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â??Success means an AYA patient in Asia is diagnosed promptly, treated with precision therapiesâ?•

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While cancer is often perceived as a disease affecting older populations, it poses a unique and devastating set of challenges for those diagnosed between the ages of 15 and 39 (Adolescents and Young Adults (AYAs)). This is a time of major life milestonesâ??education, career-building, relationships, and starting familiesâ??all of which are profoundly disrupted by a cancer diagnosis. Assistant Professor Eileen Poon, Senior Consultant in the Division of Medical Oncology at the National Cancer Centre Singapore (NCCS), is leading a pioneering multidisciplinary programme in Singapore (the AYAO programme) dedicated to providing holistic, personalized care that addresses the specific medical, financial, and psychosocial needs of these young patients. A key insight from her work is that Western treatment guidelines are often not a perfect fit for Asia. Recognizing this gap, her team has initiated a health needs survey with several partners across Asia, including India, to develop tailored care guidelines for the region focussed on AYAs. In an interaction with BioSpectrum Asia she explained about AYAO programme at NCCS, the role of technology and awareness campaigns that can play in improving early detection among young people.

How is the AYAO programme at NCCS creating a blueprint for holistic, age-appropriate cancer care in Asia?

Our vision is to become Asia's leading centre for AYAO care. At NCCS, we see approximately 400–500 newly diagnosed AYA patients annually.

Our AYAO programme, EMPOWER — which stands for EMPowering Our young adults with cancer to live Well through cancER — was launched in July 2023 and is the first dedicated AYA cancer programme in Southeast Asia and East Asia.

EMPOWER is built on a fundamental principle: the AYA service does not replace oncological treatment but runs in parallel to it. When a patient aged 16–45 is diagnosed with any cancer, their primary oncologist refers them to the AYAO programme. The patient is then reviewed by a dedicated AYA doctor and programme coordinator for a comprehensive needs assessment, referrals to appropriate services, and establishment of key points of contact.

Our approach has several core pillars. First, we use our own NCCS psychosocial distress tool to systematically identify and prioritise psychosocial distresses in our AYA patients, then work with them to address these in a step-by-stepmanner. This is

critical because clinical distress affects more than 40% of AYAs, and AYA survivors are up to five times more likely to report Post-Traumatic Stress Disorder (PTSD) and significantly more likely to experience impairments in mental health and quality of life.

Second, we provide age-appropriate information and education through multiple channels, including our AYA Bytes mobile app — co-created with AYA patients — featuring over 100 curated cancer-related articles, mood and symptom tracking, and personalised content recommendations. We also produce a *CandidCancers* podcast series, helmed by our AYA survivors.

Third, we are working towards creating individualised care plans drawn up by the AYAO team prior to right-siting patients to community doctors. These individualised plans include complete medical and oncological history, surveillance plans, screening recommendations, vaccination guidance, and what to look out for in terms of long-term side effects.

Fourth, our programme includes structured community transitions through EMPOWER — The Community Edition, which connects AYA survivors with appropriate community programmes, including partnerships with organisations like the Singapore Cancer Society.

Our vision is to become Asia's leading centre for AYAO care. Through our research and on-the-ground efforts, we are building the evidence base to demonstrate the cost-effectiveness and clinical value of this model, with the aim of creating a replicable framework for the region.

What role can public health policy and awareness campaigns play in improving early detection among young people in Asia?

Public health policy and awareness are important and we are actively working on these at multiple levels.

Awareness: One of the biggest barriers to early detection is the misconception that cancer does not affect young people. There are many myths that persist in the community — from beliefs that cancer is a death sentence to assumptions that you cannot get cancer if there is no family history. Our awareness efforts target the general public, schools, patients and their caregivers, workplaces, and the governmental level. This requires partnerships on many levels with strong community participation and collaboration.

We have seen firsthand how lack of awareness leads to delayed diagnosis., with many of our AYA patients diagnosed with advanced-stage disease. A structured public awareness campaign that normalises cancer screening in young adults and educates about warning signs could meaningfully shift this pattern.

Public health policies: First, AYA cancer needs to be recognised as a distinct entity requiring dedicated attention in national cancer control plans. Currently, AYA patients are overlooked in many cancer policies, falling between paediatric and adult frameworks.

Second, policies around financial protection needs to address the unique vulnerability of AYAs. Many young adults are not adequately insured, and the financial burden of a cancer diagnosis at a young age can be devastating, affecting not just the patient but entire families. Evidence has suggested that more than 50 per cent of AYA patients are expected to quit their jobs in the first year of survivorship. We do not know the severity of this issue in our region yet.

