Victorian Virtual Emergency Dept

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VICTORIAN VIRTUAL
EMERGENCY DEPARTMENT
Northern Health

2020

- Aiming for COVID eradication, Melbourne locks down for 111 days
- EDs empty then swamped
- Dr. Loren Sher starts **Northern Health Virtual Triage Service** in October 2020
- Runs 1330-2330 with one emergency doctor/nurse/clerk
- 15 patients/day

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- COVID gets out & containment/ vaccination become focus
- Northern Virtual Triage partners with COVID Clinical Pathways & Ambulance Victoria
- Expand from Northern Health catchment to Melbourne metro-wide
- 24/7 service
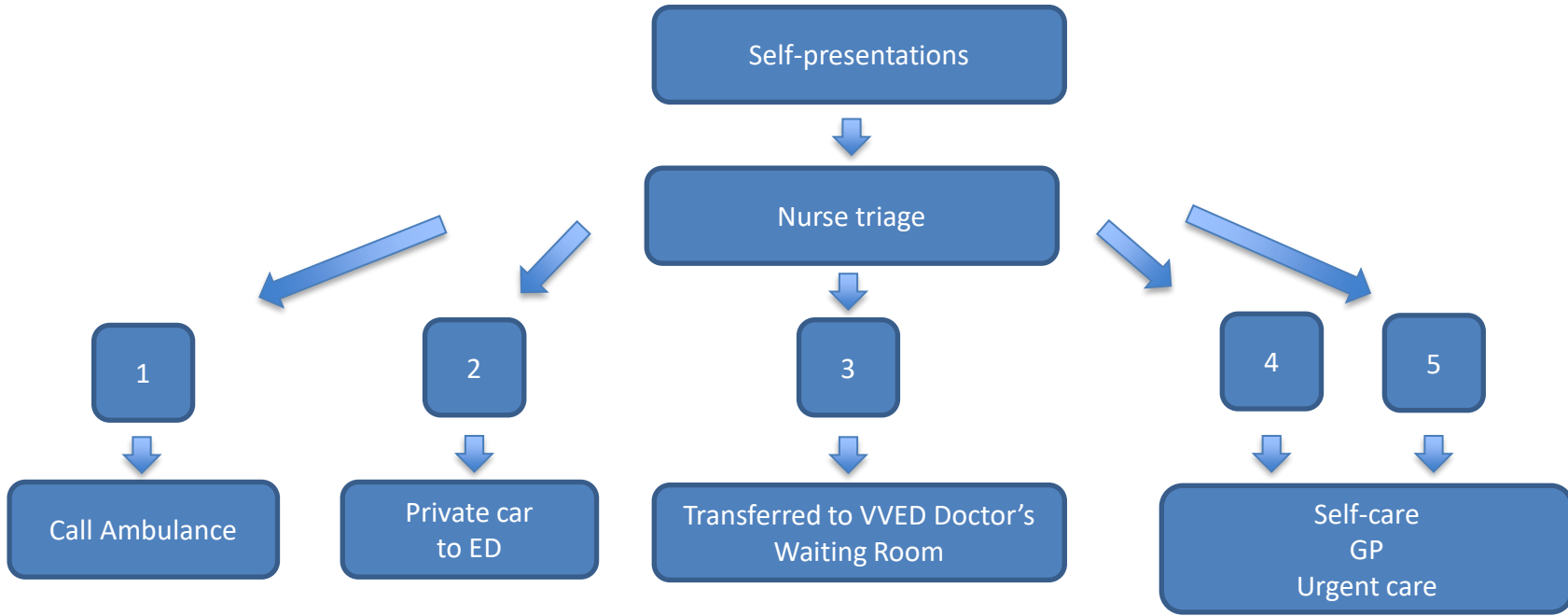- Increased to 70 patients/day

