reported improved success in treating patients with radiation-induced cystitis when the symptoms have been less than 6 months in duration, suggesting that results of this trial might have been even better if earlier intervention had been used.

Issues not answered by this trial are the optimal course of hyperbaric oxygen therapy, including the best treatment pressure, the optimal duration of 100% oxygen at pressure, and the appropriate number of treatments. Some patients in the study were treated with oxygen for only 80 min; meanwhile, some received only 30 treatments. The works of Marx, Hampson, and Feldmeier[4–6] suggest 90 min of 100% oxygen at 2·4 atmospheres absolute for a minimum of 40 treatments. On the basis the work by Oscarsson and colleagues and my many years of experience, I recommend these standards and advise against anything fewer than 40 treatments, pressures less than 2·4 atmospheres absolute (approximately 240 kPa), and time on 100% oxygen less than 90 min.

Finally, investigators, including myself, have observed that a sizeable proportion of patients treated with hyperbaric oxygen therapy for radiation cystitis will have symptom recurrence even after an apparently adequate course of therapy, but can often be salvaged with additional hyperbaric oxygen treatments.[6,7] Long-term follow-up in patients from this study will be essential to establish the durability of response to hyperbaric treatment and the need for additional treatments. It is important to remember that other so-called standard treatments are subject to disease recurrence and often need to be repeated.[8] Moreover, the only true definitive treatment for this group is cystectomy and urinary diversion, with this surgery resulting in a substantial deterioration in quality of life. Importantly, in its most serious presentations, radiation cystitis can be fatal.[9]

I applaud the investigators for their well-done study that establishes level 1 evidence in support of hyperbaric oxygen therapy for delayed radiation cystitis.

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1 Oscarsson N, Müller B, Rosén A, et al. Radiation-induced cystitis treated with hyperbaric oxygen therapy (RICH-ART): a randomised, controlled, phase 2–3 trial. *Lancet Oncol* 2019; **20:** 1602–14.
2 Hróbjartsson A, Gøtzsche PC. Placebo interventions for all clinical conditions. *Cochrane Database Syst Rev* 2010; **1:** CD003974.
3 Chong KT, Hampson NB, Corman JM. Early hyperbaric oxygen improves outcome for radiation-induced hemorrhagic cystitis. *Urology* 2005; **65:** 649–53.
4 Marx RE. Radiation injury to tissue. In: Kindwall EP, ed. Hyperbaric medicine practice, 4th edn. Flagstaff: Best Publishing, 1999: 727–73.
5 Hampson NB, Holm JR, Wreford-Brown CE, Feldmeier JJ. Prospective assessment of outcomes in 411 patients treated with hyperbaric oxygen for chronic radiation issue injury. *Cancer* 2012; **118:** 3860–68.
6 Feldmeier JJ, Gesell LG. Delayed radiation injuries (soft tissue and bony necrosis) and potential for future research. In: Moon RE, ed. Hyperbaric oxygen therapy indications, 14th edn. North Palm Beach, FL: Undersea and Hyperbaric Medical Society, 2019: 163–202.
7 Cardinal J, Slade A, McFarland M, Keihani S, Hotaling JN, Myers JB. Scoping review and meta-analysis of hyperbaric oxygen therapy for radiation-Induced hemorrhagic cystitis. *Curr Urol Rep* 2018; **19:** 38.
8 Pascoe C, Duncan C, Lamb BW, et al. Current management of radiation cystitis: a review and practical guide to clinical management. *BJU Int* 2019; **123:** 585–94.
9 Linder BJ, Tarrell RF, Boorjian SA. Cystectomy for refractory hemorrhagic cystitis: contemporary etiology, presentation and outcomes. *J Urol* 2014; **192:** 1687–92.

Moonshot or groundshot: addressing Europe's cancer challenge through a patient-focused, data-enabled lens

The latter half of 2019 has been a major inflection point for cancer control in Europe, with renewed focus and energy from myriad stakeholders. On Sept 12–14, the European CanCer Organisation (ECCO), representing 27 pan-European cancer organisations and with 17 patient organisations at its heart, held its annual Cancer Summit. A series of resolutions were passed, emphasising the need to boost cancer prevention and control in all European countries, based on principles first articulated in the European Cancer Patient's Bill of Rights (BoR).[1] The following week, the newly elected European Parliament held a lively debate on "The Fight Against Cancer". At the European Society for Medical Oncology Congress in Barcelona (the largest cancer congress in Europe with more than 30 000 attendees), the public policy track, in collaboration with WHO, emphasised the need for improved cancer care across all of Europe. September also saw the publication in

The Lancet Oncology of a European paediatric cancer strategy,[2] following an International Society for Paediatric Oncology Europe meeting in Prague.

