

APPROPRIATE CARE AT END-OF-LIFE:

When Less Means More



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Inside NCIS is a quarterly publication that celebrates the incredible people behind the incredible work we do to advance cancer care. If you have a story idea, reach out to us at NCIS_Transformation@nuhs.edu.sg.



INCREDIBLE CARE

When Less Means More

Launched in October 2024, NUH's Appropriate Care at End-of-Life (AptEOL) initiative is reshaping how cancer patients are cared for in their final months. Through the lens of a pharmacist, nurse, and programme manager involved in the project, we reveal how evidence-based expertise and compassionate care come together to make a difference at life's end.



More Isn't Always Better

For Senior Clinical Pharmacist Boo Ao Ran, caring for a cancer patient at the end-of-life is all about prioritising their comfort and dignity.

It is a principle that guides her work in NUH's Appropriate Care at End-of-Life (AptEOL) initiative, where pharmacists, clinicians, and nurses collaborate to ensure that every intervention serves a clear purpose in a patient's final months.

A key part of her role is to carefully review each patient's medications and stopping those that no longer provide meaningful benefit - a process known

as deprescribing.

“I often ask myself if certain medications or interventions would truly help them,” she reflects.

For patients with a limited prognosis, some medications, such as those intended to prevent disease years down the line, offer little value. Take statins, for instance.

Based on existing research, statins show benefit mainly in individuals with a life expectancy of more than 2.5 years. This is approximately the time needed to prevent one major adverse cardiovascular event (MACE). For patients who are not expected to live beyond six months, statins offer low benefit.

Continuing them, Ao Ran explains, can add to treatment burden.

The same applies to vitamins and other supplements. At the end-of-life, some patients are no longer able to swallow safely. Others may feel overwhelmed by the sheer volume of drugs accumulated over years of chronic disease management.

“There was a patient I spoke with who demonstrated excellent knowledge of his medications,” Ao Ran recalls. “But at the end of our conversation, he quietly told me that the number of tablets had become too much.”

Recognising his distress, Ao Ran and her team conducted a thorough review of his medications and removed the non-essential drugs using the OncPal guideline developed under the programme. The guideline helps them pinpoint low-value regimens and provide evidence-based recommendations to prescribing doctors, who make the final decisions.

The impact was immediate. The patient expressed relief, knowing his care plan was now better aligned.

Not About Giving Up

Deprescribing is rarely just a clinical decision. For families, it can feel deeply emotional.

“Some of them were hesitant as it can be perceived as withdrawing treatment and their loved one might receive less care than they deserve,” Ao Ran explains.

In these situations, she and the team slowed the pace of discussions. They listened, acknowledged fears and explained that deprescribing was not about doing less, but about doing what mattered most.

Impact Felt Across the System

While deprescribing increases pharmacists' workload through intensive medication reviews and detailed discussions with clinical teams and families, the downstream impact is significant.

An average of 3.3 medications were deprescribed for patients involved in this initiative, with 76% having at least one medication stopped. Some had up to 13 removed.

Reducing even one medication decreases dispensing, checking, packing, and material use. Across a large cohort, these small shifts accumulate into operational, cost, and environmental benefits.



A Life-Changing Experience

Working with patients at the end of life has reshaped how Ao Ran views care and to a larger degree, humanity.

“It reminds me every day of how fragile life is,” she reflects. “Witnessing how families demonstrate resilience, love and unity during their most difficult moments is profoundly moving.”

When Ao Ran navigates complex decisions, she asks herself two questions: Would I want this medication continued if this were my family member? Would this intervention truly make a difference to their comfort or quality of life?

“If the answer is no,” she says, “then the difficult conversations and careful reviews are worthwhile. Even a small act, such as discontinuing a non-essential medication, can significantly enhance a patient’s final chapter.”

What is Appropriate Care?

NUH’s Appropriate Care movement is part of a wider National University Health System (NUHS) effort to deliver care that is purposeful, evidence-based, and centred on what truly matters to patients.

Anchored in the belief that more isn’t necessarily better, the Appropriate Care initiative encourages both clinicians and patients to engage in open, thoughtful conversations about the care that best aligns with patients’ goals and clinical needs. This focus on appropriateness helps strengthen trust, enhance patient experience, and ensure responsible stewardship of healthcare resources.

As NUH continues to champion a culture of mindful care, the Appropriate Care programme stands as a model of how healthcare systems can bridge quality, compassion, and value to ensure every patient receives care that truly matters.



Benefits Extend to the Bedside

The AptEOL initiative has also improved the care that patients receive from NCIS nurses in the oncology wards.

Wang Yanjun, Assistant Nurse Clinician, notes that some patients had up to 81 fewer episodes of vital signs monitoring and 27 days of intake and output charting. This meant more undisturbed rest throughout the night.

Patients were also spared dozens of finger-prick blood glucose tests, reducing the discomfort that could potentially arise from such procedures.

Reduced Workload, Increased Satisfaction

With fewer non-essential interventions, nurses spend more time managing symptoms, providing comfort and being present at the bedside.

