

THE ECOSYSTEM OF EVIDENCE

Navigating the future
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Artificial intelligence and digital transformation
in research and healthcare

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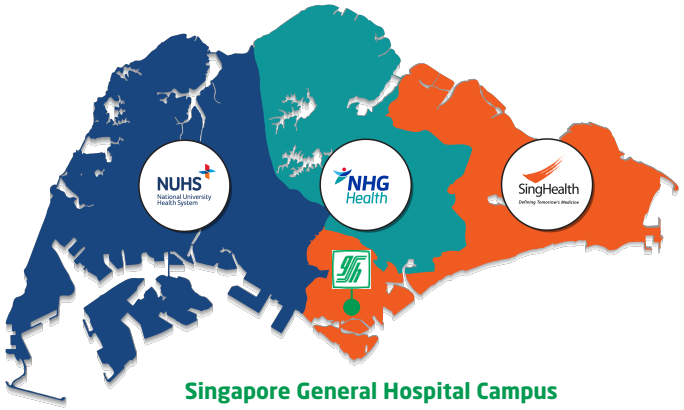
30th GIMBE 1996-2026 EVIDENCE FOR HEALTH

Preventing Hospital Admissions with Urgent Community Response Teams (UCRT)

Cherlyen Teo
Singapore General Hospital
Singapore

Background and Aim

Under Singapore's National Initiative HealthierSG, Regional Health Systems serve as population health managers, accountable for residents' outcomes.



Singapore General Hospital Campus

Population Health Programmes across the care continuum

*'**Upstream**' to Primary Care, Prevention & Early Detection*

*'**Downstream**' to Community / Home*

CARE GAP

1 Urgent Need in Community



- **New** subacute issues which arise spontaneously
- Urgent bridging support while awaiting long-term care services onboard

2 Gap in Rapid Response

Existing transitional programmes available may not be configured for urgent assessment and response within 5 days



3 Hospital by default

Patients return to the Emergency Department although community care may be possib



AIM **Implement and evaluate the effectiveness of a nurse-led Urgent Community Response Team to reduce emergency visits and readmissions through urgent community response**

Methods

UCRT Care Model

Urgent Responses:

1. Supported Discharge
Bridge urgent/existing issues until post-discharge/ long-term services are onboarded

2. Community Response for spontaneous issues
Assess, triage and manage new issues arising in the community

Key Features:

- Same day Rapid Response
- 1st point of contact
- Triage and Right-Siting
- Care integrated with partners with seamless pathways
- Multi-Disciplinary Team-based care
- Time-limited sub-acute care

UCRT Operating Model

Referral / Inflows → **Assessment & Triage** → **Tiered Response by Multi-Disciplinary Team**

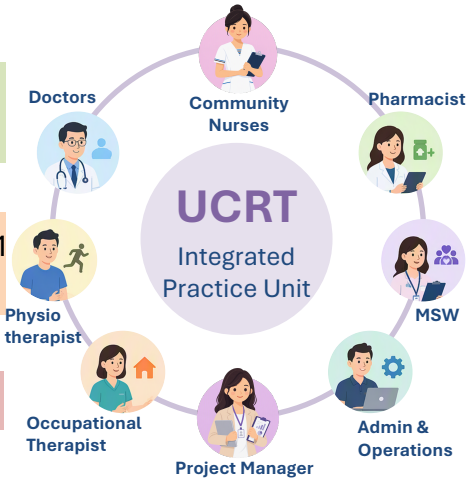
- Resident/Caregiver calls UCRT hotline
- Community Care Programmes
- Inpatient Wards
- Emergency Department (ED)

→ **UCRT Nurse triages based on patient conditions**

Tier 1
Provide phone/ video consultation

Tier 2
Home visit within 1 working day

Tier 3
Advise to visit ED



Digital Enablement:

Understand
Patient Profiling assisted by AI

Identify
Referral Decision Support Tool

Monitor
Remote Monitoring

Improve
Routine data collection & analytics

Common Case Presenting Complaints

- Hypertension and hypotension
- Hyperglycemia TRO crisis and risk of hypoglycemia
- Diarrhea, vomiting, constipation
- Fluid overload/ Lower limb swelling due to CKD/ CHF
- Breathlessness due to COPD/ asthma/ CKD/ CHF/pneumonia
- Falls and risk of falls
- Fever/ Sepsis, Urinary tract infection, Cellulitis

Patient Segments intervened:

- Complex Multi-morbidity
- Functional Decline
- End-of-life and Palliative Care
- Acute issues management post-discharge

Governance in Practice:

- Clinician-led Decisions
- Multi-Disciplinary Inputs
- Standardized Escalation Protocols
- Structured Performance Review

Results

Service Delivery Outcomes: 5 May 2025 to 30 Apr 2026

Cases managed

916

Tier 1: 52 Tier 2: 842 Tier 3: 22

Cases managed without escalation

645

Among 755 discharged Tier 1 & 2 cases

30-day readmission rate

15.1%

Among eligible discharged cases

Evaluation using Historical Controls

Design
Pre-post evaluation with historical control

Cohort
272 UCRT cases discharged between May-Aug 2025

Comparison
Up to 90 days before and after UCRT enrolment

Analysis
Population-averaged Poisson GEE

Emergency department visits

↓53%

lower attendance rate

IRR 0.47, 95% CI 0.38-0.57, **p<0.01**

Pre-UCRT: 1.27 → Post-UCRT: 0.59

Inpatient admissions

↓ 55%

lower admission rate

IRR 0.45, 95% CI 0.36-0.57, **p<0.01**

Pre-UCRT: 1.14 → Post-UCRT: 0.51

Consistent Direction across follow-up windows

	30-day	60-day	90-day
ED attendances	↓ 72%	↓ 62%	↓ 53%
Inpatient admissions	↓ 74%	↓64%	↓55%

Limits and Conclusions

Limitations:

- Single-arm pre-test/post-test design
- Regression to the mean
- Further comparative evaluation against usual-care pathway is underway.
  Early findings are promising and will be reported separately.

Conclusions:

- UCRT demonstrated operational feasibility of a rapid-response model for urgent, sub-acute needs in the community, with reduction in hospital utilisation.
- Digital tools and AI enabled through patient profiling, identification, monitoring and continuous service refinement within a clinician-led model.

Digital tools and AI did not replace clinician judgement.

It enabled a care model that delivered the right care, in the right place, at the right time.