

## Supplementary Material for

### Implementation of a virtual ward as a response to the COVID-19 pandemic

*Katherine Schultz*<sup>1,5</sup> BA(Psych), MOccThySt, MEval, Community and Oral Health, Acting Director Innovation and Research

*Helen Vickery*<sup>2</sup> BMBS, BMedSci, Registrar Capacity Management, Emergency Management and Business Continuity

*Katrina Campbell*<sup>3,4</sup> BHlthSc(NutrDiet)(Hons), GCertHlthEcon, PhD, Director, Healthcare Excellence and Innovation

*Mary Wheeldon*<sup>1</sup> BHlthSC(NursSt), GCertPubSecMgt, MHIthMgt, GCertHlthSc(HlthInnov), Director of Operations COVID Clinical Response Services

*Leah Barrett-Beck*<sup>2</sup> BScMBBS(Hons), MHM, FRACMA, FCHSM, CHIA, Deputy Executive Director Medical Services

*Elizabeth Rushbrook*<sup>2</sup> CSC, MBBS, MHM, FRACMA, Chief Medical Officer, Incident Controller COVID-19

<sup>1</sup>Brighton Health Campus, 19th Avenue, Brighton, Qld, Australia. Email: [Mary.Wheeldon@health.qld.gov.au](mailto:Mary.Wheeldon@health.qld.gov.au)

<sup>2</sup>Medical Services, Metro North Hospital and Health Service, Royal Brisbane and Women's Hospital Campus, Bowen Bridget Road, Herston, Qld, Australia. Email: [Helen.Vickery2@health.qld.gov.au](mailto:Helen.Vickery2@health.qld.gov.au); [Leah.Barrett-Beck@health.qld.gov.au](mailto:Leah.Barrett-Beck@health.qld.gov.au); [Elizabeth.Rushbrook@health.qld.gov.au](mailto:Elizabeth.Rushbrook@health.qld.gov.au)

<sup>3</sup>Healthcare Excellence and Innovation, Metro North Hospital and Health Service, Lobby 1 Citilink, 3 Campbell Street, Herston, Qld, Australia. Email: [Katrina.Campbell@health.qld.gov.au](mailto:Katrina.Campbell@health.qld.gov.au)

<sup>4</sup>Menzies Health Institute Queensland, G40 Griffith Health Centre, Gold Coast Campus, Griffith University, Qld, Australia.

<sup>5</sup>Corresponding author. Email: [Katherine.Schultz@health.qld.gov.au](mailto:Katherine.Schultz@health.qld.gov.au)

Table S1. Patient survey questions and response options

Table S2. Staff survey questions and response options

Table S3. Staff semi-structured interview guide

Table S4. Patient experience survey themes

Table S5. Staff interview and staff survey themes

**Table S1. Patient survey questions and response options**

<b>Question</b>	<b>Response options</b>
1. I used the following device for my virtual appointment.	Mobile phone, home phone, not answered
2. I am the	Patient, Carer, Not Answered
3. My age is	Under 18, 18-24, 25-39, 40-54, 55-69, 70-84, 85+, Prefer not to say, Not answered
4. I describe my gender identity as	Male, Female, Other, Prefer not to say, Not Answered
5. I am of Aboriginal and Torres Strait Islander origin	Yes, No, Prefer not to stay, Not Answered
6. The language I speak mainly at home is	English, A Language other than English, Prefer not to say, Not Answered
7. I understood how and why I was being contacted and monitored by the Virtual Ward	Yes, No, Not Answered
8. My appointment occurred at the approximate scheduled time	Yes, No, Not applicable, Not Answered
9. During my appointment I communicated with	Administration officer, Doctor, Nurse, Pharmacist, Social Worker, Not Sure, Not Answered
10. I felt comfortable sharing sensitive and personal information even though I wasn't there 'in-person'.	Strongly agree, Agree, Neither disagree nor agree, Disagree, Not Applicable, Not Answered
11. My virtual experience was	Very Good, Good, Poor, Very Poor, Not Answered
12. How could we have made your virtual experience better	Free text response
13. What are the advantages of a virtual appointment over attending "in-person"	Free text response
14. What are the disadvantages of a virtual appointment over attending "in-person"	Free text response
15. Do you have any other feedback or comments	Free text response

**Table S2. Staff survey questions and response options**

<b>Question</b>	<b>Response options</b>
1. Which discipline do you belong to	Medicine, Nursing, Allied Health, Administration, I would prefer not to answer
2. How was your time as Virtual Ward team member	Positive, Neutral, Negative, Not Answered
3. Did you believe you provided a quality service	Yes, No, Undecided, Not Answered
4. Within the Virtual Ward, were the lines of escalation clear	Yes, No, Undecided, Not Answered
5. Did you feel supported during your time in the Virtual Ward	Yes, No, Undecided, Not Answered
6. Would you return to work at the Virtual Ward?	Yes, No, Undecided, Not Answered
7. Would you recommend others to work on the Virtual Ward?	Yes, No, Undecided, Not Answered
8. What do you think was done well?	Free text responses
9. What could have been done better?	Free text responses
10. Any other feedback or comments?	Free text responses

**Table S3. Staff semi-structured interview guide**

<b>RE-AIM DOMAIN</b>	<b>CFIR DOMAIN</b>	<b>QUESTION</b>
Implementation	Intervention Characteristics	Can you describe for me the change that was introduced? <i>Prompt: what were the key features?</i>
		Can you tell me why this change was introduced?
		Who do you think was intended to benefit from this change?
		What had to happen to make this change possible? <i>Prompt: cost, staffing, service duplication, patient cohort etc</i>
Implementation	Process	How was this change introduced?
		Did the change go as planned? <i>Prompt: If not, what was different? Why?</i>
		What barriers to change did you encounter?
		How were these barriers overcome?
Adoption	Inner Setting	How did internal stakeholder and staff respond to the change?
	Outer setting	How did the stakeholders external to your team/service line/organisation respond??
Maintenance	Intervention Characteristics	Can this service change continue to be delivered in this format consistently moving forward?
		Why/why not?
		What changes are required to maintain this model of care?

**Table S4. Patient experience survey themes**

Theme	Improvements	Advantages	Disadvantages	Free text feedback
1	Contact- modality	Home based care	Feeling of disconnect	Improvement - discharge process
2	Contact- frequency	Convenient	Nil face to face contact	Improvement - timing of contact
3	Contact- timing	Daily support available	Contact timing inconsistent	Improvement - communication
4	Discharge criteria	Reduced transmission	Information inconsistent	Improvement – information provided
5	Staff knowledge	Appropriate care	Lack of personal care	Positive – general care
6	Follow up post discharge		Lack of physical assessment	Positive - information
7	Information provided			Positive - support
8	Retesting procedures			Positive - communication
9	Staff consistency			
10	Staff identification			
11	Equipment			
12	Care not required			



**Staff surveys**

Theme	Done well	Improvements	Free text feedback
1	Culture	Consistency of information	Positive - teamwork
2	Management support	General orientation	Improvement- streamline follow up
3	Patient journey	Staff expertise	Positive - culture
4	Staff roles	Management support	Improvement - processes
5	Teamwork	Processes	
6	Communication	Resources	