

Cancer on the Rise, Workforce Under Strain: Urgent Action Needed



Steven Petit

The editorial “Increasing cancer incidence and workforce shortages - It is time to act now”, authored by Steven Petit, Pierfrancesco Franco, Jolien Heukelom, and Dylan Callens, was recently published in Radiotherapy and Oncology (the Green Journal). It highlights a critical challenge in global healthcare: the growing gap between rising cancer cases and the limited oncology workforce.

The authors emphasize that without immediate, coordinated action, patient care will increasingly suffer, underscoring both the human and systemic consequences of inaction.

Today, we are honored to present an interview with two of the authors: Professor Steven Petit, a medical physicist and associate professor at Erasmus MC Cancer Institute in Rotterdam, and Dylan Callens, RTT and PhD researcher at University Hospital Leuven, Belgium.



Dylan Callens

Prof. Petit, you highlighted the urgency of coordinated action in the article. Which stakeholders—hospitals, governments, or professional societies—do you believe are best positioned to lead this change, and how should they do it?

I think it is a combination of hospitals, governments, professional societies, health insurances and industries. Hospitals and individual departments should allocate time and resources to run projects around workload reduction, to put sufficient effort into recruitment and to understand why staff leave and what would keep them. Needless to say, involving the employees affected by the changes is key, e.g., through cocreation. Governments should allocate financial resources/incentives for hospitals to allocate staff for projects around workload reduction. Professional societies should create an active stage to share experiences, ideas, outcomes and best practices

around initiatives for workload reduction, staff retention, and recruitment—both in efforts that have succeeded and those that have failed. Increasing awareness of radiotherapy is also critical, as exemplified by campaigns like Targeting Cancer in Australia and New Zealand. Health insurance systems should be designed to incentivize workload reduction and remove structural barriers that discourage it. For example, in several countries, hypofractionated treatments are reimbursed less than conventional fractionation, which can create a disincentive for adopting more efficient approaches. Industry should work together with hospitals to develop technology for workload reduction.

Prof. Petit, how do workforce shortages affect the mental health, job satisfaction, and patient care in radiotherapy, and which workforce areas—training, retention, or workflow—should be prioritised if resources are limited?

I do not have hard numbers on correlations between the three. If I were to speculate, I would say there is a risk of a vicious circle where staff shortages would lead to a higher workload, potentially more stress, potentially more people leaving the field, an even higher workload, etc. That would lead to an increase in waiting lists for patients. Moreover, workforce shortages may lead to more focus on organizational values such as efficiency and a task-oriented culture. From a study by Abravan (2023), we learned that when these organizational values dominate over personal values such as self-development and a people-oriented culture, employees may become less engaged, which could increase the speed of the vicious circle. Given this, if resources are limited, we need to focus on the combination of training new staff, retaining experienced staff, and improving workflow to make sufficient impact.

In analysing workforce and cancer incidence trends, what was the most surprising or unexpected finding that challenged your assumptions?

Dylan: In 2023, we launched an Opinion Panel within the ESTRO Early Career Committee because, based on the personal experiences of several committee members, we sensed that workforce challenges were becoming an increasingly urgent problem. At the same time, international literature clearly indicated that the incidence and prevalence of cancer continue to rise.

My own experience in Belgium was that the issue is particularly pronounced among RTTs. Historically, radiotherapy departments in Belgium have mainly relied on nurses. Radiographers with dedicated radiotherapy training joined much later, and their numbers

are far too small to compensate for the shortage in the field. On the other hand, continuing to rely heavily on nurses creates additional challenges: these professionals must make significant efforts to keep up with rapidly evolving technological and imaging developments, which is not straightforward for this group as they do not have the thorough educational background. Moreover, employing nurses in radiotherapy removes them from hospital wards that are also facing severe staffing shortages.

Such issues may seem primarily managerial in nature, but through our Opinion Panel, a brief ten-question survey, we wanted to understand how young colleagues themselves perceive the problem. Do they also feel the impact? How do they view their own retention in the field? The questionnaire should be interpreted mainly as a scoping exercise, a quick exploration of the situation in practice.

“When organizational values dominate over personal values, such as self-development and a people-oriented culture, employees may become less engaged, potentially accelerating the vicious circle.”