The ambition to improve cancer prevention and control in Europe has also been fuelled by the announcement of an EU Cancer Mission.[3] Additionally, the President-elect of the European Commission Ursula von der Leyen has tasked incoming Health Commissioner Stella Kyriakides to develop a European Plan to Beat Cancer. These initiatives echo the US Cancer Moonshot,[4] an overarching effort by the US cancer community to inculcate a common biomedical research vision and its translation into improved cancer control. In many European countries, cancer is the leading cause of premature morbidity and mortality, and a major economic burden for citizens and societies. Notable disparities in access to optimal cancer control and its delivery—as well as in cancer research and innovation—engender substantial inequalities in outcomes, both between and within European countries.[1,5] The cancer research strengths of Europe are also unevenly distributed.[6]

But does Europe need a Cancer Moonshot? Europe has a unique history, underpinned by shared social principles and public-facing health-care systems; thus, the US model should not necessarily be mirrored in a European Cancer Moonshot. Rather, a somewhat less technocentric approach—for example, a patient-centred European Cancer Groundshot—that delivers optimal solutions within an overarching data-enabled health systems framework, should be prioritised for the 739 million citizens of Europe. Technological and fundamental biomedical advances are relevant to future European cancer research and control efforts. However, they must be part of a broad cancer ecosystem that delivers effective, affordable, sustainable, and equitable advances across the spectrum of site-specific cancers, cancer control disciplines, research domains and countries. Crucially, patients, survivors, and parents of children or adolescents with cancer must be integral to any Europe-wide initiative. Thus, it is disappointing that the recently constituted EU Cancer Mission Board lacks representation from the pan-European cancer patient community (as indicated in the panel).[7] However, following the passing of resolution 1.1 (panel) at the ECCO Summit, it has been announced that Bettina Ryll, who is Founder of the Melanoma Patient Network Europe, has been appointed to the Mission Board. Additionally, cancer registries, multidisciplinarity and shared learning must also inform an EU Cancer Mission (panel; resolution 1.2). The recently nominated Mission Assembly will hopefully also address this issue.

The Lancet Oncology European Groundshot Commission will build on the activities and outputs of the BoR, developed through a pan-European equal partnership of patients and health-care professionals and published in the journal.[1] The BoR has been a catalyst for change and an empowerment tool for patients with cancer across Europe; its Europe-wide impact was recognised by the prestigious 2018 European Health Award.[8] The BoR has informed the 70:35 Vision, an aspiration to achieve a European average of 70% long-term survival by 2035.[9] It also addresses the specific needs of children and adolescents to substantially improve both their cure rate and the quality of their care.[2] Providing the evidence base to underpin delivery of this 70:35 Vision is a key driver of the European Cancer Groundshot's activities.

Countries within Europe are undergoing very different socioeconomic and political development. New challenges for financial sustainability for cancer care and the difficulties inherent in delivering adequate cancer control with migrating populations are colliding with the realities of ever more complex cancer systems and greater public expectations. Yet, collectively, the drive for affordable, sustainable

Panel: The European CanCer Organisation (ECCO) resolution

The following resolution was put to the attendees at the 2019 ECCO Summit in Brussels, Belgium, on Sept 12, 2019

1.1 The principle of patient-centricity exists because of the real value brought to decision-making by full inclusion of patient insights and experiences. This is recognised in the structure and processes of many other EU health initiatives and by agencies of the EU. The ECCO 2019 European Cancer Summit therefore request in the strongest terms, that there be explicit representation of the pan-European cancer patient community within the EU Cancer Mission Board.

1.2 The ECCO 2019 European Cancer Summit calls upon the EU Cancer Mission Board to ensure that all stakeholder communities are provided with ongoing, meaningful, and timely opportunities to input to the Cancer Mission decision-making processes, as well as to the Mission's monitoring and scrutiny activities.

This resolution can be achieved through working with ECCO, its 27 member societies, the 17 patient associations represented within its Patient Advisory Committee, and other pan-European organisations, on a systematic basis through the lifetime of the Mission.

Resolution 1.1 and 1.2 were passed by the delegates at the 2019 ECCO Cancer Summit by a majority of 99% to 1%.

care and innovative research systems to enhance cancer outcomes and reduce inequalities is a key convergence point for Europe. Providing the crucial data to prioritise a Europe-wide vision for cancer research and its implementation into clinical practice, including the need for long-term follow-up to identify new societal challenges faced by survivors of cancer in all European countries, is urgently needed. Accurate cancer intelligence will drive improved cancer control and cancer research policy. Pan-European cancer data initiatives such as EUROCARE,[9] patient-focused developments like Data Saves Lives, coupled with national initiatives such as DATA-CAN, the UK's Health Data Research Hub for Cancer, will be crucial enabling resources. Any European cancer vision must encompass the wider health commitments to vulnerable populations, universal health coverage, and the Sustainable Development Goals, and must go beyond the political rhetoric of fragmentation and a retreat behind borders.

The Groundshot will not just concentrate on the so-called elite countries of the EU (ie, western European countries with high level of cancer research and control, and mortality-to-incidence ratios of <0·40) but will also include as core partners countries from central and eastern Europe, in order to understand and propose how Europe as a whole can achieve optimal cancer control, enhance and apply its research strengths and capacity, and deliver where appropriate the most technologically advanced and research-informed solutions for patient benefit across heterodox and challenging health systems.

