Institute for Healthcare Improvement

Rapid scale up of Covid-19 medium risk pathway

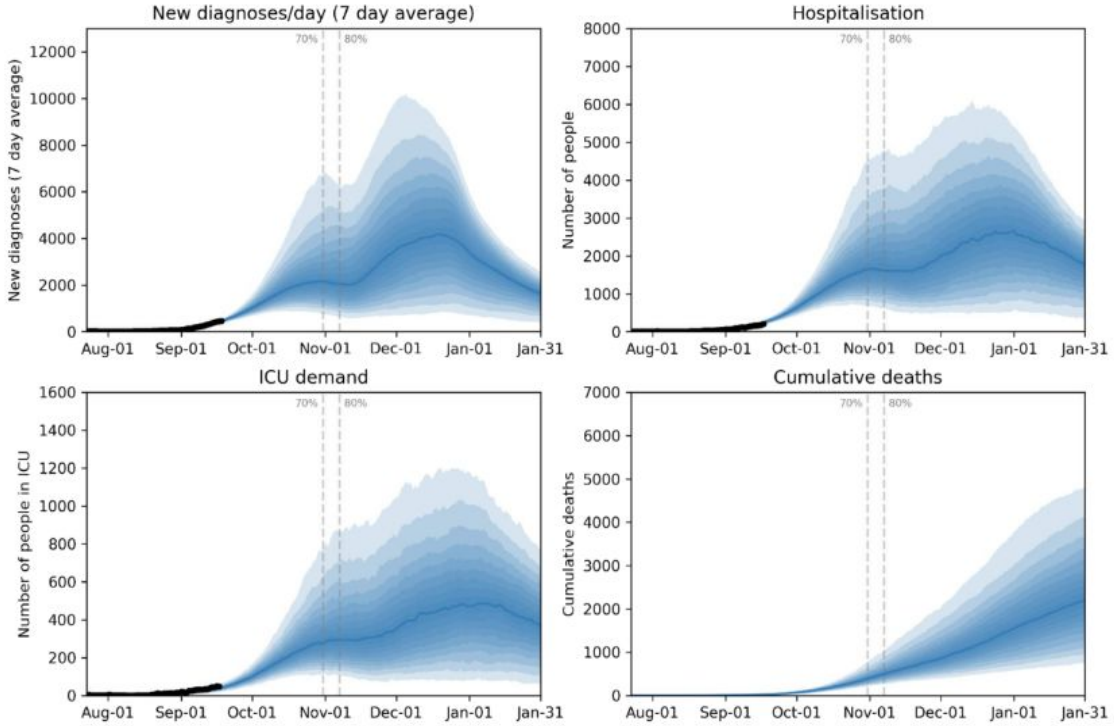
Photo by Önder Örtel on Unsplash

Improvement with our feet to the fire!

Safer Care Victoria

The problem

- Variation across health services in Victoria regarding management of patients at home
- 6 weeks until expected peak in Delta cases
- Projected lack of critical supplies e.g. pulse oximeters. Inconsistency in resourcing




MISSION:
IMPOSSIBLE

Things that were a little odd…

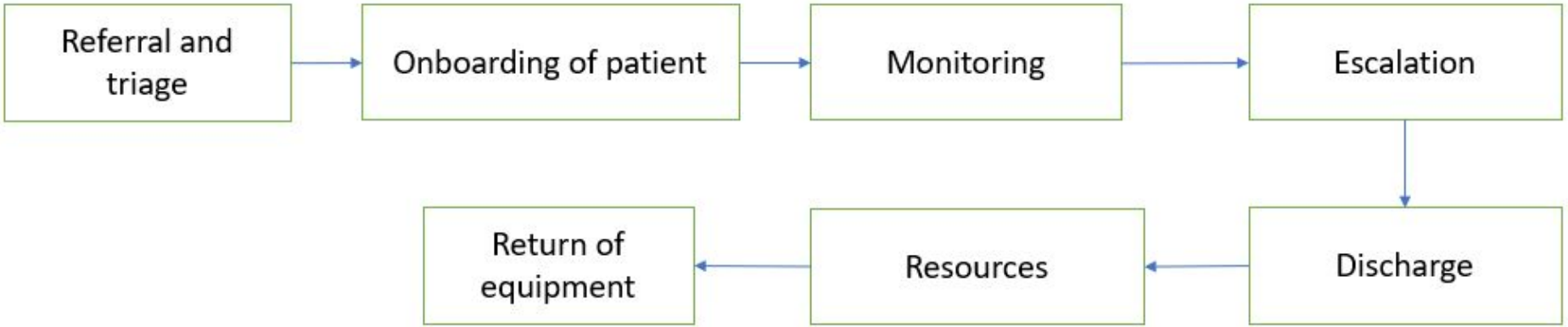
- There was no policy
- There was no team
- We didn’t know who to talk to

