

With increasing incidences of cancer, largely due to the ageing population, the importance of research in this arena continues to mount. **PEN** speaks to **Ulrik Ringborg** about the trends in cancer research

Research for the cancer agenda

AS the challenge cancer presents continues to mount, European researchers and medical professionals are pushing forward efforts. At the forefront is the European Academy of Cancer Sciences. Secretary general of the academy, Ulrik Ringborg is at the heart of these efforts. With a career as a researcher and leader in the field of cancer research, Ringborg has been at the cutting-edge of efforts to move the research agenda forward and to advance collaborative and integrative activities across Europe to tackle the scourge of this multifaceted disease.

Here, Ringborg speaks to PEN about developments around the issue – as he makes clear, rising numbers of cancer patients and indeed, deaths from cancer, make this an essential area for European research. Ringborg tells PEN that in just two decades there will be 60% increase in cancer deaths, while many more patients will be living with chronic cancer disease thus putting evermore pressure on healthcare systems. Faced with these worrying trends, the cancer leader maintains that existing strategies are not adequate to address the problem.

Ringborg advised: “Cancer will become an ever-pressing burden and it is of paramount importance that appropriate strategies are defined. The fragmentation and lack of a joined up approach in cancer research is very evident in Europe. We have strong, basic and preclinical research organisations, but they are not well connected to the clinical research centres. We also see fragmented organisation within clinical research centres, which are usually localised in university hospitals. Several effective, comprehensive cancer centres exist, where research and education is integrated with clinical activities. However, translational research remains sorely inefficient, and this is one important factor behind fragmentation.”

Continuing he stated: “The other factor we see is increasing complexity. The more knowledge we have in cancer biology the more complex it becomes to deal with the situation. In clinical practice we work with around 200 diagnoses, but when you start to review the genetics and consider a single tumour type, say breast cancer, today experts have identified ten different groups, but investigating deeper, there may be 50 or perhaps 100 groups of breast cancer.”

In order to tackle current challenges, new approaches are needed: “We are currently fostering collaboration between cancer centres, not only research groups, in order to reach the critical mass of expertise, resources and infrastructures to better co-ordinate cancer research and its translation into effective clinical interventions.”

Research agenda

Coming to research priorities that should be explored under the next European framework programme for research, Horizon 2020, Ringborg outlined what he would like to see: “There have always been difficulties with the sustainability of EU research projects. Usually projects are funded for between three and five years and then the funding stops, creating a frustrating situation whereby project partners often have to cease collaborative initiatives and abandon the good work done, due to the cessation of financial support.

“Even the biggest cancer centres in Europe cannot meet research goals by themselves, so they need to go into collaboration. We believe that no single country or centre will have all the critical mass needed for effective translational research to advance personalised cancer medicine. If Europe is to realise the potential of personalised cancer medicine, cross-border collaboration is non-negotiable.”

On the issue of funding, Ringborg went on to add: “Here we have a big problem, because funding is national, but the collaboration should be international. There is EU support and national funding, but the European Commission is the gatekeeper to around only 4% of the total cancer research budget. The other 96% remains at national level, and while some member states collaborate effectively in certain areas, the pattern is not consistent throughout



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the continent nor across the cancer research continuum. Countries have started to coordinate efforts in basic research, and the European Research Council encourages this, however we have no similar initiatives in clinical or translational cancer research.”

Collaboration; the key

Ringborg outlined that Europe needs to prioritise international collaboration on cancer research and in particular co-ordination initiatives in translational cancer research. While many are working to push this concept, much work needs to be done to create such a situation, which may be achieved by the creation of an organisation at European level. While the European Commission has created the building blocks for improved European co-ordination, Ringborg stated his desire to see an expanded funding programme in Europe, capable of supporting wider international collaboration in cancer research – not only to deliver highly personalised cancer treatment but also to identify high risk groups and deliver effective preventative strategies.

Academy priorities

The European Academy of Cancer Sciences aims to provide independent, evidence-based recommendations for strategies to address the aforementioned challenges. With 180 fellows spanning the whole cancer continuum and selected by excellence and outstanding contributions to their field, the academy is well-placed to advise on the future of cancer research. Four taskforces are currently at work on priority topics across the cancer spectrum.

In the field of primary prevention, Ringborg used the example of tobacco use to highlight challenges in this area. Despite the evidence pointing to a link between tobacco use and lung cancer – causing 20-25% of the cancer mortality – there remains a challenge in translating research into effective preventive strategies. It is clear that evidence is communicated to the right people and through the appropriate channels in order to bring about change. Engagement with political and economic players is essential to make an impact.

It is, however unfortunately not possible yet to prevent some cancers. This is where the importance of early detection is crucial. Progress continues to be made, with Ringborg reflecting on how there was initially enthusiasm over

widespread mammography screening. But, the screening programmes over recent decades have also been subjected to criticism. A separate taskforce within the academy is evaluating the evidence for mammography screening. A complex area is that of prostate cancer where improved strategies for early detection and treatment are needed.

And while excitement continues to grow over the potential of personalised medicine, Ringborg makes it clear that mass adoption will certainly prove costly. As evidence-based treatments and diagnostics come about, the academy’s secretary general warned about on-going economic issues: “clinical research is not optimally tied in with economic considerations.”

With a taskforce looking at this, Ringborg observed: “This task force will be very important because it will provide us with a strategy to define evidence on basis of clinical effectiveness of diagnostics and treatments aimed at personalised cancer medicine. With effectiveness data health economists will be able to assess the cost effectiveness of new treatments which today is an un-met need.”

Meanwhile, efforts to improve cancer survival are advancing. But even with continued progress, the problem of ever increasing cancer rates continues. While more and more cancer patients are being cured, work is needed on monitoring the long-term health outcomes for cancer survivors, with Ringborg saying: “We need research strategies in cancer survivorship and we need to look upon both the beneficial effects of cancer treatment and diagnosis as well as physical, long-term negative effects.”

Shared challenges

Evidently, in order to foster collaboration, it is crucial to develop cancer centres that are set up in such a way as to make inter-organisational collaboration easier, with validated research infrastructures. Ringborg underlines the importance of harmonised and quality assured standards in this arena, ensuring that data from patients and biological materials can be effectively exchanged.

What is lacking, Ringborg told PEN, is accredited comprehensive cancer centres. The academy has proposed criteria for excellence in comprehensive cancer centres which will help to identify the most effective and innovative facilities in Europe, with an aim to pilot this programme.

To sum up the core message from the European Academy of Cancer Sciences; an important goal is to identify priority areas for strategic actions, and provide the evidence and impetus needed to make a case for cancer stakeholders to work together to fight the disease in collaboration.

There is a huge fragmentation of efforts and priorities across and between countries, organisations and institutions, and unifying and strengthening efforts through recourse to the evidence is the added value that the academy should bring.

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