2021

2022

- Feb 2022:
    - Victorian Department of Health funds transition to **Victorian Virtual ED (VVED)**
    - State-wide service for community self-referral
    - State-wide service for Ambulance Victoria referral
    - Expands beyond COVID
- May 2022: Urgent care center partnerships
- August 2022: Residential Aged Care Facility (RACF) partnerships
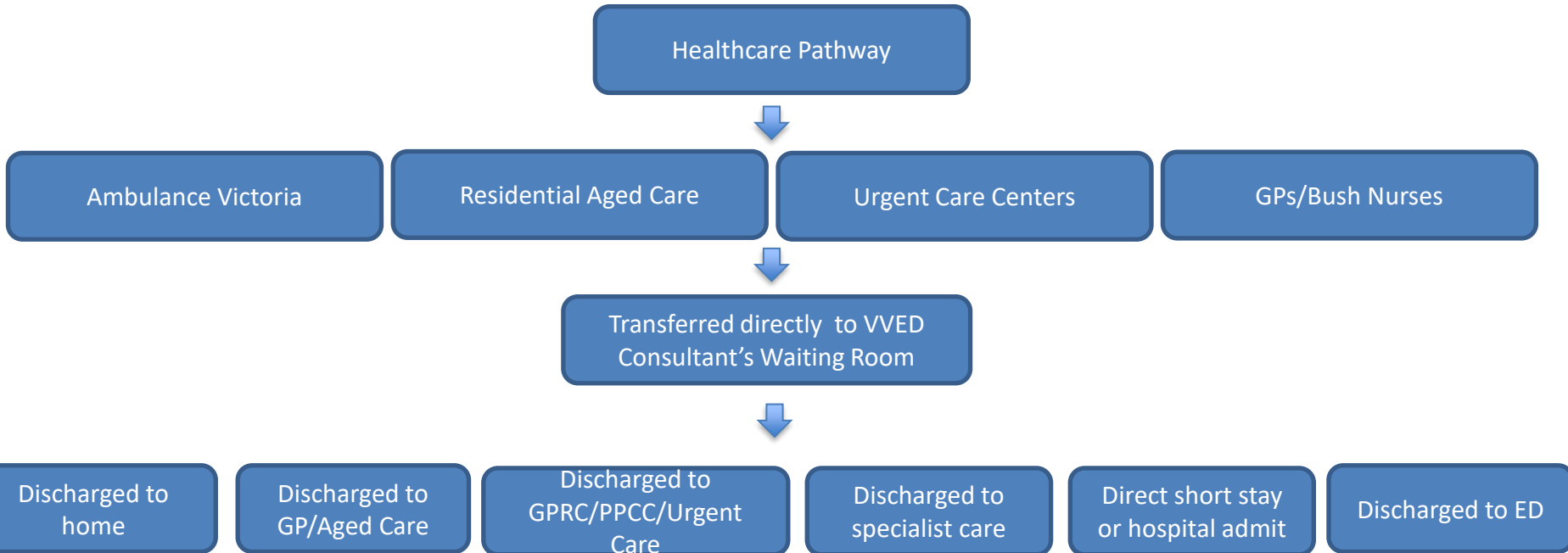- 45,000 patients seen, up to 650/day

Current State: Staffing

- 24/7 state-wide service

- Emergency physician led with multi-disciplinary team
  - Paediatric emergency physicians/paediatricians
  - General practitioners
  - Nurse practioners with paediatric and palliative care expertise
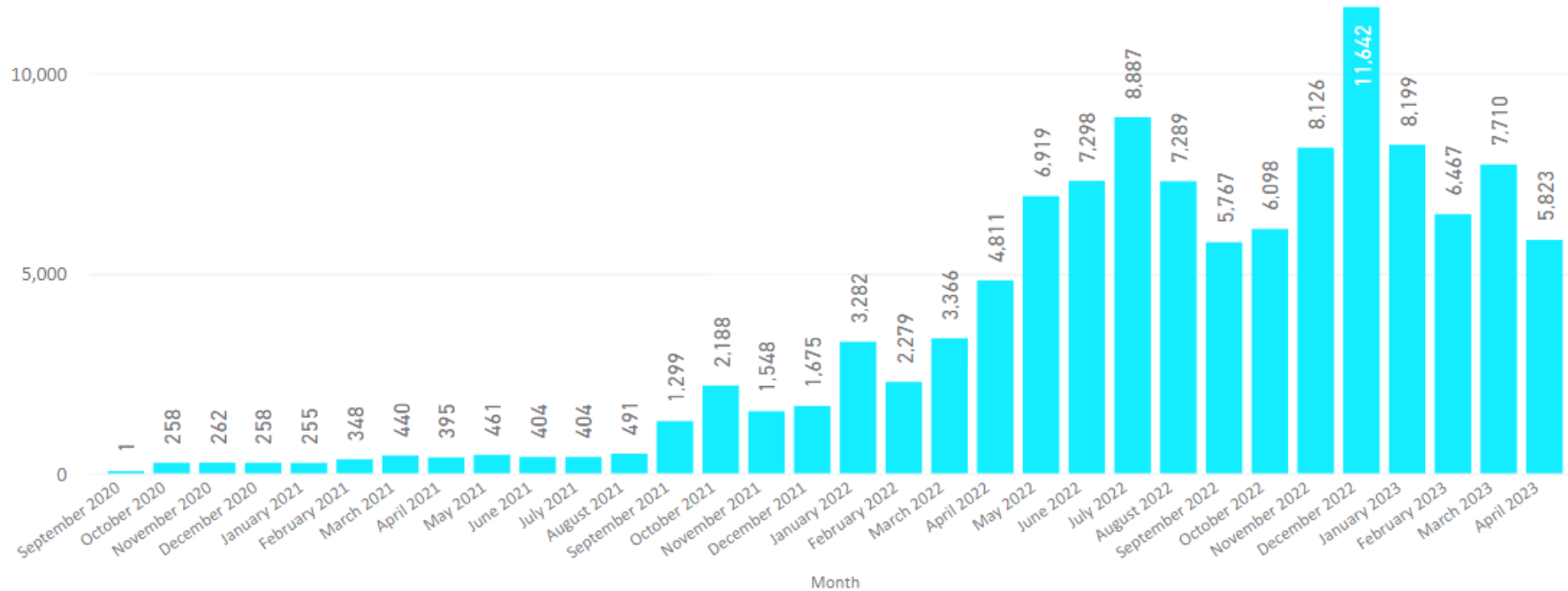
Current State: Care Model

