
POSTER ABSTRACT**Reinventing Acute Care Delivery Through a Hybrid Workforce Model: The National University Health System Virtual Care Centre Experience**

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Background: Rising acute care demand has strained Emergency Departments (ED), necessitating innovative workforce solutions beyond traditional hospital-centric models. In response, the National University Health System (NUHS) launched the Virtual Care Centre (VCC) at a regional hospital in July 2020. This pioneering initiative combines telehealth innovation with a hybrid workforce model, improving acute care access and continuity across hospital and community settings in Singapore's western region.

The cross-functional deployment of nurses from various departments in hybrid roles enhances clinical flexibility and responsiveness to evolving patient needs, while optimising resource utilisation and promoting diverse skill sets. Nurses from ED, inpatient wards and Community, perform hybrid roles at VCC while retaining their primary roles; such innovative staffing strategies have created a resilient, agile nursing team capable of both virtual and in-person care. Staggered nursing schedules with structured handovers ensure timely responses to late-day enquiries.

Approach: The VCC reimagines care delivery through a shared workforce model, blending diverse clinical expertise with innovative HR strategies and digital tools. A multidisciplinary team comprising Care Managers (CMs), nurses, pharmacists, and physicians collaborates to provide holistic, patient-centred care, enabling timely interventions and coordinated management. To reduce unnecessary ED visits, the VCC employs tele-triage and right-siting of care. Trained CMs use a four-tier triage protocol to screen calls, escalating medical cases to nurses for virtual assessment. Home visits are conducted for suitable patients using smart glasses for real-time physician collaboration.

Beyond acute care, VCC nurses collaborate with community partners for long-term care planning, including advising nursing homes and facilitating community service referrals. The nursing team brings diverse expertise across emergency, community, geriatric, orthopaedic, and renal

specialties, enhancing responsiveness and resilience. A structured three-month induction programme, including cross-specialty training and community exposure, prepares nurses for independent practice in virtual and in-person settings. The team spans a wide collective experience from Staff Nurses to Advanced Practice Nurses (APNs), fostering mentorship and robust clinical decision-making.

Results: The VCC has significantly improved care delivery through timely, multidisciplinary decision-making. All calls were answered within 20 seconds. Medical calls that are urgent and require attention were managed and resolved within 3 hours, demonstrating high responsiveness. The VCC achieved a 39.5% reduction in ED attendances by effectively diverting suitable cases to alternative care pathways, thereby enhancing care integration across settings.

Central to this model is a flexible manpower framework of 20 nurses with experience from diverse specialties supporting dual roles in tele-triage and home visits. This adaptability ensures service continuity, reduces unplanned overtime, and optimises resource utilisation while advancing person-centred care.

Implications: The VCC underscores the strategic value of multidisciplinary teams and integrated workforce models in delivering high-quality, person-centred care. By bridging acute and community services, the VCC fosters collaboration, reduces duplication, and promotes continuity of care.

Scalable manpower strategies, such as dynamic staffing, flexible scheduling, and structured induction enhance team engagement and professional development. Looking ahead, the next phase envisions nurses delivering virtual care remotely from home, redefining frontline work-life synergy and setting a precedent for sustainable, digitally integrated nursing practice in Singapore.