And indeed, 80% of the multidisciplinary participants in the published abstract (Callens et al., RO, 2024) indicated that staff shortages negatively affect oncological care. Most also reported that the issue is clearly noticeable within their own departments, with high turnover rates. Despite this, we wanted to approach the topic from a positive angle and explore which protective factors contribute to the intention to stay in the profession. Of our sample, 80% stated that access to professional development opportunities is a protective factor for their retention. This was a very important finding, especially since salary is often

mentioned as a reason for leaving for other hospitals or industry positions; however, only 31% of respondents considered a competitive salary as a protective factor.

In my presentation during the conference, I suggested that departments should work towards creating their own “retention PTV volume”: Professional development opportunities, transforming work-life balance, and valorization of individual contributions. Is this the ideal formula for success? That remained uncertain, as this was only a scoping study with limited statistical power, a relatively small respondent pool, and a group likely enriched with individuals already seeking challenge or connection within the community since they signed up for the Opinion Panel pool. Therefore, we decided to continue this work more in-depth and established a task force that formed the basis of the ESTRO Retention Survey, supported by an HR expert in retention. Understanding exactly what contributes to retention within our community enables us to translate the positive narrative into clear guidance and actionable messages on how to strengthen retention.

The ESTRO Retention Survey has now been analyzed for the first time, with nearly 1,000 participants, offering many insights that will be published in the coming months.



“80% of young colleagues reported that access to professional development opportunities was essential for staying in the profession; however, only 31% considered a competitive salary to be a protective factor”

How could the way we retain oncology professionals be reimaged to prevent future workforce crises?

Dylan: Personally, I don’t think we need to completely reimagine retention. It is reality that fewer people are choosing careers in healthcare and that many (especially younger) individuals now prioritize work-life balance and therefore make different career decisions. Of course, we should wait for the detailed outcomes of the ESTRO Retention Survey, but we should also avoid examining radiation oncology in isolation. A strong framework is the Job Demands-Resources (JD-R) Model by Bakker and Demerouti (2007, 2017, 2022). The model views work as a dynamic system shaped by:

- Job demands, which take energy (e.g., workload, bureaucracy, emotional labor), and
- Job resources, which support or energize people (e.g., autonomy, support, feedback, opportunities for growth).

What makes the JD-R model so useful is that it shows how the balance between demands and resources strongly influences well-being, motivation, engagement, and ultimately retention! It emphasizes that these dynamics are not static: resources and personal strengths (like optimism, self-efficacy, and resilience) reinforce each other and encourage proactive behaviours such as job crafting. Over time, this can create positive cycles where people gain more resources and become more engaged.

The opposite can unfortunately also occur: when demands are too high and resources insufficient, people may experience strain, fatigue, or burnout, which in turn can lead to self-undermining behaviours (mistakes, conflicts, poor communication). This can create negative cycles, where demands continue to increase, eventually leading to high turnover rates.

The model highlights that these processes operate at multiple levels, from the organization to the department to teams and individuals. Colleagues also shape each other's demands, resources, and emotional climate. Understanding this at an organizational and departmental level makes it possible to identify what each employee needs and to adapt support accordingly.

The JD-R model shows clearly that there is no one-size-fits-all solution and that retention strategies must be tailored to the specific conditions of the departmental workforce and the individual rather than generic. Most HR experts are familiar with this, but educating departmental management teams is essential if we want to put these insights into practice.

Are there countries or healthcare systems that are successfully managing

workforce shortages in oncology, and what can others learn from them?

Dylan: That is a difficult question, because not every country has published data on this topic, so I don't think I can give a fully accurate answer.

What I can say, on a personal level, is that the strong emphasis on work-life balance in Scandinavia has always intrigued me. Unfortunately, there were not many Scandinavian participants in the ESTRO Retention Survey, so meaningful comparisons simply aren't possible.

However, in May 2025 I completed a research visit at Aarhus University Hospital in Denmark, and what stood out to me was their focus on team cohesion, on strengthening professionalism within the group, and on having very clear structures regarding working hours, including reasonable working days that ended early. They did work on Saturdays, but everyone agreed to that arrangement, and it was considered part of a viable schedule.

I couldn't determine whether they had stronger or weaker retention intentions compared to other countries, but the way they organized their work really appealed to me. Personally, I found it an inspiring example.