Photo by Jon Tyson on Unsplash

The Team

- Safer Care Victoria and Institute for Healthcare Improvement (Improvement expertise)
- Communication specialists
- Consumer co-design leads

The Scope


Referral and triage
Onboarding of patient
Monitoring
Escalation
Discharge
Resources
Return of equipment

Modelling of numbers

Week beginning	1/11/2021	8/11/2021	15/11/2021	22/11/2021	29/11/2021	6/12/2021	13/12/2021	20/12/2021	27/12/2021	3/01/2022	10/01/2022	17/01/2022
New cases per week best	3500	3000	3000	2500	2500	2500	2500	2500	2500	2500	2000	2000
New cases per week median	14000	14000	16000	16000	25000	27000	30000	30000	28000	15000	12000	10000
New cases wrost	42000	40000	45000	50000	55000	50000	45000	45000	35000	25000	16000	14000

Number oximeters needed													
	Low	700	600	600	500	500	500	500	500	500	500	400	400
	Returned					490	420	420	350	350	350	350	350
	Supply need	**700**	**600**	**600**	**500**	**10**	**80**	**80**	**150**	**150**	**150**	**50**	**50**
	Med	2800	2800	3200	3200	5000	5400	6000	6000	5600	3000	2400	2000
	Returned					1960	1960	2240	2240	3500	3780	4200	4200
	Supply need	**2800**	**2800**	**3200**	**3200**	**3040**	**3440**	**3760**	**3760**	**2100**	**0**	**0**	**0**
	High	8400	8000	9000	10000	11000	10000	9000	9000	7000	5000	3200	2800
	Returned					5880	5600	6300	7000	7700	7000	6300	6300
	Supply need	**8400**	**8000**	**9000**	**10000**	**5120**	**4400**	**2700**	**2000**	**0**	**0**	**0**	**0**

Variables	
% total cases medium	20.00%
% of Units returned	70.00%

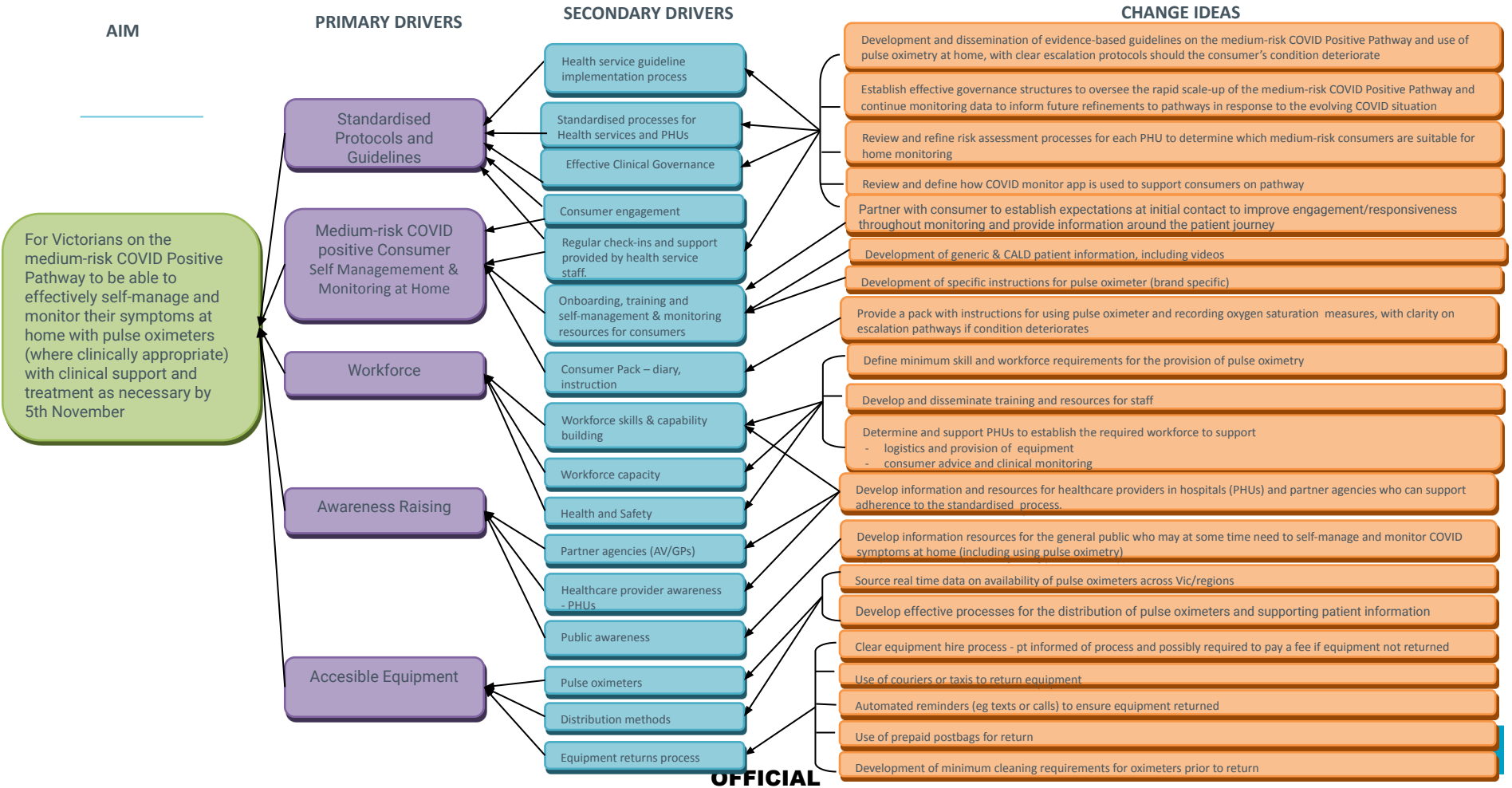
Demand by Month	November	December	January
Low	**2410**	**13060**	**250**
Medium	**15040**	**13060**	**0**
High	**40520**	**9100**	**0**

