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Comment/Perspective

Determinants of the incorporation of the Integrated Care for Older People (ICOPE) model into healthcare systems - insights from Hong Kong and Malaysia

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ABSTRACT

Care of older people has evolved from comprehensive geriatric assessment developed in the hospital setting in the UK and USA, to using frailty as a summary indicator, and shifting care to the community following the World Health Organization's definition of healthy ageing using intrinsic capacity (IC) as an indicator. While the concept of IC and implementation of its measurement through the Integrated Care for Older People (ICOPE) model is generally accepted, there is wide variation in uptake into policy. The rate of population ageing, the existence of well-established health and social care systems for older people, and sustainability of healthcare financing through government, social insurance, or out-of-pocket mechanisms, may account for variation in uptake. Initiatives in incorporating ICOPE in Hong Kong and Malaysia are described as illustrations. ICOPE implementation would likely be facilitated by incorporation/adaptation into existing healthcare infrastructure, assisted by trained non-professional care workers or volunteers.

1. Introduction of ICOPE

The World Health Organization promoted the concept of function as the key outcome for healthy ageing in 2015, shifting the emphasis away from presence or absence of chronic diseases [1]. Subsequently the concept of intrinsic capacity (IC) was proposed, representing comprehensive domains that include, locomotor, cognitive, psychological, vitality, and sensory capacities. In the current Decade of Healthy Ageing, intrinsic capacity has been proposed as a measurement tool for gauging efforts of different countries' performance towards the goal of healthy ageing, through the integrated care of older people model in the community (ICOPE) [2,3]. While the concepts on which these recommendations are based are widely supported, there is great variation in how countries implement care of older people based on these principles.

2. Historical development of geriatric medicine in developed economies: UK, Europe, USA, and beyond

Health and social care systems evolved first among societies that have a population that is ageing. Care of older people was established as a specialty in the United Kingdom after the work of Marjorie Warren, and subsequently the specialty is firmly based on the principle of comprehensive geriatric assessment, covering physical, functional, social, psychological, and nutritional domains [4,5]. Subsequent development in the UK as well as Canada uses an initial quick screen using the concept of frailty that may lead to more detailed CGA [6,7]. Using the multiple deficit approach utilising existing hospital records both in the hospital as well as in primary care, this assessment is widely embedded into management plans in both hospitals, general practice as well as community support teams [8]. Recently there is also a shift of care from hospital to community, from treating diseases and syndromes to prevention in the community. The USA uses the 4 M approach, representing attention to the four areas of mobility, mentation, medication, and what

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matters most (to patients) [9]. What services are provided depend heavily on reimbursement through the insurance system. However, screening for frailty has not been as well taken up by the healthcare system compared with the UK. As more research has been carried out on the adverse outcomes, cost, and preventive programs for frailty, geriatricians became advocates for the incorporation of frailty assessment into clinical care, both in hospitals and in primary care, with varying successes. Japan has a national policy that include assessment of frailty using a checklist that guide community care supported by long term care insurance [10], while Singapore Ministry of Health has a frailty strategy report that also incorporates management of frailty into healthcare policies [11].

In contrast, middle and low-income countries where the percentage of older people may not have reached the profile in developed countries, and where the specialty of geriatric medicine has a shorter history, may not have a well-developed care of older people policy, as they are likely to be grappling with the transition from communicable to non-communicable diseases. Prevention and treatment of non-communicable diseases are emphasized, supported by care in hospitals rather than a primary care system as an initial step. Expertise from geriatricians is not widely available, particularly in the primary care and long-term residential care sectors.

3. Frailty as a summary indicator

The development of the frailty concept as a summary indicator to proceed to more detailed comprehensive geriatric assessment in the past two decades or so, is particularly important in the development of care of older people in inclusion into health policy [8,11]. Individual specialties have incorporated frailty assessments into management plans, and as a guide to prognosis [12].

4. Current WHO healthy ageing initiative, and adoption into policy, creation of high quality health systems in the SDG era

The current WHO healthy ageing initiative puts a spotlight on to what are relevant outcomes for care of older people, using the concept of intrinsic capacity to capture various domains that geriatricians trained in comprehensive geriatric assessment will be familiar with, using it as a measurement of healthy ageing that represents determinants throughout the life course. Furthermore, the assessment is relevant not just for older people, and represents a state upstream from frailty. The ICOPE model provides an excellent framework where the domains of IC that contribute to healthy ageing may be assessed in the community as part of the primary care system, without the need for highly trained healthcare professionals. This represents a major improvement where the principles of geriatric assessment can be seamlessly incorporated into primary care settings. ICOPE has also been placed in the discourse on quality of care, that should accompany the goal of universal health coverage, in the context of sustainable development goals. Few would disagree with these concepts and aspirations. Yet incorporation of ICOPE in different countries are variable, not only in terms of policy uptake, but also in the implementation.