This shift has had a noticeable effect on staff morale. “The AptEOL initiative has reduced total nursing workload by 162.6 hours,” Yanjun says. “We are empowered to practise the kind of nursing we entered the profession for by being holistic, patient-centred, and free from the moral distress of providing futile care.”





The Importance of Managing Change

Behind-the-scenes, introducing the AptEOL initiative did not come without its challenges. Internally, the team had to gain buy-in and support from clinicians across various disciplines.

Esther Lin, Principal Dietician from Alexandra Hospital (a member of NUHS) and the initiative's Programme Manager, admits that it took time, dialogue and shared evidence to ensure everyone was on the same page in believing that doing less at the end-of-life can bring more comfort to patients.

“Many clinicians are invested in doing everything possible for their patients, so the idea of deprescribing or reducing vital sign monitoring can initially feel counterintuitive,” she says.

There was also some hesitancy around stopping long-standing preventive medications or reducing tests, as these practices were deeply embedded in routine care.

To bridge this, the AptEOL team developed a clear screening checklist for nurses to identify patients who would benefit from a more comfort-focused approach. Besides the deprescribing guidelines developed by the team’s pharmacists, a practical framework to de-escalate unnecessary interventions was also put in place for nurses to refer to.

Equally important were the regular, safe touchpoints created for feedback and refinement. These conversations allowed concerns to be surfaced early, lessons to be shared, and the approach to be improved.



The Way Forward

Looking ahead, the AptEOL team is focused on scaling the initiative further. They intend to strengthen Advance Care Planning (ACP) and Serious Illness Conversations (SIC) with patients who are estimated to be in the last six months of life. By encouraging these conversations earlier, the care team is able to understand better what matters most and avoid interventions that offer little benefit.

The team also wants to work closely with the Value Driven Outcomes Office (VDO) to automate data collection, quantify cost savings and establish historical comparisons. These will provide a clearer picture of how appropriate end-of-life care can improve patient outcomes. In addition, they plan to extend AptEOL to non-cancer patients to ensure that high-quality end-of-life support is available regardless of diagnosis.

By putting patients at the heart of every decision, the AptEOL initiative has shown that doing less can truly mean more - more comfort, more presence, and more cherished moments spent at the final stage of life.



INCREDIBLE CARE

Transforming Cancer Care in Vietnam

A fellowship program that Dr Joseph Ng (right) helped set up in 2017 for Da Nang Oncology Hospital has brought about positive outcomes in the fight against cervical cancer. Find out how he and the International Gynecologic Cancer Society (IGCS) are transforming care and improving survival for patients in Vietnam.

A recent study published on the impact of the International Gynecologic Cancer Society (IGCS) Gynecologic Oncology Fellowship Program at Da Nang Oncology Hospital has shown encouraging results in the fight against cervical cancer, one of the leading causes of cancer-related deaths among women in developing nations.

The study compared data from more than 630 cervical cancer cases over two periods: before the fellowship from 2013–2017, and after, between 2018–2022.

One of the biggest shifts after the fellowship was in the accuracy of staging. This refers to how correctly doctors determine the extent of a cancer at the time of diagnosis and the stage at which patients were identified.

The proportion of patients diagnosed at locally advanced stages rose from 41.8% to 68.3%, while diagnoses of distant-stage disease fell sharply from 35.5% to 17.9%. This suggests improved early assessment and triaging.

There were also changes in treatment patterns. The use of concurrent chemoradiotherapy (CCRT) rose from 36.8% before the fellowship to 65.6% after, while the proportion of patients receiving palliative care fell from 18.7% to 8.4%.

More importantly, survival outcomes showed significant improvements. Before the fellowship, patients typically went about 26 months without their cancer worsening, and lived for about 36 months on average after diagnosis. In the post-fellowship cohort, both median progression-free survival (PFS) and overall survival (OS) were not yet reached at the time of analysis, indicating that most patients were still alive and had not experienced cancer progression during the study duration.

Building Local Expertise through Global Mentorship

For Dr Joseph Ng, Senior Consultant from the Division of Surgical Oncology and Chair of the Gynecologic Cancer Program in NCIS, the biggest changes brought about by the fellowship program were the stronger multidisciplinary care structure and the adoption of a more contemporary approach to cancer treatment for women.

Most of the training takes the form of tumor boards conducted virtually monthly. Fellows learn more about managing their patients better from a panel of gynecologic, radiation and medical oncologists who dial in from around the world.

They also receive guidance on-site from mentors like Dr Ng, who visits Da Nang Oncology Hospital twice a year for several days to review patients and provide hands-on surgical training.



He conducts lectures as well and meets with department leaders to discuss strategic plans and collaboration opportunities.

Dr Ng emphasises that the program's success lies in building local capacity. "The care that our Fellows are trained to deliver is tailored to the resources available to them and to address the most common cancers where they are."

A Way to Pay It Forward

Reflecting on his work, Dr Ng says that mentorship is the most valuable gift that he can give to the world.

"The time spent in this longitudinal relationship with my Fellows guiding them as they mature as clinicians and individuals has been the most personally and professionally satisfying thing that I have had the honor of doing," he admits.

