals to assess the likelihood of inadequate intake in individuals or groups of people.
Australian Dietary Guidelines, 2013 & Australian Guide to Healthy Eating	National	Guidelines	The Australian Dietary Guidelines (the Guidelines) and the Australian Guide to Healthy Eating provide up-to-date advice about the amounts and kinds of foods that we need to eat for health and wellbeing. The recommendations are based on scientific evidence, developed after looking at good quality research.
The National Safety and Quality Health Service (NSQHS) Standards, 2017	National	Standards	The NSQHS Standards were developed by the Commission in collaboration with the Australian Government, states and territories, private sector providers, clinical experts, patients and carers. The primary aims of the NSQHS Standards are to protect the public from harm and to improve the quality of health service provision. The eight NSQHS Standards provide a nationally consistent statement about the level of care consumers can expect from health services.
The Australian Charter of Healthcare Rights	National	Charter	The Australian Charter of Healthcare Rights was developed by the Australian Commission on Safety and Quality in Health Care and describes the rights that consumers, or someone they care for, can expect when receiving health care. These rights apply to all people in all places where health care is provided in Australia. This includes public and private hospitals, day procedure services, general practice and other community health services. These rights are essential to make sure that, wherever and whenever care is provided, it is of high quality and is safe.
EQuIP5 Standards and Criteria	National	Standards	EQuIP focuses on issues considered to be of the greatest importance in providing safe, high quality health care. The standards were developed in consultation with the healthcare industry both nationally and internationally, and address the Clinical, Support and Corporate Functions of the organisation. Clause 1.5.7 (The organisation ensures that the nutritional needs of consumers / patients are met) addresses nutritional requirements that heath care provider should comply with.

National Policy Environment

The patient food experience design is governed by Global, Federal, and NSW State legislation, policies, frameworks, & guidelines.

Object Name	Domain	Object Type	Synopsis
Packaging Accessibility Rating	National	Standards	The Packaging Accessibility Rating provides a single national standard for determining the ease of opening and safety of comparable food products. Each product is given a Packaging Accessibility Rating using a rating system of -8 to +8. The highest rating is a +8 and an -8 is the worst result. The higher the Rating the better the outcome for the patient/consumer.
National Allergy Strategy	National	Legislation	The National Allergy Strategy focusses on the identification of strategies to improve and optimise the management of allergic disease and help prevent food allergy where possible.
Food Standards Code	National	Legislation	The standards in the Australia New Zealand Food Standards Code are legislative instruments under the Legislation Act 2003.

NSW State Policy Environment

The patient food experience design is governed by Global, Federal, and NSW State legislation, policies, frameworks, & guidelines.

Object Name	Domain	Object Type	Synopsis
Food Regulation 2010	NSW	Legislation	The Food Regulation 2010 underpins the authority's and local councils' food regulatory work, which aims to reduce the incidence of food-borne illness linked to certain food sectors in New South Wales.
Food Act 2003	NSW	Legislation	The purpose of the Act is to ensure that food for sale is both safe and suitable for human consumption. It also prohibits any misleading conduct surround food. The Act also gives effect to the Food Standards Code (the Code). The Act details the offences relating to food, orders that can be made against a business, and safety programs.
NSW Department of Health. Standards for Food Services, 1989	NSW	Standards	Standards used to develop the current NSW Nutrition Standards for Adult Inpatients.
Institute of Hospital Catering (NSW). Food Service Guidelines for Healthcare. 1997	NSW	Standards	Guidelines for food service in healthcare, which hospital managers, foodservice staff, Dietitians and other clinicians in NSW will need to be aware of.
Guidelines for Food Service to Vulnerable Persons, 2018	NSW	Standards	The Food Authority has prepared the guidelines for food service to vulnerable persons to help industry prepare a food safety program that will comply with the NSW Food Regulation 2015. The guideline explains the mandatory requirements detailed in current food legislation, which are listed as a must. These include the requirement to be licensed, implement a food safety program and comply with the Food Standards Code.

NSW State Policy Environment

The patient food experience design is governed by Global, Federal, and NSW State legislation, policies, frameworks, & guidelines.

