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The verdict is in: the time for effective solutions to the global cancer burden is now

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That the growing global burden of non-communicable diseases is a human catastrophe requiring action was brought to the world's attention over the past decade by WHO,¹ culminating in a UN declaration in 2011.² Non-communicable diseases—respiratory diseases, obesity, cardiovascular disease, and cancer—have common causes, including nutrition, personal habits, environment, and ageing.³ The importance of non-communicable diseases does not diminish that of communicable diseases, and there are clear links between human papillomavirus and cervical cancer, and the hepatitis viruses and liver cancer.

Effective cancer control necessitates a multi-dimensional, multisectoral, multidisciplinary, and international approach. In debates, the issue of affordability is invariably raised, particularly for radiotherapy, in view of the cost of establishing and maintaining facilities. In this issue of *The Lancet Oncology*, the comprehensive need assessment and economic analysis by Rifat Atun and colleagues⁴ rejects the argument that radiotherapy is unaffordable, and shows that investment in radiation oncology both saves lives and is associated with positive economic returns.

Radiotherapy is a key component of curative and palliative treatment. Substantial benefit is achievable from combined treatment with radiation and standard drugs to cure some locally advanced cancers and from short-course radiation (hypofractionation) as part of palliative care. Investment in partnerships is needed to train, educate, mentor, and sustain programmes in settings with limited personnel, resources, and infrastructure. The Global Taskforce on Radiotherapy for Cancer Control set up by the Union for International Cancer Control (UICC) is a remarkable project. Its analyses and robust collection of

contributors provide clear evidence that there could be an effective way forward.⁴

If addressing global cancer care results in both health and economic benefits,⁴ why are effective radiotherapy and cancer care programmes so difficult to establish in low-income and middle-income countries? There are several frequently articulated reasons for not addressing this problem, all of which are certainly resolvable.

Some suggest a focus only on prevention. Prevention is crucial, but what happens to patients for whom it is not effective? Furthermore, prevention has not eliminated cancer in resource-rich countries. Others suggest that cancer care is too expensive, or the problems too complicated, but the results of the Commission show that non-treatment is more expensive⁴—and there are examples of high-quality cancer care in low-income and middle-income countries. Successful, affordable treatment regimens exist, and technology can link global experts to centres in low-income and middle-income countries, enabling access to new concepts and mentoring.

Suboptimum health-care and physical infrastructures are other common reasons cited for not addressing the issue. However, systems are in need of repair for everything from maternal and child health, to communicable and non-communicable diseases.^{5,6} There is the opportunity for innovative technology to cope with challenging infrastructure. That low-income and middle-income countries do not have the expertise is another common concern, but the world has the expertise to train, mentor, and sustain people in these areas. Effective mentoring models are needed, such as the International Cancer Expert Corps.⁷

Policy makers in resource-rich countries appropriately suggest that they cannot be responsible for provision

For more on the Global
Taskforce on Radiotherapy
for Cancer Control see
<http://gtfrc.org/>

For more on the Union for
International Cancer Control see
<http://www.uicc.org>

For more on the International
Cancer Expert Corps see
<http://www.icccancer.org>

of cancer care worldwide, often pointing to existing global health programmes as addressing the problem. More investment is necessary. Enhancing health care is a means of improving global relationships. There are private sector opportunities that benefit both the donor and recipient countries. Universities and non-governmental organisations have programmes, but these take years to establish and equip with radiotherapy equipment. To accelerate the rate of change, these initiatives can maintain their identity and enhance one another working through broad-based organisations—eg, the UICC, the Consortium of Universities for Global Health, and the Programme of Action for Cancer Therapy from the International Atomic Energy Agency (IAEA).

In high-income countries, key aspects of foreign policy involve fighting terrorism, which might include securing radioactive sources. Although aspects of global unrest and animosity are far beyond health-care issues, medicine is a common language, and tackling cancer, which is feared globally, provides an excellent opportunity for collaboration. As for the security of nuclear material, ^{60}Co machines can be replaced by linear accelerators. Establishing units where there are none and replacing ^{60}Co machines creates a substantial commercial opportunity for radiation equipment, estimated to be at least 5000 units.⁸ To meet this need extensive building and sustaining of a capable workforce and infrastructure are required.⁴

Another question commonly raised in resource-rich countries that have medically underserved populations, including geographically remote indigenous populations, is why should they take care of people in other countries when they have their own problems? We should aim to take care of both our citizens and those of other countries, and learn from one another, especially in view of the similarities in issues between low-income and middle-income countries and geographically remote indigenous populations in resource-rich countries. The UICC has an indigenous populations group and a National Cancer Institute programme showed that investment in indigenous populations is effective.⁹

Numerous people with an interest in global health report that their hospital directors or senior managers will not afford them the time to take an active role in the global fight against cancer. This matter is one of priorities and valuing activities that might not have

immediate financial benefits. We propose that altruistic service can be as important to career fulfilment as caring for patients, research, and teaching.¹⁰

The final misconception is that only academia can tackle this issue. However, a wealth of unused talent can be tapped, including health-care workers in private practice and senior mentors or retirees.⁷

According to gap projections by the IAEA,⁸ if only one effective radiation treatment unit is commissioned every week it will take a century to solve this problem. A rapid exponential solution can come from engaging people who can design a path forward using that suggested from the work by this Commission⁴ and supporting those making it happen. It is time for health-care careers to include global service as an integral component rather than a personal diversion during people's spare time.¹⁰ Atun and colleagues conclude the Commission⁴ by providing examples of how the world makes progress when it invests in difficult problems. Global solidarity, collective action, transformative thinking, and action are needed now.

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For more on the Consortium of Universities for Global Health see <http://www.cugh.org>

For more on the Programme of Action for Cancer Therapy see <http://cancer.iaea.org>