Current State: Care Model

Healthcare Pathway

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| Ambulance Victoria | Residential Aged Care | Urgent Care Centers | GPs/Bush Nurses |

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Transferred directly to VVED Consultant's Waiting Room

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| Discharged to home | Discharged to GP/Aged Care | Discharged to GPRC/PPCC/Urgent Care | Discharged to specialist care | Direct short stay or hospital admit | Discharged to ED |

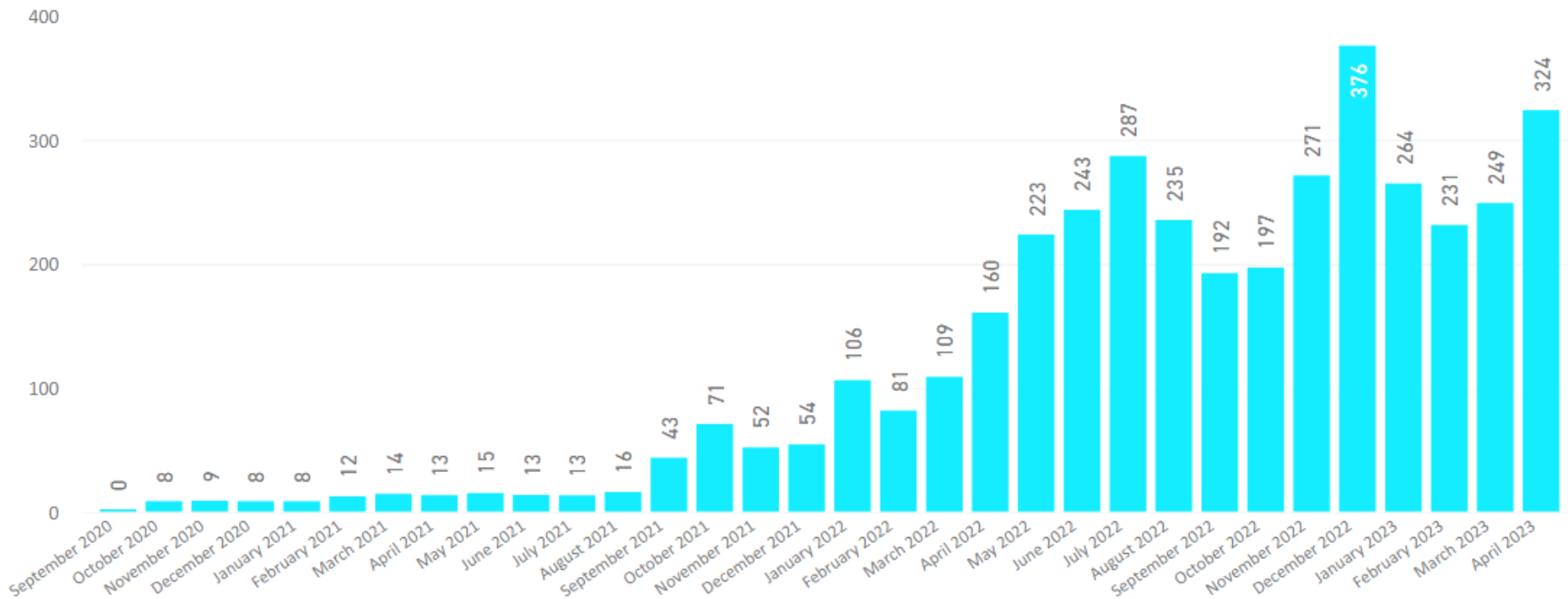VVED VICTORIAN VIRTUAL EMERGENCY DEPARTMENT Northern Health