Third, policies should support structured survivorship programmes and community transition pathways. This aligns with broader national health strategies — in Singapore, for example, our work aligns with HealthierSG, where a patient's overall wellbeing is taken care of in the community.

Our own advocacy efforts include the annual NCCS Building for Hope fundraising campaign during AYA Awareness Week, webinars, and patient-led initiatives. We also produced a video with the National Youth Council to increase awareness and give our patients a voice, as their identities and wishes may be overridden by a cancer diagnosis.

What role can technology (telemedicine, digital health platforms) play in bridging gaps in AYA cancer care across Asia?

Technology is a powerful enabler for AYA cancer care, and this is something we have invested in significantly at NCCS.

Our research found that 40 per cent of newly diagnosed AYA patients at NCCS report significant distress levels, and lack of access to updated and accurate information has been identified as a key contributor. Cross-sectional reviews have shown that digital technology can effectively disseminate information and provide support throughout the treatment journey.

To address these gaps, our flagship digital health initiative, AYA Bytes, was developed specifically for AYA patients. This mobile application was co-created by NCCS doctors and AYA patients, and provides convenient access to age-appropriate, curated cancer-related information. It features more than 100 cancer-related articles covering treatment, symptom management, nutrition, exercise, fertility preservation, and mental health. Based on patient feedback, we incorporated mood and symptom tracking features that patients can share with their doctors during consultations. The app also uses an algorithm that learns from user interactions, recommending more relevant articles based on what patients find useful.

Telemedicine can help overcome the geographic barriers especially in countries with vast rural areas and limited oncological centres. Telehealth can provide access to specialist AYA-aware care to patients living in smaller towns with no oncological hospital.

Digital platforms can also facilitate research collaboration across the region. Given the geographic concentration of AYA cancer research in a few countries, shared digital infrastructure for data management, biobanking records, and collaborative research networks could help address the stark research disparities we identified in our scoping review.

Technology also enables peer support at scale. Our *CandidCancers* podcast series, led by AYA survivors, aims to connect patients across geographic boundaries with stories of hope and practical information. Similarly, digital support groups can bring together AYAs who might otherwise feel isolated in their cancer experience.

However, it is important to emphasise that technology should complement, not replace, human-centred care. The relationship between the AYA patient and their care team remains fundamental, and digital tools work best when embedded within a structured programme like EMPOWER.

Looking ahead, what does success look like for AYA cancer care in Asia over the next decade?

Over the next decade, I envision success on several fronts.

First, every major cancer centre in Asia should have a dedicated AYA programme. We aspire for the EMPOWER model to serve as a replicable blueprint, demonstrating that holistic, age-appropriate care is both clinically effective and cost-effective. Success means that no AYA patient is treated identically to a 60 or 80-year-old, and that age-appropriate psychosocial support, fertility counselling, financial navigation, and survivorship care should be standard practice.

Second, we should see the emergence of Asia-specific AYA cancer care guidelines informed by our own genomic and clinical data rather than extrapolated from Western populations. Our scoping review has identified that the field is currently in an information-generation phase — we are accumulating genomic data that reveals distinct biology in Asian AYA cancers. The next step is translating this into clinical protocols, and that requires well-designed clinical trials with adequate AYA representation.

Third, success means closing the research equity gap. Countries across Southeast Asia and South Asia should have the capacity to conduct genomic profiling research and participate in collaborative AYA cancer networks. This will require investment in infrastructure, training programmes, and international partnerships.

Fourth, AYA patients should be empowered to live well through their cancer journey, not merely survive. Our guiding principle is that a well-functioning AYAO patient is minimally scarred from their cancer experience, has minimal PTSD, is able to return to work or school close to their full potential, can form meaningful relationships, is not financially burdened, and can eventually be successfully right-sited into the community. That is the standard we should aspire to achieve across the region.

Fifth, we need robust evidence linking genomic findings to therapeutic decisions and patient outcomes. Our review found that despite high frequencies of potentially actionable genomic alterations in AYA cancers, very few studies have documented how these findings influenced treatment selection or improved survival. Bridging this implementation gap is essential.

Ultimately, success means an AYA patient in Asia is diagnosed promptly, treated with precision therapies based on their own population's genomic data, supported holistically through their cancer journey, and empowered to re-enter their life as a whole and functional individual. We have made a start at NCCS, but the work ahead requires collective effort across the region.

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