

Improving nutritional outcomes and patient engagement using an online digital dietary programme: The QIP.Dig.Diet.Asst project

Dr Caroline Anderson. Lead Clinical Academic and Improvement Paediatric Renal Dietitian. carolne.anderson@uhs.nhs.uk
University Hospital Southampton NHS Foundation Trust

1. Background

- Nutrition (food and water) is a basic physiological need, essential to health, wellbeing and clinical outcome.
- Poor nutrition negatively impacts infection, mortality, functional capacity, quality of life, response to recovery, hospitalisation, mental health, cognitive capacity, school attendance, disease progression, medication and complication rates.
- Early risk identification can reduce +/- prevent morbidity and mortality
- Accurate assessment is crucial to assessing nutritional status but extremely hard to achieve in routine care.
- Current practice is inequitable, unsafe, inefficient, unstructured and unable to monitor behaviour change or response to care.
- NHS standards support good practice: NHS outcome framework; NICE quality standard 24; Quality indicators 2.1, 2.3i and 2.6ii.
- Digital technology can enable patient self-care, improves quality, monitor response to care and release valuable clinician time for more patient support.

2. Aim statements

- To implement a digital dietary assessment programme to improve technology access, virtual care, nutritional outcomes and online patient use in 12months (2020), by:
 - Reducing variability and work duplication
 - Improving accuracy and data quality
 - Improving on-line patient access

3. Project design/strategy

- Phase 1 Identify the best digital programme using 8 staff appreciative inquiry interviews to develop the department wide survey and synthesize findings. Survey findings informed the evaluation framework for the scoping activity.
- Phase 2 Implement digital programme using a phased approach and PDSA cycles. Starting with a small team and scaling up to include more teams and patient numbers.
- Phase 3 Monitor using run charts and PDSA cycles to promote the online programme to staff and patients via My Medical Record, emails and clinic reviews, test uptake and improve assessment quality and patient to self-care
- Phase 4 Scale up and sustainability across clinical and research

Driver Diagram

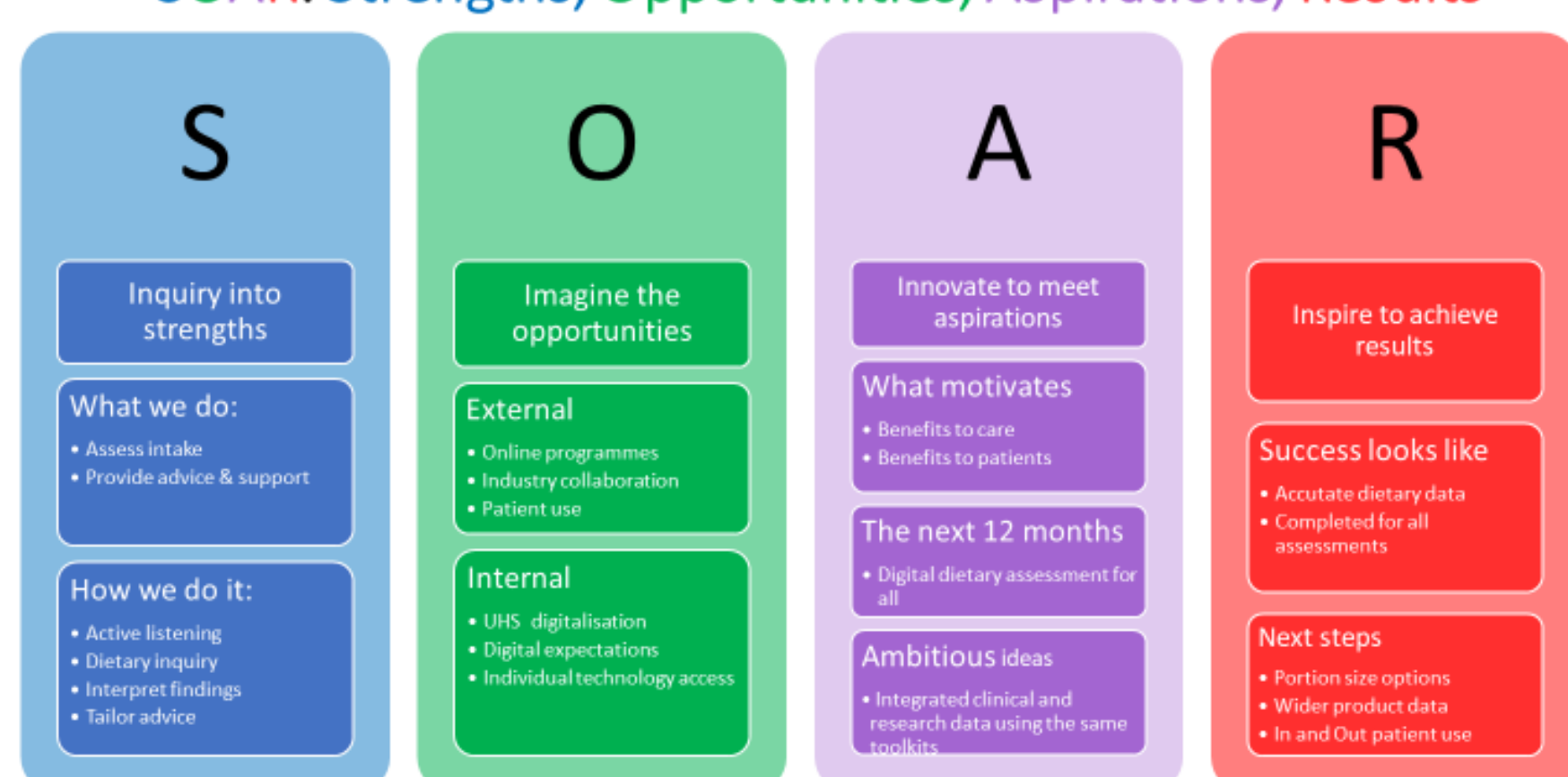
Aim	Primary driver	Secondary driver	Change idea	PDSA
Improve dietary assessment outcomes and patient on-line self care	Dietary assessment components ¹	Clinical utility ¹	Emotional map staff & patient experience ¹	On-line survey - needs and priorities ¹
	Systems and processes ^{1,2,3}	Essential elements ¹	Pareto chart survey ¹	Identify best fit digital package ¹
		On line access ²	Patient journey maps, fish bone diagrams: flow, capacity and demand ^{1,2}	New digital patient and staff pathway ^{1,2}
	Workforce ^{1,2,3}	Digital programme ¹ & integration ²	Digital record reminders, reports and messaging (email, text, MMR) ^{1,2}	Digital programme with comprehensive up to date product database ¹
Project team ^{1,2,3}		Microsoft teams ^{1,2}	On-line survey learning needs to upskill team ^{1,2}	
Data quality ^{1,3}	Patient groups ^{1,2,3}	Signpost to relevant leave training ^{1,2}	Bite size on-line training using project ^{1,2}	
	Data accuracy and completeness ³	Understand Patient role in dietary assessment ^{1,2,3}	Patient and staff surveys ^{1,2,3}	
			Online patient entry via APP ^{1,3}	Quality checks in programme ^{1,3}

