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## Lilly Oncology - A Brief Profile

### ONCOLOGY AT A GLANCE<sup>1,2</sup>

More than 12 million people will be diagnosed with cancer this year around the world. By 2030, that number is expected to more than double – to 27 million. Over a lifetime, women have a one in three chance of getting cancer; for men, it's one in two. In addition, since there is a large increase in cancer risk with age, the burden will increase as the population ages.

Progress has been made since death rates in Europe continue to decline for all cancers combined, driven mainly by decreases in breast cancer mortality in women, and lung and colorectal cancer in men. However, mortality rates remain high and there is clear unmet need for novel treatments and strategies. A recent study of cancer survival figures by leading UK cancer charity Macmillan Cancer Support found that although there have been dramatic improvements in survival for some cancers like breast with years added to median survival times. There is little, if any, good news for other cancers like lung cancer, where median survival times are still counted in weeks rather than years.

In cancer treatment, pharmaceutical innovation is crucial to advance patient care. Pharmaceutical innovation often occurs as a series of incremental improvements in safety, efficacy, and utility with the same general "class" of medicines that together have a significant impact on patient care. The vast majority of clinically important drugs developed over the last 50 years have resulted from an evolutionary process, involving multiple, small, successive improvements within a pharmacological class.<sup>3</sup> Incremental innovation is critical not just for the patients who can benefit from new therapies today. It's also essential for companies like Lilly to continue the pursuit of medical advances for tomorrow.

### INNOVATION IN ONCOLOGY

Eli Lilly and Company has dedicated more than five decades to developing innovative medicines that improve the lives of people living with cancer. Today, Lilly Oncology's vision is to change the world of cancer care, continuing to place a priority on speeding innovation in a way that can improve outcomes for individual patients facing cancer.

Our ongoing research, manufacturing and development efforts are taking place around the world, including the Australia, Brazil, Canada, China, France, Germany, Italy, Ireland, Japan, Mexico, Puerto Rico, Singapore, Spain, United Kingdom and United States. We foster mutually beneficial partnerships that bring the best medicines to market. Working together, we can discover, develop, and deliver the innovative pharmaceutical therapies that will help people live longer, healthier and more active lives.

### ADDRESSING PATIENT NEEDS

Lilly Oncology is incorporating personalised medicine throughout its research and development efforts.

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<sup>1</sup> IARC. (2008) World Cancer Report, 2008. Boyle, P. and Levin, B.E. (eds), IARC Press, Lyon. Available at:

<http://www.iarc.fr/en/publications/pdfs-online/wcr/>

<sup>2</sup> Living after diagnosis (median cancer survival times Report. A research briefing paper by Macmillan Cancer Support. Available at:

[http://www.macmillan.org.uk/Aboutus/News/Latest\\_News/TheCancerSurvivalLottery.aspx](http://www.macmillan.org.uk/Aboutus/News/Latest_News/TheCancerSurvivalLottery.aspx)

<sup>3</sup> Incremental Innovation. Available at: [http://www.innovation.org/index.cfm/innovationtoday/KeyIssues/Incremental\\_Innovation](http://www.innovation.org/index.cfm/innovationtoday/KeyIssues/Incremental_Innovation)

The goal of personalisation is to provide improved health outcomes by identifying individual patients most likely to benefit from a particular medicine, moving us closer to more precise, predictable and powerful medicine—customised for the individual patient. This form of tailoring can also help to speed development of new treatments and limit the number of patients required to participate in clinical trials where possible.

There are different degrees of tailoring; the most tailored are called targeted therapies, which are often found in oncology. Targeted therapies use a marker of some kind, such as a genetic defect or gene overexpression, to help identify patients who have a higher likelihood of responding to a particular therapy. Lilly Oncology has biomarker strategies for almost all molecules in its pipeline, and these strategies are developed as early as the discovery phase, before medicines are tested in humans.

Tailored therapies may provide greater benefit for patients than more traditional approaches to treatment. By reducing some of the uncertainties that accompany the treatment of these complex diseases, individual patients and their carers may be spared critical time pursuing treatments that may not work for them.

## **MEDICINES OF THE FUTURE**

Today, Lilly Oncology has one of the largest and most diverse oncology medicine pipelines in the industry, with an unprecedented number of new compounds in clinical development. They include both small molecules (small atom particles that make up all living and non-living things) and biologics (medical products like vaccines) with novel mechanisms of action, such as blocking key steps in pathways vital for the growth and spread of tumours.

## **SUPPORTING THE PATIENT JOURNEY**

Improving patient outcomes involves more than providing innovative medicines. For many years Lilly has been working with patient advocacy groups to provide education and support to people living with cancer. For example, Lilly Oncology UK supports the production of materials by The Roy Castle Lung Cancer Foundation (RCLCF), including Lung Cancer – Answering your Questions, for lung cancer patients, their families and carers.

Recently Lilly worked with the RCLCF to produce a DVD about lung cancer that people affected by lung cancer can watch in their homes, as many people are unable to attend support groups.

Throughout the DVD a variety of people whose lives have been touched by lung cancer share their real-life experiences. These interviews give an emotional insight into living with lung cancer. They also provide practical and emotional advice for coping with treatment and its side effects and how to live as normal a life as possible.

The DVD can be viewed in 12 languages and is available on The Roy Castle Lung Cancer Foundation (RCLCF) web site. <http://www.roycastle.org/how-we-can-help/Our-Publications/Lung-Cancer-DVD-and-Online-Videos>