Assumptons: Case numbers as per Burnet Institute modelling https://burnet.edu.au/news/1517
Monitor supplied to all persons on medium pathway

Parallel versus serial workflow

Image: Marquis Multiplane 1908: Public Domain

Medium-risk COVID Positive Pathway Driver Diagram



Measurement strategy

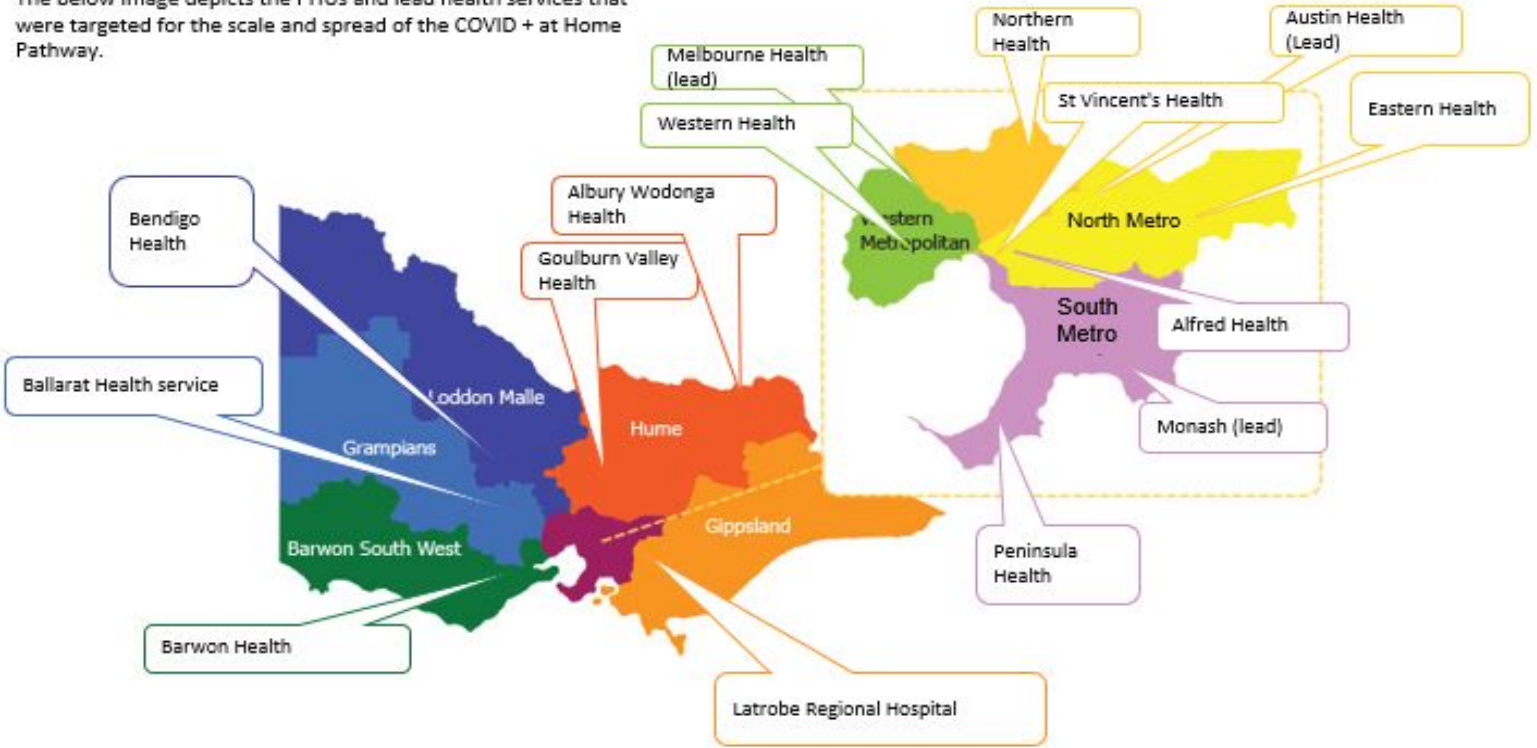
AIM: for Victorian Health Services to be able to safely and effectively manage COVID+ patients identified as medium-risk at home following initial triage