1 = phase 1, 2 = phase 2, 3 = phase 3 in design strategy

4. Changes made

- Pathway redesign and tailoring to specialist needs
- Digital integration of dietary assessment for clinicians
- Digital access and use of online dietary recording by patients
- Ongoing patient education and support re app use
- Ongoing dietetic training and industry support re programme use and improvements
- Full dietary assessments available for review and upload to electronic systems
- Bite size QI, liberating structures and appreciative inquiry training sessions for staff

SOAR: Strengths, Opportunities, Aspirations, Results



Adapted from R Simmons Yr3 medical student project. Supervised by Dr. C Anderson, Dr. P Nestel and C Westoby and wider project interviews.

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QI Measures

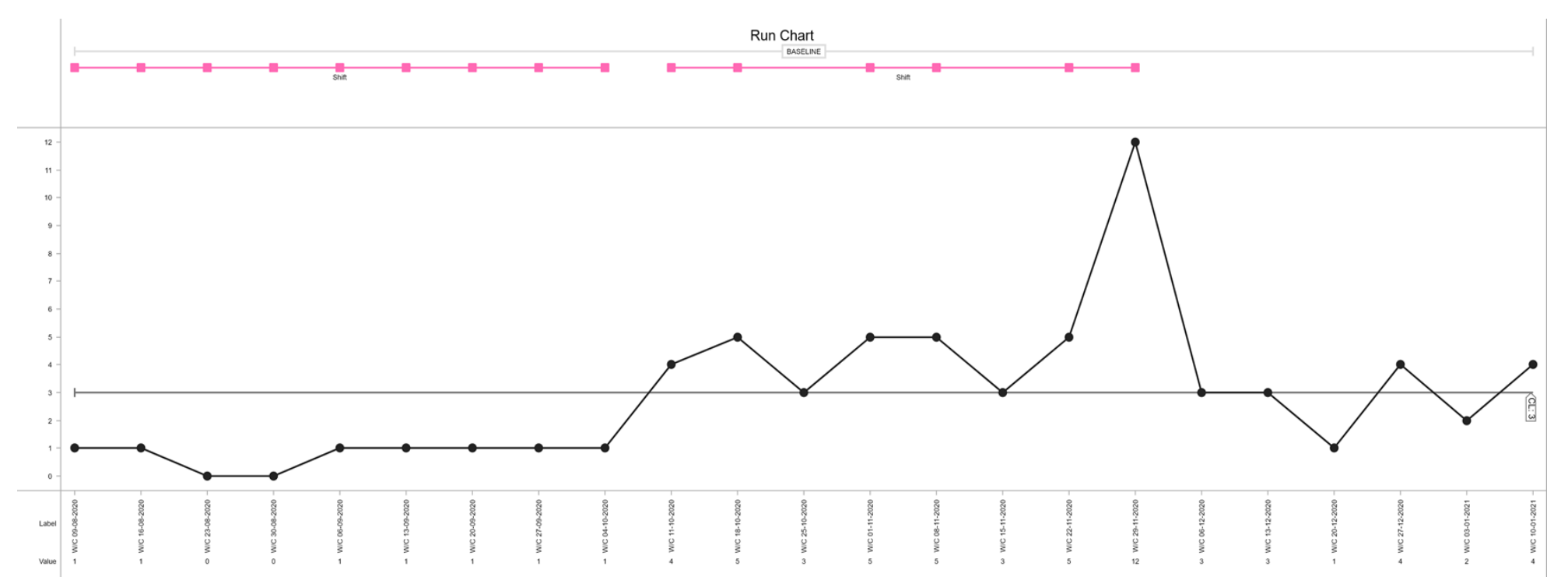
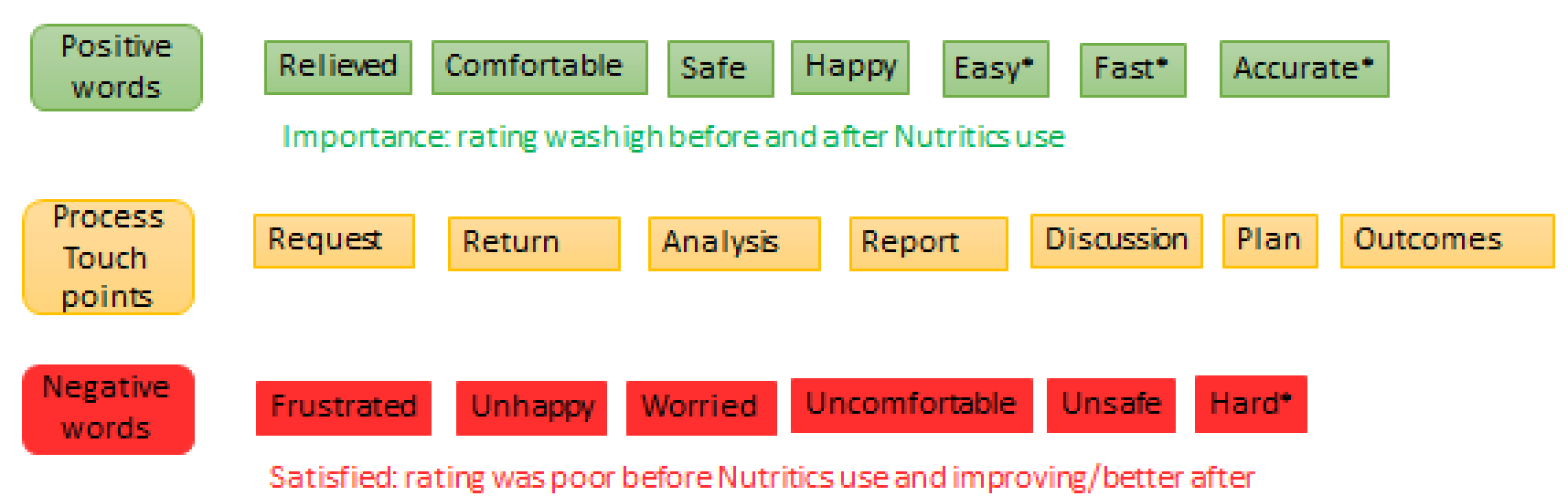


Figure 1. Run chart of patient use over time. Peaks correspond to PDSA cycle changes to promotion and use in clinical care.

5. Results

- A digital dietary assessment programme was chosen after an extensive scoping exercise.
- 20 patient and staff experiences were explored in detail by an independent researcher to gain unbiased information and ideas for improvement.
- A wider QI project team has been established within Dietetics and ongoing training and support are being established. A working group and team meetings are in place to support staff.
- Patient uptake has exceeded expectations to date and continues to do so.
