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CONFERENCE ABSTRACT

Development and Implementation of a Unified Care Model Performance Framework in the Yishun Zone Regional Population Health System

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Yeuk Fan Ng[1], Ken Wah Teo[2], Yun Hu[1], Rachel Hui Fen Lim[2], Mable May Po Yap[1], Naiying Liu[1]

1: Khoo Teck Puat Hospital, Yishun Health, Singapore
2: Ministry of Health Holdings, Singapore

Background / Objective: Governance and Leadership Subsystem (GLS) of health systems governs but also directs Service Delivery Subsystem (SDS) transformation. Performance management (PM) is a key GLS activity. Coherent PM frameworks improve SDS governance, health system performance and ultimately population health outcomes.

Yishun Health (YH) is an integrated care organization within National Healthcare Group (NHG) caring for 320,000 residents in northern Singapore as the Yishun Zone Regional Population Health System (YZ). YH designed and deployed the Unified Care Model (UCM) as future-state SDS model to integrate and transform its care/services with care partners. A redesigned PM framework going beyond disease-condition services, specialty-departments, and institutions-partners was required.

Method: Population segmentation was achieved using NHG River-of-Life segmentation model, dividing YZ residents into four Lifelong Care segments (LLC) and one Episodic Care segment (EC). Employing UCM, LLC and EC were further sub-segmented into a cascade of ever smaller populations of unique care needs to envision future SDS needs/demand-supply matching in the form of integrated microsystems of care/services delivery.

UCM Performance Framework (UCMPF) was conceptualized by adapting IHI's Quadruple Aim as annual outcomes for LLC microsystems and Dartmouth's Clinical Value Compass as 90-day outcomes for EC microsystems. Ability to govern integrated microsystems was then modelled using clinical logic models, enabling curation of input, process, and output indicators into domains of standardized care strategies i.e. "Horizontal Logic". "Vertical Logic" was then employed to aggregate relevant LLC or EC microsystem input, process, output or outcome indicators up the cascade of UCM population segments and higher order systems to envision future-state GLS, such as i) person and need/demand centric mesosystems e.g. LLC and EC or a community geographically, or ii) provider-centred mesosystems e.g. site-based disease condition-services or program, specialty-departments, institution-partners, culminating ultimately in whole health system or macrosystem performance indicators. UCMPF dual logic enabled stakeholders to visualize interdependencies in whole system PM indicators and more coherently co-create performance indicators at all levels of YZ.

Results: Exceeding 1,300 existing care/services indicators across disease condition-services or program, specialty-departments, institution-partners were discovered and systemically visualized using UCMPF in LLC and EC Indicator Menus, revealing how current care/services indicators impacted input, process, output and outcome of LLC and EC at different levels of the SDS. Numerous leadership conversations were conducted to envision future GLS activities using UCMPF, spawning many working level discussions, which continue to be ongoing between senior clinicians and administrators to prioritize indicators for PM. Technical definitions for prioritized indicators was also initiated to support informatics systems and enterprise data warehouse dashboard redesign.

Discussion/Conclusion: UCMPF employs a systemic design and visualization approach to mitigate complexity in whole system PM. LLC and EC Menus reduce cognitive difficulty for stakeholders to relate their existing care/services measurement efforts with micro and mesosystem levels of the UCM and jumpstarts conversations whether existing care/services contribute or not towards YZ outcomes i.e. macrosystem. UCMPF therefore supports our ongoing care/services integration activity, and the co-creation of future GLS for YZ SDS is hypothesized to ultimately accelerate health system transformation towards better population health outcomes in YZ.