It is recommended that health systems working towards the above aim capture and monitor the recommended measure set listed below as part of ensuring the quality and safety of their COVID+ Medium Risk Pathway implementation.

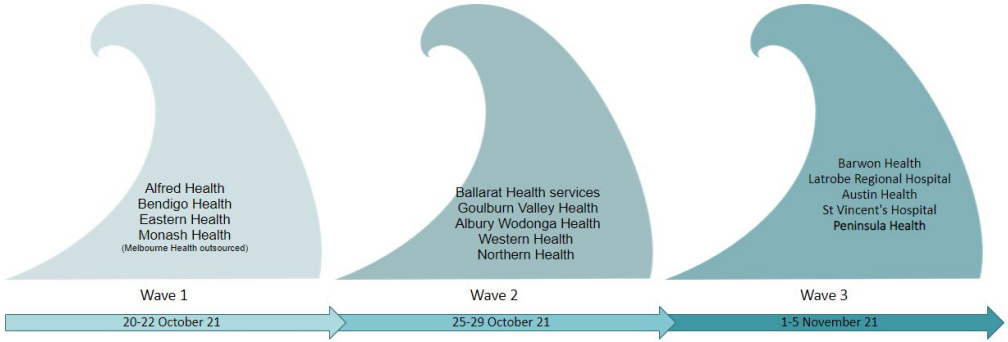
Outcome Measures	Purpose and Guidance	Reporting Frequency	Numerator	Denominator
Number of COVID+ pts that present to the Emergency Department	Purpose: aim of Medium Risk Pathway is to reduce ED presentations which are known to result in inappropriate hospital admissions. Guidance: Patients included are all patients presenting to ED during measurement period who are identified as COVID+.	Wkly	Number of COVID+ patients that present to the Emergency Department during measurement period.	N/A
Average Length of Stay for COVID+ pts admitted to hospital	Purpose: aim of the Medium Risk Pathway is to reduce length of stay for COVID+ patients hospitalised. Guidance: Patients included are all those admitted to hospital who are COVID+. Number of inpatient days for patients discharged includes total days in their admission period.	Wkly	Total number of inpatient days for COVID+ patients discharged during measurement period.	Total number of COVID+ patients discharged during measurement period.

Our Approach

The below image depicts the PHUs and lead health services that were targeted for the scale and spread of the COVID + at Home Pathway.