Object Name	Domain	Object Type	Synopsis
Nutrition Care Framework, 2017	NSW	Policy Directive	This sets out the NSW Health framework for a strategic and coordinated approach to nutrition care, including weight and height assessment, from admission to transfer of care. This Policy applies to all NSW Local Health Districts, Specialty Health Networks and other NSW Health organisations which provide services to admitted patients including, but not limited to hospitals and emergency departments, Day stay centres (e.g. renal dialysis, chemotherapy etc.), Multipurpose services, Mental Health facilities and Hospital in the home. Where these facilities provide food and nutrition care services to admitted patients, consumers and residents, the nutrition care processes described in this policy directive including weight and height/length assessment must be in place.
Nutrition Standards for Adult Inpatients in NSW Hospitals, 2011	NSW	Standards	This document provides Nutrition Standards for Adult Inpatients in NSW hospitals, to enable provision of safe, nutritious and appetising high-quality meals of sufficient variety that meet the needs and expectations of patients and which are a model of nutritional best practice in institutional food service. The Standards themselves describe the items, choice, serve sizes, and nutritional content of foods to be served to “vulnerable people” in a clinical setting.
Diet Specifications for Adult Inpatients User Guide, 2015	NSW	Guidelines	This document is a user guide to the Diet Specifications for Adult Inpatients. It contains important information about the background to the Diet Specifications for Adult Inpatients and how they should be used. The Specifications themselves describe the foods allowed and not allowed in each diet and provide nutrient targets for each main meal component, for those diets requiring quantitative nutrient levels.

E

Project Approach Overview

Project Approach

HSNSW ELT Signoff ★ — SEF Review (25 Oct) ★

Week	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Date	22 July	29 July	5 August	12 August	19 August	26 August	2 September	9 September	16 September	23 September
Phase	Phase 0	Phase 1: UNDERSTAND				Phase 2: ENVISION			Phase 3: CONCEPTUALISE	
Engagements		Stakeholder Interviews	Stakeholder Interviews	HSNSW Steerco	Current Customer Journey Mapping	Patient Food Visioning	New Customer Journey Mapping	Program Steerco / Conceptual Solution Design	Solution Blueprint Design	Program Steerco
Activities	Project Prep: *Collate key data, set up working group & engagements, establish governance.*	Capture Regulatory Backdrop: *Assemble the patient food regulatory frameworks, legislation, policy, standards, and guidelines, building an understanding of the gap to be closed.*	Generate Anecdotal Insights: *Analyse patient surveys & run interviews with health professionals, suppliers, and patients to understand the 'compliance' model, key issues & insights, and learn about an idealised food experience*	Develop Case Studies: *Develop case studies for patient food models and outcomes from other Australian states, NSW Health PPP arrangements, and the private sector.* / Map The Patient Journey: *Design unique patient archetypes and map the current state patient journey from the perspective of these archetypes, identifying the needs, expectations, and pain points at each critical step.*		Develop Patient Food Experience Principles: *Co-design principles for patient food, with clearly articulated design principles and measures of success.* / Design A New Patient Journey: *Bring a 'blue-sky' approach to the redesign of the customer food journey, resolving patient pain points and balancing the needs of all key stakeholder groups in the new design.* / Frame a Conceptual Solution: *Develop consensus around the patient food solution hypothesis (i.e. Nutrition Standards must be changed) and frame the conceptual solution for patient food reform.*		Assess How To Operationalise: *Determine how to 'operationalise' the new solution through people, process, technology, governance, infrastructure, and partnerships.* / Quantify The Benefit: *Quantify the cost, sustainability, and patient impacts of a change.*	
Deliverables					• Interim Draft Report	• Patient Journey Maps	• Patient Food Principles	• Conceptual Solution		• 'Case for Change' Report

Build The 'Case For Change' Report

Develop a report which illustrates the current patient food landscape and it's failures of the existing food model, articulate a new principles for the patient food journey, and qualify and quantify the changes to cost, sustainability, and patient experience in a case for changing the patient food solution.

Status Meeting ● | SteerCo ★ | Interviews ⟩⟩⟩ | Working Session ▲

Engagement Structure & Governance

Project Oversight

ELT
SteerCo

Ed Bridgeland
Project Director

Jen Van Cleef
Program Sponsor

Project Oversight Considerations

> The Project Oversight group offers overarching project direction and challenge, leads patient-centred design workshops, and provides oversight and quality assurance.

Project Delivery

Andrew Howard
Health SME

Charles Magnus
Project Lead

Vicki Fleming
Project Lead

Mel Sorg
Project Delivery

Project Delivery Considerations

> The Project Delivery group designs the project approach, reports on project delivery and risk, oversees stakeholder engagements, leads day to day activities and analysis, and delivers the final report.
> A weekly status update on Thursdays outlines past and upcoming activities, addresses issues, and plans for emergent risks.

