

UNSW study predicts more than 50% rise in chemotherapy demand by 2040

14 May 2019 | News | By Kalyani Sharma

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A new study predicts that between 2018 and 2040, the number of patients needing chemotherapy each year will rise from 9.8 million to 15 million globally – a 53% increase. The researchers call for a significant expansion of the chemotherapy workforce to deliver optimal treatment by 2040.

The modelling study by a team of researchers – including UNSW Medicine academics – was published recently in the prestigious *The Lancet Oncology* journal. It is the first study to estimate the scale of chemotherapy provision needed at national, regional, and global scales to respond to this situation.

Dr Brooke Wilson is a conjoint lecturer at UNSW and first author on the study. She says the rising global cancer burden is undoubtedly one of the major health crises of today.

“Strategies are urgently needed to equip the global health workforce to enable safe treatment of current and future patients,” she says.

“Countries and institutions should use our data to estimate their future cancer physician workforce requirements and chemotherapy needs and plan national, regional, and global strategies to ensure all those who need it will have access to chemotherapy treatment.”

Diving deeper into the data, the landmark study also looked at how many cancer physicians we’ll need now and in 2040, and it explored where the patients needing chemotherapy will reside now and then.

“We needed 65,000 cancer physicians in 2018 to provide chemotherapy to all patients who would benefit from it – but that number will rise to an optimal 100,000 in 2040,” Dr Wilson says.

“By 2040, two-thirds (67%, 10.1 million out of 15 million) of patients requiring chemotherapy will live in low- or middle-income countries. Of the additional 5.2 million people needing treatment by 2040, an estimated 75% will live in these countries.”

Study co-author Scientia Professor Michael Barton OAM from UNSW Medicine says existing evidence shows that the global number of cancer cases is expected to rise, particularly in low- and middle-income countries.

“As a crucial component of cancer care, chemotherapy is likely to benefit a large proportion of these cases,” he explains.

“Population growth and changes in distributions of cancer types by country were the leading factors driving the increased chemotherapy demand we saw in our study.”

The authors used best-practice guidelines, patient characteristics and cancer stage data from the USA and Australia to calculate the proportion of newly diagnosed cases of cancer who would benefit from chemotherapy. They applied these rates to international estimates of global incidences of adult and paediatric cancer from 2018 up to 2040 (GLOBOCAN) to provide estimates of global chemotherapy demand.

In 2040, the most common cancers needing chemotherapy will be lung (16.4%, 2.5 million), breast (12.7%, 1.9 million) and colorectal cancer (11.1%, 1.7 million), and the greatest absolute increases in new cases will occur for these same three types of cancer.

Commenting on the study, Dr Melina Arnold from the International Agency for Research on Cancer, France, says: “All in all, this study will help to further guide policy makers and stakeholders in priority settings involved in setting up health infrastructure and strengthening and educating the future workforce. To leverage the full potential of this type of global prediction study, it would be useful to estimate costs of and strategies for scaling up health services for optimal patient management, not only for chemotherapy, but also throughout the full continuum of cancer care.”

The study was conducted by researchers at UNSW Sydney; Ingham Institute for Applied Medical Research; Kinghorn Cancer Centre; Liverpool Cancer Therapy Centre; International Agency for Research on Cancer, Lyon.