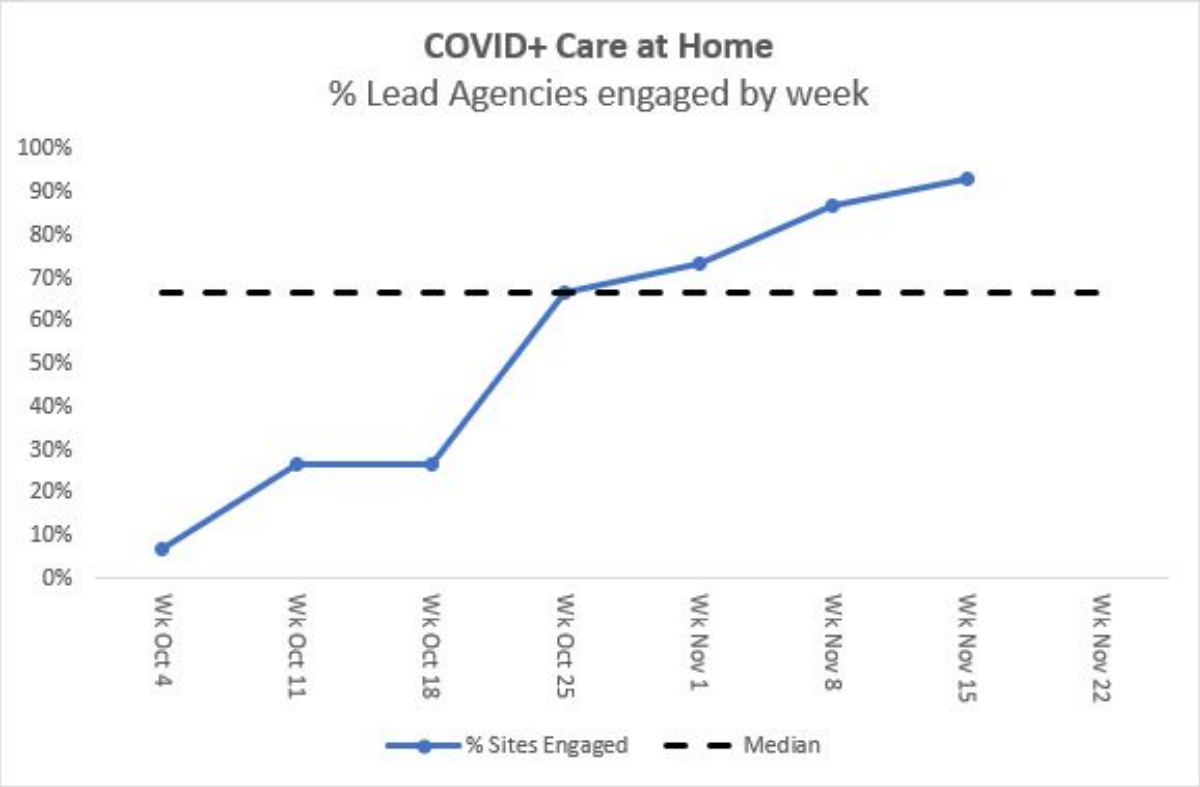
Scale Up and Spread



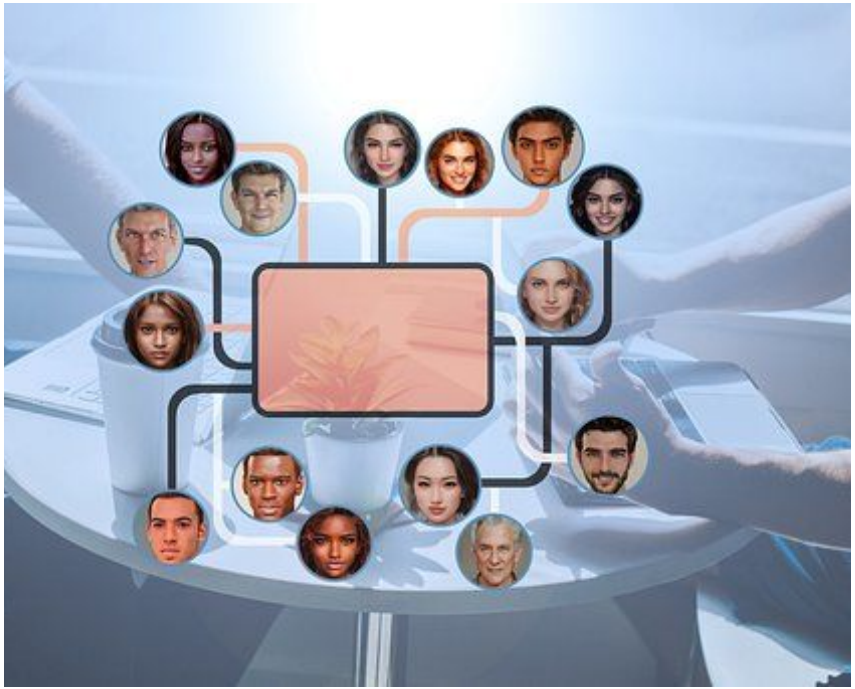
The Plan

The reality

Engagement and Implementation



Our Team Approach



First Steps

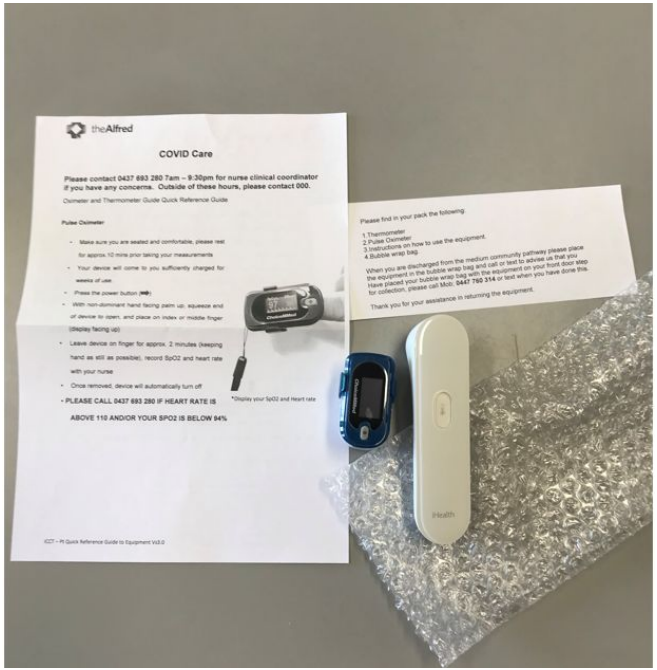
- Discussions with Victorian health service executives and clinicians
- Environmental scan of relevant publications and guidelines
- Worked with logistics for equipment procurement

Next Steps

- Developed the COVID + Care at Home Pathway
- Commenced testing PDSAs with sites including:
  - equipment distribution and collection,
  - staff roles,
  - frequency of review,