Co-Design Working & Reference Group

- HealthShare NSW
- NSW Ministry of Health
- Agency for Clinical Innovation
- Clinicians (Dietitians, Nurses, Physicians)
- CBORD
- Improformance Partners

Co-Design Working Group Considerations

> The Co-Design Working & Reference Group supports the assessment of key findings from the diagnostic phase and leads the design of principles and a blueprint for the future patient nutrition experience.

Focus Groups

- Patients
- Physicians
- Nurses
- Dietitians
- Speech Pathologists
- Occupational Therapists
- Food Services Staff
- Chaplains

Reference Group Considerations

> The Focus Groups inform the current state patient and staff food experience, and ensure the design process considers the requirements of the stakeholders who see the greatest patient contact.

Engagement Model

Phase 1: UNDERSTAND

	Contacts	Approach	Purpose
Hospital Staff	Clinicians Nurses Dietitians Food Services Staff	Focus groups with hospital based staff from: 1. Westmead (Metro RPA) 2. Lismore (Regional MFC) 3. RPA (Metro Non-MFC) 4. Liverpool (Metro Non-MFC)	Capture anecdotal experience of hospital staff and their personal views on the current state food model across key dimensions: 1. Personal value 2. System benefit 3. Patient experience
Patients	Patients	Focus groups and/or surveys with patients from: 1. Lismore (Regional, MFC) 2. Urbenville (Regional, MPS) 3. Kyogle (Regional, MPS) 4. Liverpool (Metro Non-MFC)	Capture anecdotal experience of patients and their personal views on the current state food experience (choice, taste, quality, service, timing, etc)
Suppliers	Patties Foods Snap Fresh Kuisine Kitchen	Direct interviews with suppliers.	Understand how the model impacts the way suppliers service NSW Health.
Health Stakeholders	Allied Health Dietitians Allied Health Pathologists Agency Clinical Innovation NSW Health Ministry Food Service Dietitians Patient Service Ops Mgmt Food Service Supply Chain Clinical Governance/Safety MFC Program Architect	One-on-one interviews with cross health stakeholders.	Gather critical insights to aid understanding of the original vision and function of nutritional standards.

Phase 2: ENVISION

Phase 3: CONCEPTUALISE

Co-Design Group

Establish a 20 person co-design group constituted of a broad mix of representatives from across ACI, LHD / Specialty Networks, Allied Health, HealthShare, etc.

Third Horizon agreed the roles and composition of the co-design group with HealthShare, ensuring the group brings an effective mix of representation and insight from across technical background, geography, and patient archetype.

Engagement Approach

The working group contributes to the key design engagements across Phase 2 & 3 as identified in the project approach.

- Current Customer Journey Mapping
- Patient Food Visioning
- New Customer Journey Mapping
- Conceptual Solution Design
- Solution Blueprint Design

Engagement Purpose

The working group is engaged to ensure the design process is collaborative, considers the requirements of the key stakeholder groups, and is supported by the broader Health network.

LHD / Specialty Network Focus Groups

A diverse set of stakeholders were engaged through LHD / Specialty Network focus groups to ensure perspectives were captured from all the patient food experience touch-points.

Focus Group	Ideal Candidates	Purpose
Physicians & Nurses	Mix of doctors, nurses, and midwives, with oversight of diverse range of patient acuity.	Capture anecdotal experience and personal views on the current state patient nutrition experience and outcomes.
Dietitians	Mix of clinical Dietitians and dietitian assistants / aids with diverse range of tenure in role.	Capture anecdotal experience and personal views on the current state patient nutrition experience and outcomes.
Other Allied Health	Occupational therapists, speech pathologists, and allied health professionals with oversight of diverse range of patient acuity.	
Food Services Staff	Mix of food service staff with diverse range of accountabilities and tenure in role.	Capture anecdotal experience and personal views on the current state patient nutrition experience and outcomes.
Clerical Staff	Mix of clerical staff with accountability for diet orders or other nutrition related activities.	Capture anecdotal experience and personal views on the current state patient nutrition experience and outcomes.
Administration	Mix of hospital management, financial controllers, customer experience staff, and accreditation professionals.	
Patients	Mix of patients with diverse acuity, dietary requirements, length of stay, age, gender, cultural background	Capture the anecdotal experience of patients and their personal views on the current-state food experience (meal choice, meal quality, meal taste, service quality, service availability, service convenience).

Food Experience Principles Co-Design

Food experience principles co-design was delivered through a series of collaborative working sessions, leveraging design input from a core ‘working group’ and a supporting ‘reference group’.