Policy uptake is slow and absent in countries where there is a long-standing and well-established geriatric training programmes, work force, and expertise in all healthcare sectors, such as the United Kingdom, and most of Europe. In France, the concept is being included in the well-established primary care system in the Toulouse regions, as part of ageing research programs [13]. The quickest adoption appears to be in countries that are transitioning to an ageing or super-ageing society, where there is existing health infrastructure created to improve maternal and child health, communicable as well as rising prevalence of non-communicable diseases, and where geriatric medicine is recently being developed. The ICOPE model can easily be added to this primary care system, at affordable cost. In other words, uptake appears faster in low and middle-income countries, where the main drivers are predicted rapid population ageing with accompanying increase in health and social care costs. Uptake of ICOPE represents an upstream effort in prevention of functional dependencies in addition to the prevention of NCDs. IC score represents a measurable indicator; non specialised workforce can be trained to monitor IC, and it can be easily incorporated into existing community health care systems with low or no costs, especially if volunteers are deployed, as reported by HelpAge Cambodia at the WHO Clinical Consortium on Healthy Ageing annual meeting (unpublished data) [14]. Such modification of health care systems faces fewer obstacle compared to countries with well-established systems of separate health and social care, and well-established specialists. The outcomes of maintaining IC, reducing dependency and increasing health span are desirable goals and can be monitored.

Other determinants of incorporation of ICOPE into policy includes the sustainability and healthcare financing model (government, insurance, out of pocket payment) that will not lead to health inequalities. In terms of evaluation of the effectiveness of such programs on IC in countries that have adopted such a model, the results need to be interpreted in the wider context of various social determinants in individual countries that may affect IC, other than health systems [15].

5. The case of Hong Kong SAR China, and Malaysia

As illustrations, efforts in promoting care of older people in two contrasting regions (Hong Kong, Special Administrative Region of China; and Malaysia) with respect to availability of services for older people and the uptake of ICOPE model will be described in greater detail. For Hong Kong, the GDP per capita of between USD 44,725 to 56,844 in 2024 would be that equivalent to a high-income country. As a former British Colony, health and social services have been developed following the British model, and principles of care of older people are well disseminated in both service provisions as well as structured work force training. The government provides low-cost care that is predominantly hospital based, while outpatient care is predominantly provided by the private sector. Care is free for those below a certain income threshold. The predominant orientation is single disease based, with well-developed specialties in all fields. Public health policies towards non-communicable diseases likely contribute in no small part towards the longest life expectancy in the world [16], where an increasing trend in the number of centenarians is still occurring [17]. However, this trend is accompanied by increasing prevalence of frailty and disability [18,19], that has met with little response in terms of service re-design or changes in health policies at the macro level in spite of accumulation of evidence regarding the public health implications of a growing number of frail older people. The WHO concept of IC allows the development of prevention and management of age-related declines in function to be developed together with existing health and social centres, many under the management of various non-government organizations (NGO). A collaboration funded by the Hong Kong Jockey Club Charities Trust linking the Chinese University of Hong Kong with over 150 elderly community centres run by non-governmental organizations across Hong Kong developed a community model of care based on the ICOPE principles (https://www.jc-ehealth.hk/), underpinned by evidence from our longitudinal cohort and intervention studies [20,21]. This model builds on existing infrastructure of centres situated all over Hong Kong that serve different local neighbourhoods. Although the targeted age group was 60 years and over, a recent initiative focused on mid-life women. The objectives of the project were to enhance knowledge and self-efficacy in intrinsic capacity preservation, midlife condition management and care giving [22]. Women participating in this programme that includes group multi-domain interventions have better outcomes as measured by the IC domains compared with a control group [23]. An important observation is that four key IC profiles among midlife women were identified, with only 23 % of the sample classified into the reference profile characterized by the lowest probabilities of impairment across all IC domains, 47 % into a profile primarily exhibiting cognitive

and sensory impairments, 20 % into one mainly showing functional decline, and 10 % into a multi-domain impairment profile. Compared to the reference profile, lower education level, unemployed status, and being a care giver were associated with the multi-domain impairment profile (unpublished analyses from the same cohort). The result shows that the use of a multi-domain assessment in the community setting may have an important role in prevention of IC decline and may be incorporated into existing primary care infrastructure. This community ICOPE-based model may be further developed by linking outpatient clinics and hospitals with such centres, following a social prescribing model. Since the model is built on existing infrastructure, and evaluated for feasibility and outcome data collected, sustainability concerns may not be insurmountable. Adaptation of existing policy should be possible. This may be a feasible strategy to counter the rising prevalence of frailty by adopting the ICOPE concept in community centres.