  - consumer resources

Equipment: The problem

- 2-3 redeployed staff required daily to meet demands
- 1 x equipment pack = $112 with poor stock return
- State-wide pulse oximeter stock shortage



Start Small: PDSA cycle 1

1x patient using cab service

Lessons:

Unsustainable cost, no receipt of delivery.

Scope out and sign-up courier company for next trial

Expand the trial: PDSA cycle 2

Trial courier service in small batches on different shifts + monitor cost and delivery time

Expand to cross campus- Alfred vs Caulfield

Transition to Alfred site

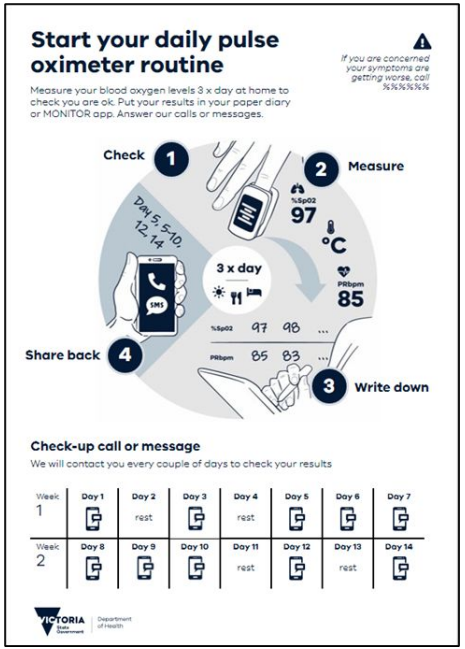
Lessons:

