

TOWARDS A VALUE-DRIVEN CARE MODEL IN A MIDDLE-INCOME COUNTRY: AN EXPERIENCE FROM GERIATRIC HIP FRACTURE CARE IN PHRAE, THAILAND

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Background

Hip fractures in the elderly are a significant burden in Thailand, a middle-income country in Southeast Asia. The ageing population has led to a dramatic increase in the number of hip fractures among geriatric patients, posing numerous challenges for the healthcare systems. Phrae Hospital is located in health region 1, the north of Thailand, has one of the largest percentages of elderly citizens (NESDC, 2022). The incidence of geriatric hip fracture in health region 1 is the highest among every region in Thailand, with 237 cases per 100,000 elderly in 2022 (NHSO, 2022).

Traditionally, there is no definite clinical practice guideline for geriatric hip fractures in Thailand (patients aged 60 years and over), resulting in variations of treatments and clinical outcomes. The 1-year mortality rate in patients managed conservatively was up to 35%, compared to 13% in patients undergoing operative management (Phrae Hospital database, 2022). Moreover, health data sharing platform did not facilitate utilisation within Phrae Hospital and other hospitals, and were limited primarily to reimbursement purposes, with a focus on volume-oriented data (S Aljunid, 2012). Despite abundant health data collection, the ecosystem which should enhance hospitals' ability to do research and continuous improvement in care delivery was still lacking.



Figure 1. Implemented care innovations in each care pathways

Methods

Recognising the need for change, Phrae Hospital, led by Dr.Lak Papinwitchakul, embarked on a transformative journey towards a value-driven organisation. Phrae Hospital has introduced several care innovations (Figure 2). Strategic process, outcome, and cost measurement were conducted at every care pathway, which consists of the prehospital process (e.g., time to surgery), surgical process and cost, patient-reported outcomes (PROMs) (Barthel Index for Activities of Daily Living, EQ-5D-5L), a registry for community rehabilitation in an intermediate care multidisciplinary team, and follow up for long term refracture and mortality rate. These data were utilised for a weekly "hip round" review led by the orthopaedic surgeons and by the quality improvement processes within the orthopaedic department of Phrae Hospital.

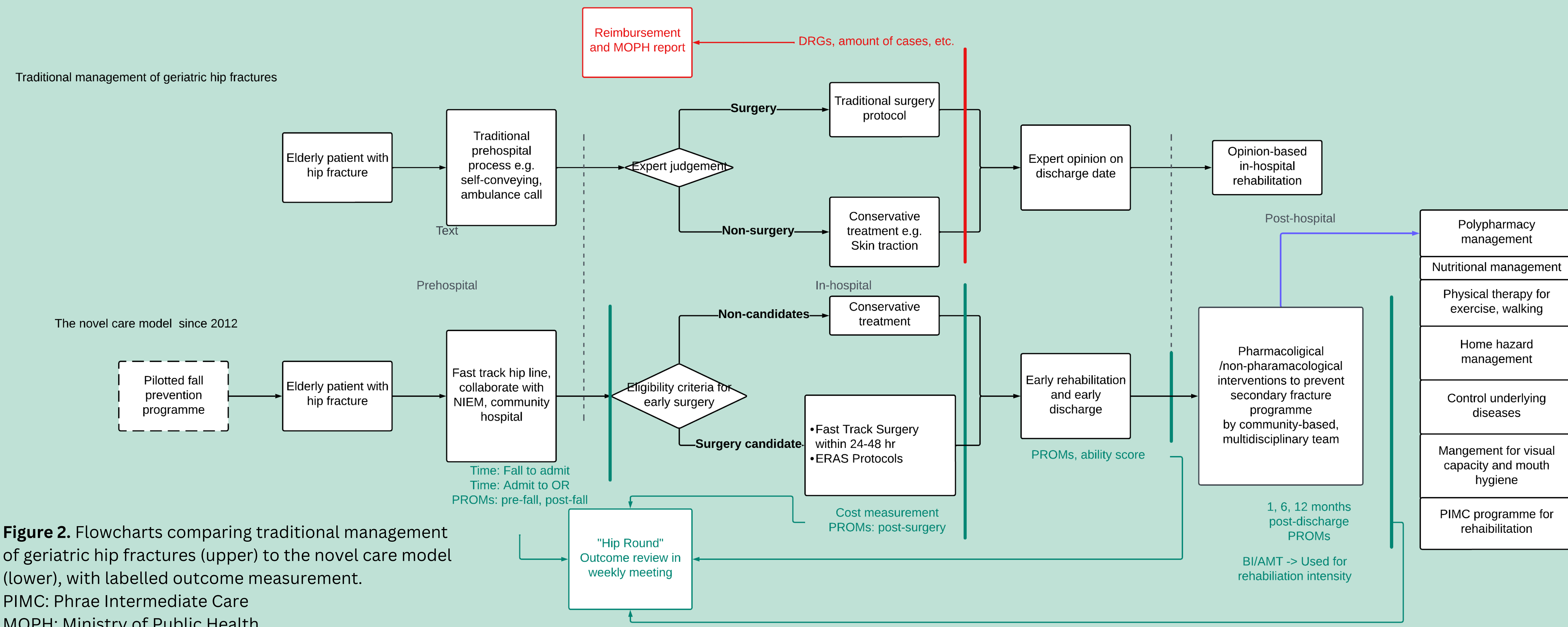


Figure 2. Flowcharts comparing traditional management of geriatric hip fractures (upper) to the novel care model (lower), with labelled outcome measurement. PIMC: Phrae Intermediate Care MOPH: Ministry of Public Health