In contrast, the GDP per capita of Malaysia for the same period is approximately USD 12,000. There are similarities in the primary care system, provided by private doctors, government and university (run by family medicine trainees or specialists). According to Malaysia's Health White Paper 2023, the national blueprint for health system reform, public sector primary healthcare clinics comprise around 28 % of total primary healthcare facilities but handle almost 64 % of outpatient visits [24]. Government clinics are heavily subsidized and accessible to all for a minimal nominal fee or free for specific groups e.g. government servants, pensioners, senior citizens and physical or mentally disable individual. These government clinics offer outpatient curative, preventive, promotive and rehabilitative services [25]. Although the number of people aged 60 years and over only constitute 11.6 % of the population in 2024 [26], it is projected to rise to 15 % by 2030 [27]. Life expectancy at birth in 2020 ranges from 72 to 77 years according to region [26]. Geriatric medicine development is also influenced by the UK, and many geriatricians working in the hospital setting have undergone training in the UK. However, there is a shortage of family medicine specialist trained in care of older people. In 2024, a pilot study project was initiated to develop an integrated and coordinated primary care service model for older people, based on the World Health Organization (WHO) Integrated Care for Older People (ICOPE) framework, led by a family medicine specialist trained in geriatric care. The model incorporated a single point of entry for all referred cases to streamline access and enhance coordination of care.

A multidisciplinary team (MDT) was formed using the existing workforce within the government primary care clinic, comprising medical officers, a family medicine specialist, physiotherapist, occupational therapist, pharmacist, dental officer, nurse or assistant medical officer (acting as case manager), and a counsellor or social worker where available. Older people with intrinsic capacity domain deficits were identified through community-based screening programmes or among those receiving primary healthcare services at the clinic. They were subsequently registered by the case manager and underwent a comprehensive geriatric assessment (CGA). Based on the assessment findings, personalized multidisciplinary interventions were implemented within the primary care clinic by respective MDT members with referral to hospital-based specialists when indicated. These interventions comprised of medication reviews, rehabilitation programmes targeting Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL), exercise programs, nutritional advice, psychological interventions, oral health services, and community engagement activities. Case management and individualized care plans were coordinated and monitored by the case manager, ensuring continuity, integration, and person-centred care. The model includes a monthly multidisciplinary team discussion with hospital-based geriatrician linked to the primary care provider. The development of a geriatric specialty training curriculum in primary care services is also being planned for special interest groups, in the coming few years.

These developments in Hong Kong and in the Malaysian primary care system provide examples of the different ways in which the ICOPE concept is being taken up. Where geriatric services are well established, the adoption of the IC concept and ICOPE may face many obstacles before it can be part of the care system, even though the needs of older people are great. Where the population is expected to be ageing rapidly, in anticipation of needs, it may be easier to adopt the IC concept and implement ICOPE based on existing infrastructure. Nevertheless, wider social determinants as well as competition for funding with other sectors will always be important considerations for uptake of the ICOPE model into government health policy.

6. Research versus practice

While the concept of IC and promotion of the ICOPE model has been widely received, and piloted predominantly in countries without well-established workforce expertise in providing services for older adults, from the academic point of view there are still many issues relating to intrinsic capacity that have yet to be resolved. Although IC was an initiative to establish a public health framework for healthy ageing, research into IC is developing in a different direction, as an indicator of biological ageing rather than how it may be used in care of older people. Ongoing areas of investigation include standardized measurement tools, the role of technology in functional assessment, the role of patient related outcome measures, the rate of decline as well as IC biomarkers. Such information is needed for rigorous intervention trials towards maintaining IC or retarding its decline, whether the intervention is non-pharmacological or pharmacological, and for research funding support.

From the clinical practice point of view, the development of the ICOPE model represents an important advance in primary care for older people, particularly for countries facing rapid population ageing, in adopting a multi-domain assessment emphasizing function, in addition to presence or absence of diseases. For adoption into policy, flexibility in the choice of tools and scoring system will be desirable, in contrast to the research agenda. In general, health policies tend to be formulated in terms of deficits (such as frailty measures) rather than the maintenance of function, supported by evidence of adverse health outcomes and costs, and the availability of effective intervention measures. Such information will be important in advocating for governments to incorporate into policy. This type of health services research will be different from the study of IC as a biological phenomenon, and both should be carried out in parallel.

7. Conclusion

The concept of IC and implementation of its measurement through the ICOPE model is generally accepted, there is wide variation in uptake into policy, determined by the rate of population ageing, the existence of well-established health and social care systems for older people, and sustainability of healthcare financing. Implementation would likely be facilitated by incorporation/adaptation into existing healthcare infrastructure, assisted by trained non-professional care workers or volunteers.

Declaration of the use of generative AI and AI-assisted technologies in scientific writing and in figures, images and artwork

Generative AI and AI-assisted technologies were not used in this manuscript.

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This is an opinion article and is not a study on animal or human

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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