- 12 clinical teams involving 14 dietitians, some of whom have previously not used detailed dietary analysis programmes are currently engaged in this project.

Emotional mapping of recording dietary intake and assessment



An emotional map representing the experience of recording dietary intake from a patients point of view and overall process of dietary assessment from a healthcare point of view. Pre and additional experiences post (*) the use of Nutritics.

6. The Multi - Disciplinary Team

- Specialist, Clinical Academic and Improvement Dietitians
- Doctors; general and specialist consultants & junior trainees
- Public health and Nutrition senior academics and heads of research units
- Paediatric and adult specialist clinical teams
- IT department & data analysis team both at University Hospital Southampton and the industrial partner on the project

7. Sustainability of scale up

Phase 4 will be undertaken during 2021 to scale up the project. Phase 4 will expand to cover a wider range of clinical specialities covered by Dietetics. Wider spread is under review by the NIHR Biomedical Research Unit. The Project leads are established QI Clinical leads and will be using QI methodology to continually review use and optimise implementation.

8. Lessons learned

- Project lessons:** The COVID-19 pandemic severely impacted clinical care. Appreciative inquiry and the SOAR are effective ways to focus positively and open up sensitive topics of discussion. Bite size project management, meetings and training are effective.
- Personal lessons:** Resilience and established working relationships, networks and innovative team can achieve the seemingly impossible in a crisis.