	Objective 1	Objective 2	Objective 3
	Understand Priorities	**Design Principles**	**Test Implications**
Working Group		> Examine, assess, and define the patient priorities. > Develop key components to a new principles. > Develop the future conceptual solutions which support the principles. > Validate the new principles through assessment of solutions against the original patient journeys.	
		2 x Half Day Workshops	
Reference Group		> Review an provide initial feedback on patient priorities and draft principles. > Discuss the potential blueprint for execution of the patient experience principles.	
		2hr Working Session	
Combined Group	> Understand current state strengths & pain points. > Agree the case for change. > Draft current patient journeys. > Develop the priorities for a patient-centred experience to inform a vision.		> Review and validate the refined principles. > Assess and build out the blueprint for realisation of the principles, including potential solutions, key enablers, and operational changes needed to execute against it. > Identify barriers and risks to be overcome.
	Half Day Workshop		**Offline**

F

NSW Health Report Contribution

Engagement Register

HealthShare NSW and Third Horizon would like to thank all the stakeholders engaged from across NSW Health for their valuable contribution to this report.

Working Group	Organisation & Title
Vicki Fleming	HealthShare, Project Manager
Gary Sullivan	HealthShare, Food Service Manager
Peter Heidegger	HealthShare, Advisor
Gwen Hickey	Northern Sydney LHD, Head of Nutrition
Shannon Chamberlain	HealthShare, Sector Manager

Reference Group	Organisation & Title
Lillian Forrest	HealthShare, Nutrition Manager
Caroline Araujo	HealthShare, Associate Director F&PSS
Seeraj Slamang	HealthShare, Program Manager
Hari Thirunavukkarasu	HealthShare, Associate Director Strategy
Nicola Brownlee	HealthShare, PCMO
Helen Ryan	HealthShare, Speech Pathologist
Anne Buckley	HealthShare, Sector Manager NNSW-MNC
Suzanne Kennewell	Sydney LHD, Director Nutrition and Dietetics
James Bartholomew	Central Coast LHD, Acting Director Nutrition & Dietetics
Fifi Spechler	HealthShare, Quality Assurance Manager
Kym Worth	HealthShare, Customer Experience Lead
Emily Mann	HealthShare, Customer Experience Officer
Marian Brown	Nursing Representative
Andrew Davison	Ministry of Health, Chief Allied Health Officer
Kirsty Maunder	CBORD, Implementation Consultant
Melanie Schier	ACI, Nutrition Network Manager
Kate Lloyd	ACI, Director Acute Care
Dr. Tracy Brown	Hunter New England, Geriatrician

Engagement Register

HealthShare NSW and Third Horizon would like to thank all the stakeholders engaged from across NSW Health for their valuable contribution to this report.

Name	Organisation & Title
Dr. Peter Williams	Fellow of the Dietitians Association of Australia
Dr. Peter Kennedy	Clinical Adviser to CEO at eHealth
Shannon Singh	HealthShare, Supply Chain Operations Manager
Kerry Balding	HealthShare, IT Project Manager (FSIP)
Shubjeet Kaur	HealthShare, Director Food and Patient Support Services
Lyn Grundy	HealthShare, Product Lifecyle and Innovation Manager
Zdenka Fuller	HealthShare, State Manager SC and Product Develop.
Susanne Connolly	HealthShare, Executive Director of Customer Experience
Dr. Anne Mok	Director Clinical Governance & Safety
Catherine Muratone	Illawarra Shoalhaven LHD, Head of Clinical Coding
Jennifer Van Cleef	HealthShare, Executive Director Clinical Support Services and State Controller, Emergency Management
Joel Bardsley	HealthShare, NSW State Operations Manager
Jessica Drewery	HealthShare, Comms and Engagement Advisor
Craig White	HealthShare, Food Services
Jagat Prakash	HealthShare, Business Analytics and Reporting
Santhoshi Chander	HealthShare, Head Program & Change Mgmt Office

Name	Organisation & Title
Jacky Finlay-Jones	HealthShare, Business Analytics and Reporting
Cedo Sizgoric	HealthShare, Business Analytics and Reporting
Kate Balen	HealthShare, Business Performance
Ryan Foote	HealthShare, Portfolio Manager
Yoseph Andy	HealthShare, Data Analyst
Jeremy Wing	HealthShare, Food Service Dietitian
Dallas Demeny	HealthShare, Food Service Dietitian
Vicki Young	HealthShare, Food Service Dietitian
Ann Buckley	HealthShare, Food Service Dietitian
Toni Burns	HealthShare, Food Service IT
Lyndy Riley	HealthShare, Food Service IT
Gizem Kaplan	HealthShare, Food Service IT
Karen Smith	HealthShare, Food Service IT
Shane Reardon	HealthShare, Food Service IT
Jim Hoefflin	CBORD, President
Richard Imlay	CBORD, General Manager Asia Pacific
Janet Leslie	CBORD, Account Manager Asia Pacific
Carmel Lazerus	CBORD, Consultant