Results

The geriatric hip fracture patient registry from 2012-2021, including 2856 patients, was analysed. 2079 patients underwent surgical management, and 777 patients were enrolled in a non-surgical pathway, respectively. Every patient was followed up, and 30-day, 180-day, and 1-year survival were recorded. In 97.6% of operations, costs in every pathway of in-hospital treatment were measured, and 60.4% of operated patients had completed the PROM questionnaire. The ratio of surgical cases to non-surgical has risen sharply in a 10-year period, and the mortality rate of all geriatric hip fracture cases has shown a declining trend with some variation (Figure 3).

1-year mortality rate of hip fracture in patients >60 years old

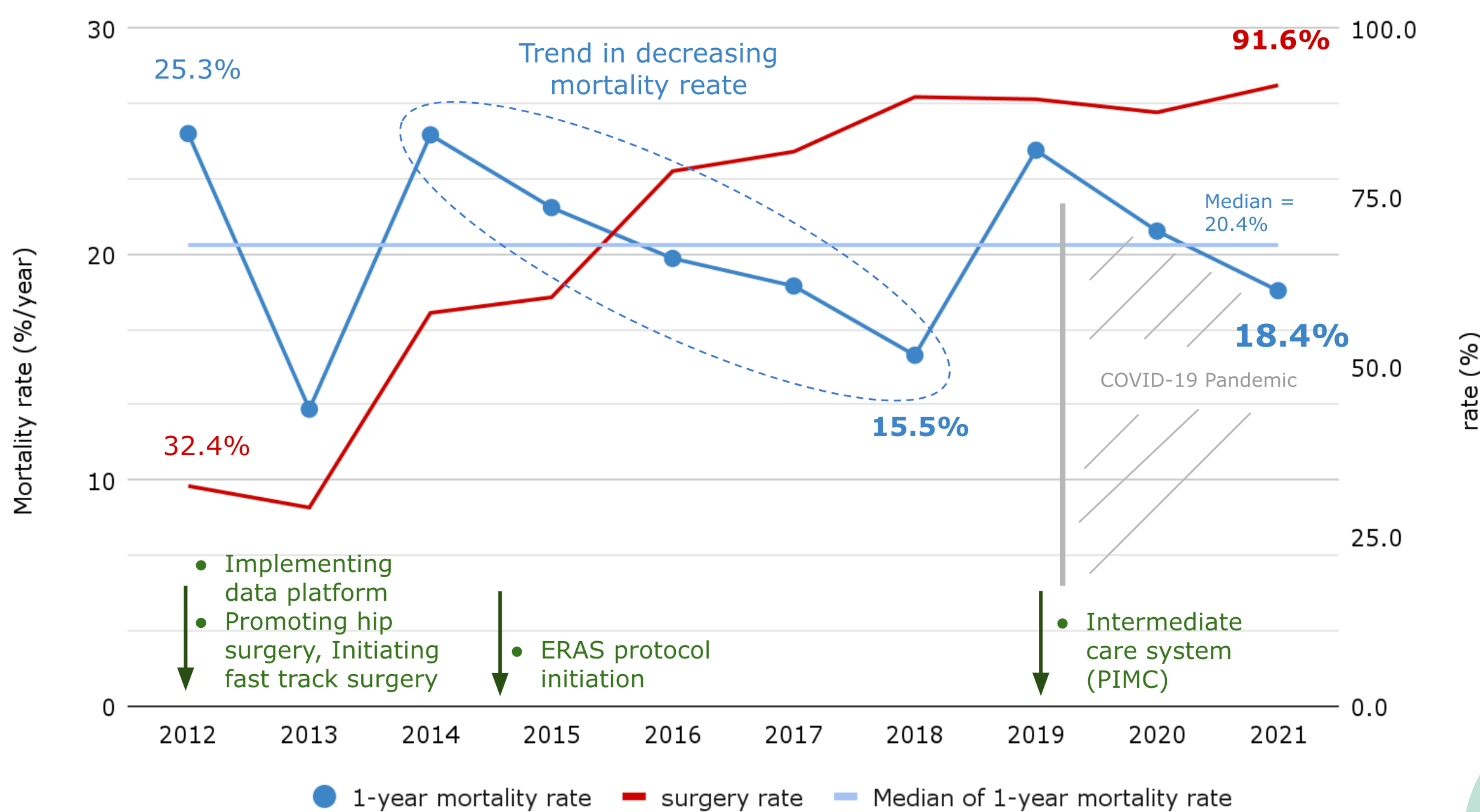


Figure 3. Run chart of one year mortality and rate of surgical management of hip fractures in the elderly (2012-2021) PROMs: Patient-Reported Outcome Measurements PIMC: Phrae Intermediate Care