The timing of this Groundshot Commission is opportune, coming as it does after the 2019 European Parliamentary elections, the formation of a new European Commission, and the aspiration to develop a European Cancer Mission. The Groundshot Commission will publish its results within the next 18 months, providing a blueprint for cancer research and its implementation for patient benefit across the continent of Europe. Just as *The Lancet Oncology* Commission on future cancer research priorities in the USA[10] informed the US Cancer Moonshot, we hope that the cancer intelligence delivered by *The Lancet Oncology* Groundshot will help support a patient-centred, data-informed Cancer Mission for the whole of Europe. Cancer does not respect national borders; why should we?

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1 Lawler M, Le Chevalier T, Banks I, et al. A Bill of Rights for patients with cancer in Europe. *Lancet Oncol* 2014; **15:** 258–60.

2 Kearns PR, Vassal G, Ladenstein R, et al. A European paediatric cancer mission: aspiration or reality? *Lancet Oncol* 2019; **20:** 1200–02.

3 Celis JE, Heitor M. Towards a mission-oriented approach to cancer in Europe: an unmet need in cancer research policy. *Mol Oncol* 2019; **13:** 502–10.

4 Lowy DR, Singer DS. Implementing the Cancer Moonshot and beyond. *Lancet Oncol* 2017; **18:** e622–23.

5 Aapro M, Astier A, Audisio R, et al. Identifying critical steps towards improved access to innovation in cancer care: a European CanCer Organisation position paper. *Eur J Cancer* 2017; **82:** 193–202.

6 Benton J, Gallego A. European Commission's cancer plans called into question at high-level summit. https://theparliamentmagazine.eu/articles/event-coverage/european-commission%E2%80%99s-cancer-plans-called-question-high-level-summit (accessed Sept 26, 2019).

7 Queen's University Communications Office. Leading cancer research team win The 2018 European Health Award. https://www.eortc.org/blog/2018/10/03/leading-cancer-research-team-win-the-2018-european-health-award/ (accessed Sept 26, 2019).

8 Lawler M, Banks I, Law K, et al. The European Cancer Patient's Bill of Rights, update and implementation 2016. *ESMO Open* 2016; **1:** e000127.

9 De Angelis R, Sant M, Coleman MP, et al. Cancer survival in Europe 1999–2007 by country and age: results of EUROCARE-5—a population-based study. *Lancet Oncol* 2014; **15:** 23–34.

10 Jaffee EM, Dang CV, Agus DB, et al. Future cancer research priorities in the USA: a Lancet Oncology Commission. *Lancet Oncol* 2017; **18:** e653–706.

Developing an independent Palestinian cancer care capacity

Since the establishment of the Palestinian Authority, considerable effort has been invested by the Palestinians to advance the provision of health services and to create an independent health-care system. Nevertheless, Palestinian health services still struggle to establish the infrastructure and human resources required to meet its needs.

Cancer is the second-leading cause of death in the areas governed by the Palestinian Authority, with 14% mortality in 2016: a 6% increase from 2015.[1] In the past decade, the Palestinian Authority has relied on hospitals in Palestine to be the primary providers of health-care services. Contact with hospitals in Israel has allowed Palestinians to bridge gaps in quality health-care provision via the transfer of patients who require complex treatment to hospitals in Israel. Israel has been supportive of this approach by providing 100 000 travel permits to Palestinians each year. From 2011 to 2015, the number of patients treated in a Palestinian hospital in East Jerusalem decreased by 8%, while the number of those referred for treatment in hospitals in Israel almost doubled.[2]

Since July, 2018, this situation has changed, after the Palestinian Authority Ministry of Health suspended most of the funding for patients being treated in Israel. Aggravating the matter, in August, 2018, the US State Department announced its intention to redirect US$25 million it had committed for hospitals in East Jerusalem to projects elsewhere.[3] These policy changes affected the provision of health-care services in areas governed by the Palestinian Authority and increased the load on hospitals in East Jerusalem, which were already experiencing shortages in medications, equipment, and personnel. To achieve economic independence towards the goal of establishing a sovereign state, the Palestinians are now seeking alternative sources for the health-care resources that they import from Israel.

In the past decade, East Jerusalem's Augusta Victoria Hospital (AVH), which is owned and operated by the Lutheran World Federation, has played a pivotal role in the process of establishing an independent Palestinian health-care system. The AVH is the Palestinian Authority's major cancer centre, serving over 4·8 million Palestinians. The number of patients with cancer treated at the AVH has tripled (from about 1800 to 5614) in the past 5 years, and includes all medical and radiation oncology treatments.

Despite tensions in the region, the AVH has benefited from an ongoing partnership programme established in 2011 with Israeli physicians from the Head and Neck Center at the Rambam Healthcare Campus, Haifa.[4] This centre is the largest referral facility of its kind in Israel and operates clinics located across the country.[5] The treatment protocols established by the Israeli–Palestinian teams have allowed patients with cancer to have a higher standard of care in their community and at a lower cost than in neighbouring countries, saving the lives of thousands of Palestinian patients.

A major challenge in implementing an independent health-care system is providing commensurate training, which is scarce, particularly in the areas of oncology, specifically paediatric haematology–oncology and cancer surgery. In a peace scenario, Israel is likely to be a valuable source of such training.

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