Engagement Register

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Name	Organisation & Title
Lesley Miller	SWS, Area Advisor SWS Dietitian
Margaret Holyday	Prince of Wales Hospital, Head of Nutrition & Dietetics
Alan Went	Ministry of Health, Director
Denise Cruickshank	QLD Health, Coordinator Statewide Foodservices
Sally McCray	QLD Mater Hospital, Director Dietetics and Foodservice
Bianca Neaves	Prince Charles Hospital, Dietitian Team Leader
Troy Litzow	QLD Health, Food Services Manager
Sheridan Collins	Westmead Hospital, Paediatric Dietitian
Lynn Lace	Southern NSW LHD, Dietitian Advisor
Pran Gohil	Kuisine Kitchen, CEO
Jitesh Gohil	Kuisine Kitchen
Michael Townsend	Snap Fresh
Debbie Hutchinson	Snap Fresh, Business Manager
Mariam Rogers	Snap Fresh
Frank Alessio	Patties Foods, Healthcare & Industrial National Account Manager
Mark Malak	Patties Foods, Category Marketing Manager

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Name	Organisation & Title
Jean-Jacques Dath	Liverpool Hospital, SWSLHD Director Occupational Therapy
May Mak	Liverpool Hospital, Department Head of Nutrition & Dietetics
Paul Lee	Liverpool Hospital, Dietitian
Danielle Morton	Liverpool Hospital, Dietitian
Rachel Fletcher	Liverpool Hospital, Dietitian
Vicki Deane	Liverpool Hospital, Aged Care
Aoon Masan	Liverpool Hospital, Nursing Unit Manager
Angela Loule	Liverpool Hospital, Speech Pathologist
Katrina Smith	Liverpool Hospital, Ambulatory Care & Outpatients
Katrina Speechley	Liverpool Hospital, Speech Pathology Team Leader
Cheryl Leedvig	Liverpool Hospital, Food Services Suervisor
Desi Secconte	Liverpool Hospital, Palliative Care Doctor
Peter Ekem	Liverpool Hospital, Chaplaincy Coordinator
Ngan Nguyen	Liverpool Hospital, AMUM CCIA
Stulka Bassi	Liverpool Hospital, CNE BIRU
Emilija Puric	Liverpool Hospital, NUM BIRU

Name	Organisation & Title
Liesa Elliot	Liverpool Hospital, Speech Pathologist BIRU
Janet Harrison	Liverpool Hospital, Consumer and Community Participation Manager
Gabby Mastie	Liverpool Hospital, Senior Occupational Therapist
Gayathri Jegendran	Liverpool Hospital, Senior Dietitian
Sally Nicholl	Liverpool Hospital, Diet Supervisor
Vijay Rau	Liverpool Hospital, Dietitian Assistant
Kylie Dixon	Liverpool Hospital, Clinical Nurse Educator
Chris Nocera	Liverpool Hospital, NUM 3B
Kirsty Brennan	Liverpool Hospital, CNE 3B
Matthew Jennings	Director of Allied Health

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Name	Organisation & Title
Lynn Weir	NNSW LHD Executive Director Clinical Operations
Anne Buckley	NNSW LHD Sector Manager
Scott Wagner	Lismore Hospital, Manager Nutrition & Dietetics
Lisa Whittingham	Lismore Hospital, Dietitian
Anika Howard	Lismore Hospital, Dietitian
Brydie Warren	Lismore Hospital, Dietitian
Janet Makejev	Lismore Hospital, Food Service
Sandra Vidler	Lismore Hospital, Nursing Staff
Anita Coghill	Lismore Hospital, Nursing Staff
Theresa Daly	Lismore Hospital, Paediatrics
Tegan Collie	Lismore Hospital, Orthopaedics
Lucy Schinckel	Lismore Hospital, Speech Pathologist
Nicole Ellevsen	Urbanville Hospital, Nursing Manager
Amy McKey	Urbanville Hospital, Food Services Manager
Dianne Frank	Kyogle Hospital, Food Services Manager

Name	Organisation & Title
Linda Johnston	Bankstown Hospital, Consumer & Community Participation
19 consumers	Bankstown Hospital, Focus Group