Current State: Volume

- 114,000 patients since inception (October 2020)
- Averaging >300 patients per day, flexing up to 650/day over holidays
- 70% of cases non-COVID
- 70% adult/30% paediatrics
- 60% self-presentations/40% healthcare pathway
- Now the state's busiest emergency department

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Total Monthly VVED Presentations

Average Monthly VVED Presentations

Current State: Diversion Rates

- Overall emergency department diversion rate = 70%
- Reduced ED transfers by:
  - Aged care 50%
  - Adults 70-80%
  - Paediatrics 80-90%
- Cost $300 AUD/patient ($666 AUD for average in-person ED presentation)

Current State: Quality & Safety

VVED Quality and Safety Performance Measures
March-23

Complication	Status	Mar-23 Rate	UOM	Target	Baseline	Previous Month Rate	Movem't Previous Month	Trend (Jul-21 to Mar-23)
Average presentations per day		249	avg per day			231	▲	
Self Presentations		153	avg per day			136	▲	
Health Professionals		96	avg per day			95	▲	
Average time to first seen by nurse/doctor	Desirable (≥8 consecutive rates above/below baseline)	5.2	minutes	30.0	14.3	6.1	▼	
Self Presentations	Desirable (≥8 consecutive rates above/below baseline)	5.2	minutes	30.0	13.6	6.7	▼	
Health Professionals	Desirable (≥8 consecutive rates above/below baseline)	5.2	minutes	15.0	15.6	5.2	▲	
Average length of stay	Desirable (≥8 consecutive rates above/below baseline)	40.9	minutes	240.0	56.9	41.8	▼	
Self Presentations	Desirable (≥8 consecutive rates above/below baseline)	44.2	minutes	240.0	60.4	45.0	▼	
Health Professionals	Desirable (≥8 consecutive rates above/below baseline)	35.5	minutes	240.0	51.2	37.0	▼	
% Left without being seen - Unable to contact	Desirable (≥8 consecutive rates above/below baseline)	1.6%	of all presentations	5.0%	0.7%	1.4%	▲	
% Left without being seen - Unable to conduct consult (lack of video connection)		0.5%	of all presentations			0.6%	▼	
Incidents - ISR 1 or 2	Desirable (≥8 consecutive rates above/below baseline)	0	incidents	0.00	0.0%	0	–	
Complaints		1	complaint	0.00	Not Yet Established	1	–	
Digital Outages Causing Service-Wide Disruption		0	outages	0.00	Not Yet Established	1	▼	
Mortality - Rate of unexpected deaths per 1,000 presentations (Feb-23)	Normal (Within control limits)	0.00	per 1,000 presentations	0.00	1.12	0.24	▼	
All deaths of patients not discharged to any hospital setting (Feb-23)		0	deaths			15	▼	
All deaths of palliated patients not discharged to any hospital setting (Feb-23)		0	deaths			1	▼	
All deaths of expected end of life patients not discharged to any hospital setting (Feb-23)		0	deaths			0	–	

Case 1: Ambulance Victoria (AV)

- Modified clinical practice guidelines for croup:
  - AV administers low-dose dexamethasone in mild/moderate cases
  - Mild → self care; moderate → VVED
- Compared 582 patients 7 weeks following implementation with 408 patients in 12 months prior
- Decreased ED transport from 93% → 26%
- One near miss with no adverse outcome

Case 2: Residential Aged Care

- 85yo man in high-level aged care
- Dementia, hypertension, frequent urinary infections
- Advanced care directive states not for resuscitation but no other detail
- Patient is more lethargic than usual and AV called
- AV at aged care facility calls VVED at 2300
- Fever, mild tachycardia, rest of vital signs within normal limits

Case 2: Residential Aged Care

- In no distress, no focal signs of infection on exam
- VVED physician
  - Discusses options with family who agree in-home care is preferential
  - Instructs AV to give
    - Paracetamol and 1g IV ceftriaxone
    - IV fluid, which improves heart rate
  - Orders urine test through aged care nurse
- Refers to residential in-reach team

Case 2: Residential Aged Care

- Residential in-reach sees patient the next day
  - Significantly improved
  - Urine test returned positive for infection
  - Continued antibiotics orally
  - Handed over care to GP
  - No ED transport required

Case 3: Self-Presentation

- 90yo man discharged 3 days ago from hospital
- Son calls VVED in desperation as father is declining quickly, requests palliative care
- VVED liaises with local hospital's palliative care service, who joins the video call to meet the son and patient
- Palliative care team sees patient same day

Case 3: Self-Presentation

- Palliative care plan put in place
- VVED serves as back up if care required overnight
- Patient passes away peacefully 48 hours later

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Conclusion