Communication and training for staff using service

Screening for couriers at Hospital entrances

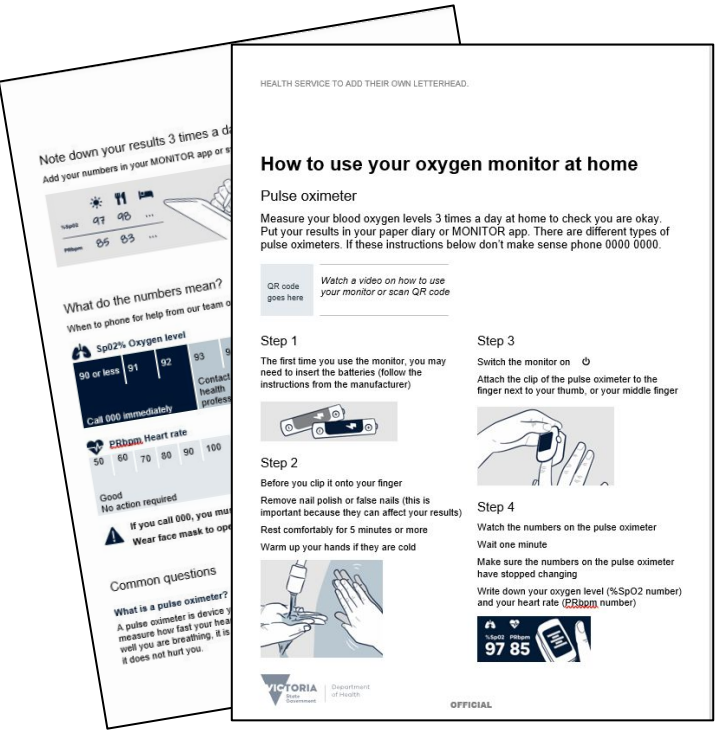
Consumer Resources

1. COVID+ Care at Home (with equipment)
2. Start your daily pulse oximeter routine
3. How to use your oxygen monitor at home
4. My symptom tracker: COVID Positive Care at Home
5. Returning your pulse oximeter



Designed to be modified by health services to tailor to local process and context prior to providing to consumers.

Consumer Resources



HEALTH SERVICE TO ADD THEIR OWN LETTERHEAD.

How to use your oxygen monitor at home

Pulse oximeter

Measure your blood oxygen levels 3 times a day at home to check you are okay. Put your results in your paper diary or MONITOR app. There are different types of pulse oximeters. If these instructions below don't make sense phone 0000 0000.

QR code goes here

Watch a video on how to use your monitor or scan QR code

Step 1

The first time you use the monitor, you may need to insert the batteries (follow the instructions from the manufacturer)

Step 2

Before you clip it onto your finger

Remove nail polish or false nails (this is important because they can affect your results)

Rest comfortably for 5 minutes or more

Warm up your hands if they are cold

Step 3

Switch the monitor on

Attach the clip of the pulse oximeter to the finger next to your thumb, or your middle finger

Step 4

Watch the numbers on the pulse oximeter

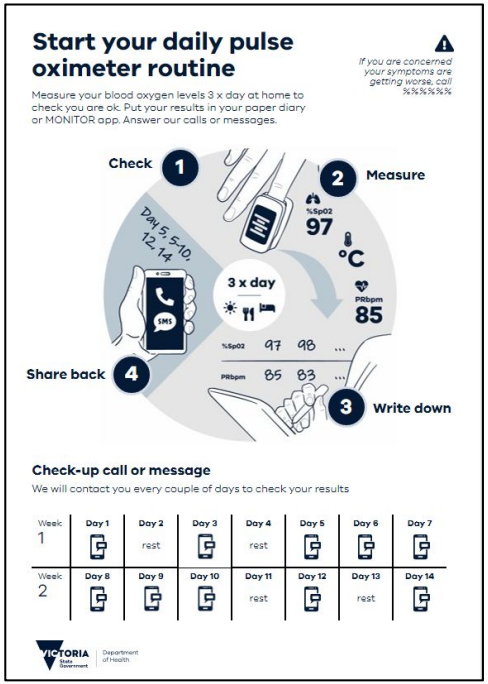
Wait one minute

Make sure the numbers on the pulse oximeter have stopped changing

Write down your oxygen level (%SpO2 number) and your heart rate (PRbpm number)

%SpO2 97 PRbpm 85

OFFICIAL



Start your daily pulse oximeter routine

If you are concerned your symptoms are getting worse, call %%%%%%

Measure your blood oxygen levels 3 x day at home to check you are ok. Put your results in your paper diary or MONITOR app. Answer our calls or messages.