Having been the beneficiary of so much "generous support, mentorship, and collegiality" throughout his career, Dr Ng adds that it somehow always felt wrong not to share his clinical expertise for women less fortunate than his patients at NCIS.

With the fellowship producing

measurable improvements in patient outcomes, the next step is scale and sustainability.

“Our program is now at an inflection point,” Dr Ng notes. “To make a durable difference in the world, we will need to continue to recruit cancer care professionals who have a passion for mentorship and volunteerism. We also need funding to continue to make a direct impact on the lives of women with cancer living in low and middle income countries.”

For now, the fellowship continues in the same way it began. Clinicians from around the world giving their time, experience, and encouragement so that others can learn. With each lesson taught, the ripple widens, reaching more doctors, touching more patients, and slowly reshaping the future of cancer care.

All because someone, somewhere, chose to help.



Da Nang Oncology Hospital is the first fellowship site for the IGCS Global Curriculum and Mentorship Program, which has expanded to 22 locations today. To find out more about the program, click [here](#).



INCREDIBLE PEOPLE

Learning Beyond the Classroom

94 Year 2 students from Nanyang Polytechnic (NYP)'s Diploma in Pharmaceutical Science hopped along for a learning journey to NCIS in November and December 2025 to learn more about the Haematology-Oncology Research Group (HORG) and how clinical research supports end-to-end cancer care.

The learning journey, which marked the second consecutive year NYP Pharmaceutical Science students visited NCIS, was also designed to provide an insight into HORG's internship program and career pathways.

To familiarise the students with the work we do, Adj A/Prof Andrea Wong, Head, Department of Haematology-Oncology, shared more about NCIS' comprehensive services, key programmes, specialised facilities, and the role clinical trials play in advancing new treatment options.



Senior Clinical Research Coordinator Jannet Mogro then walked the students through the International Council for Harmonisation's Good Clinical Practice (ICH-GCP) guidelines to help them understand the importance of safeguarding trial participants' rights and safety, as well as ensuring the quality and integrity of research data.

With this foundation in place, the students embarked on a facility tour to NUH Medical Centre. They went to our chemotherapy wards, HORG laboratory, as well as the procedure and research interview rooms to understand the processes involved in a clinical trial.



For many of them, the learning journey offered a glimpse into what a future role in HORG could look like - one that our Clinical Research Coordinator (CRC) Ronnie Yee knows well.



Ronnie first joined HORG as an intern from June to December 2023 while pursuing a degree in Life Sciences with a second major in Public Health at the National University of Singapore.

Securing an internship placement was a course requirement, and Ronnie wanted to experience something different from the conventional lab environment most of his peers end up in. Being part of HORG also gave him an opportunity to contribute at the forefront of cancer research.

Beyond the administrative duties he was tasked to perform as an intern, Ronnie was given opportunities to support the clinical trial process. He took basic vitals for trial patients, processed their blood samples, and interacted with them to understand their health condition better. This exposure offered him an early understanding of how research protocols translate into patient care.



I am honoured to help my patients manage their schedule and ensure their health status is accurately captured in our systems.

This enables their data to be used effectively for analysis in the development of future cancer treatments.

In March 2024, Ronnie returned to HORG — this time as a full-time CRC.

The decision to do so was largely influenced by the wider scope of responsibilities he wanted to take on. Ronnie was also inspired by the dedication and commitment of the CRCs he worked with.

Today, Ronnie functions as the central point of contact during a clinical trial. He manages patient visits, supports clinicians to conduct informed consent processes, coordinates across multiple stakeholders to ensure the trial runs smoothly, and ensures study documentation and billing are kept up to date.

“Being part of a patient’s journey in fighting cancer is something truly meaningful,” he says. “It is heartening when patients and their next-of-kin thank you for the efforts you put in.”

For NCIS, stories like Ronnie’s reflect the longer-term impact of learning journeys and internships, not just as educational experiences, but as enriching pathways to better our cancer workforce.



INCREDIBLE PEOPLE

A Blockbuster End to 2025

Our staff came together on 17 December dressed in their favourite movie characters to round off 2025 in style.

From classic Super Mario Bros costumes complete with red caps and overalls, to magical outfits inspired by Harry Potter and the world of wizardry, our year-end celebration was filled with colour, creativity and plenty of smiles.

A heartfelt thank you to all our staff for your enthusiasm and participation. We wish you and your loved ones a healthy and fulfilling year ahead!

Relive all the moments from our party in the photos below.





INCREDIBLE RESEARCH

Mailed Reminders Triple Uptake of Breast Screening

A randomised clinical trial led by Prof Lee Soo Chin, Senior Consultant, Department of Haematology-Oncology found that sending a mailed reminder to women due for mammograms tripled the number who went for screening.

The study involved about 9,000 women in Singapore aged 50 to 69 who had not returned for screening in over two years. While other behavioural nudges like vouchers and motivational videos were used, a single mail reminder proved to be the most effective, especially for older women and those who had not been screened for more than 10 years.

Watch Prof Lee explain the study in this [video](#).

Thank You for Reading!

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