Conclusion

To meet the challenge of hip fractures in the elderly, unwarranted variation and poor outcomes, an improvement programme, aligned to a strategic framework for value-based healthcare (Teisberg et. al, 2020) was introduced (Figure 4). There was a significant improvement in outcomes in the study period and a more standardised approach to fracture management in the elderly.

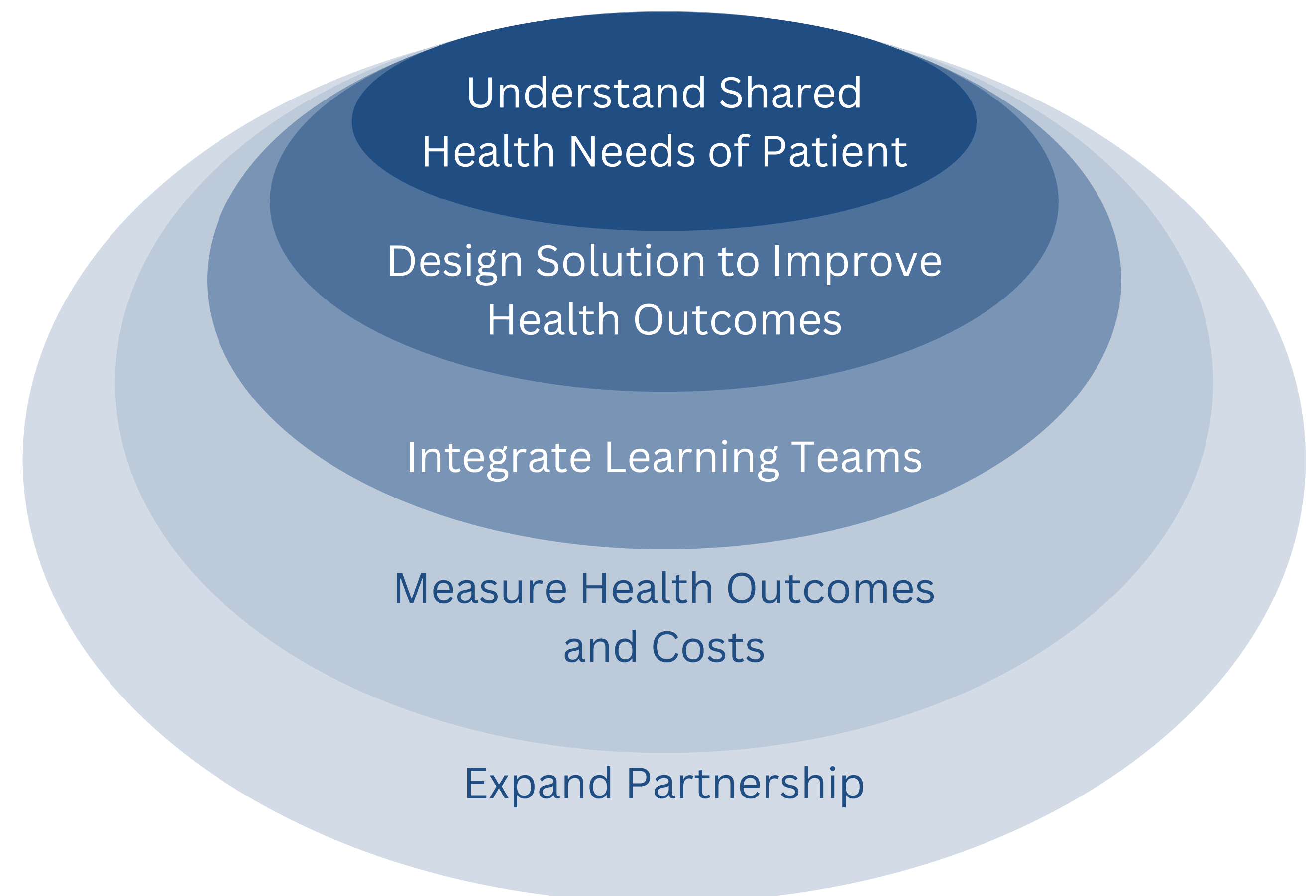


Figure 4. Strategic framework for value-based health care implementation (Teisberg et. al, 2020)

Take Home Messages

This case study has demonstrated that in a resource-limited, bureaucratic-led healthcare delivery system, such as in Thailand, adopting a value-driven culture can support improved outcomes and innovation to meet the challenge of demographic change.