1 Check

2 Measure

3 Write down

4 Share back

Day 5, 5-10, 12, 14

3 x day

%SpO2 97 °C PRbpm 85

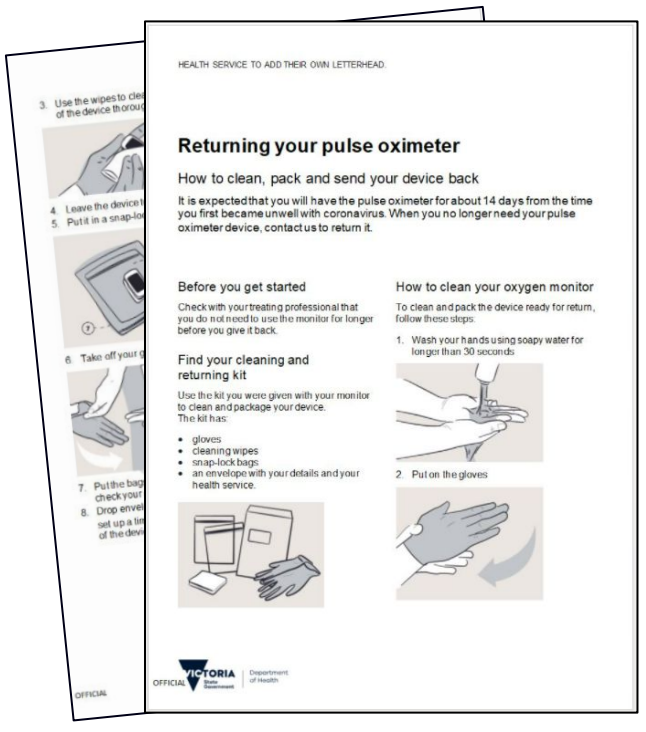
%SpO2 97 98 ...

PRbpm 85 83 ...

Check-up call or message

We will contact you every couple of days to check your results

Week 1	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
		rest		rest			
Week 2	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
				rest		rest	



HEALTH SERVICE TO ADD THEIR OWN LETTERHEAD.

Returning your pulse oximeter

How to clean, pack and send your device back

It is expected that you will have the pulse oximeter for about 14 days from the time you first became unwell with coronavirus. When you no longer need your pulse oximeter device, contact us to return it.

Before you get started

Check with your treating professional that you do not need to use the monitor for longer before you give it back.

Find your cleaning and returning kit

Use the kit you were given with your monitor to clean and package your device. The kit has:

- gloves
- cleaning wipes
- snap-lock bags
- an envelope with your details and your health service.

How to clean your oxygen monitor

To clean and pack the device ready for return, follow these steps:

1. Wash your hands using soapy water for longer than 30 seconds
2. Put on the gloves

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Safer Care Victoria

Consumer Education Video

CLICK HERE TO VIEW

Oximeter Instructional Video Full Version.mp4

Consumers

+

Clinicians

+

Safer Care Victoria

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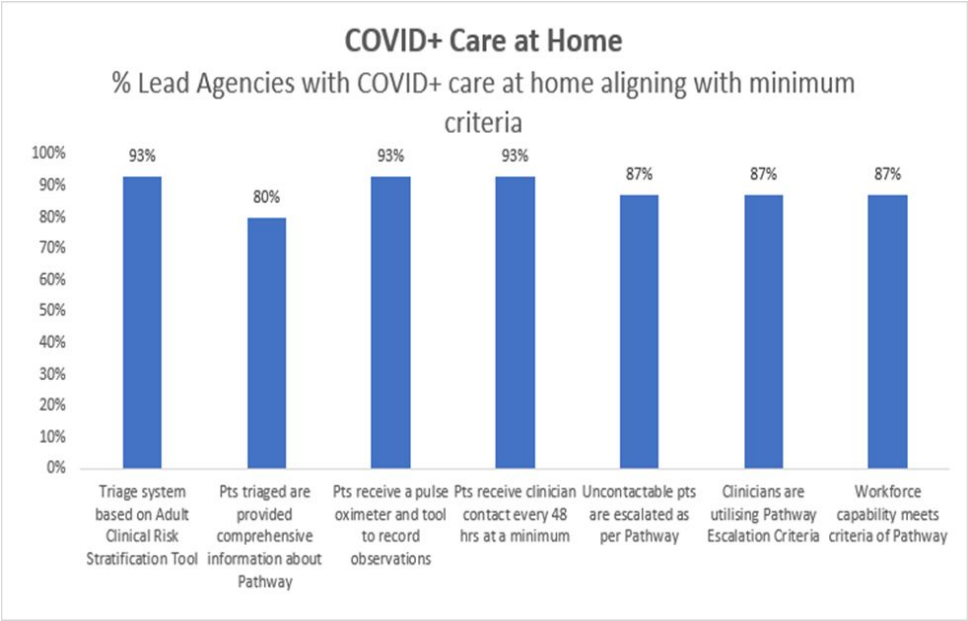
Department of Health

Final Steps

- Assessed pathway alignment with policies and procedures of each health service
- Tested oxygen at home pathway



Lessons Learned

- ✔ Clarification of roles and governance is key
- ✔ Clinical teams are happy to test things that are not perfect
- ✔ Start small and rapidly build
- ✔ Meet people where they are and be service oriented
- ✔ Build key contacts early