Building hope

Today

Over the past decade, personalized medicine has created a paradigm shift in the delivery of individualized clinical care, however it is still seen that most treatments for chronic conditions including cancer are prescribed without the use of a biomarker to select patients.[1]

Significant progress is being made in how cancers are diagnosed and this movement is set to continue.

## The dynamics of cancer are changing...

There is a rising incidence of cancer globally, as people are living longer lives and risk increases with age.[2,3] Conversely, improvements in overall survival for some types of cancer has been seen thanks to modern day medicine and diagnostics.[4]

There have been considerable improvements in cancer treatment with the success of high precision, targeted therapies.[5]

Lung cancer is the most common cancer,[6] as well as the most common cause of cancer death, worldwide.[7] The economic burden of lung cancer is significant; in particular the cost of failure of initial treatment.[8] Therefore, innovation is essential to maximize patient outcomes and the disease survival rate.
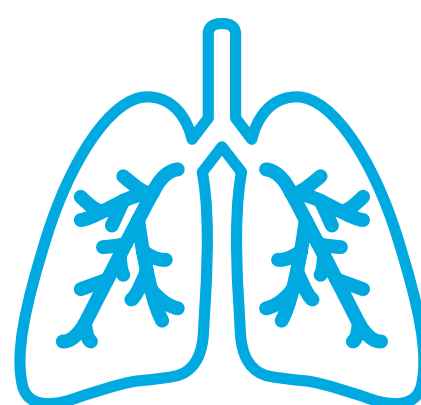
Companion diagnostics can identify the potential safety and efficacy of a certain therapy by analysing the patient's genetic makeup. This personalized approach is becoming more common in cancer and non-small cell lung cancer (NSCLC) in particular.

Therapy-guiding diagnostics have the potential to reduce the cost of healthcare and improve patient outcomes.[9] FDA seeks to facilitate innovations in precision medicine[10] and encourages the development of therapies and diagnostic tools.[11] In fact, nearly 1 in 4 drugs that were FDA approved from 2014 to 2016 was a personalized medicine.[12]

Tomorrow

Agilent believes that personalized medicine will continue to improve patient outcomes and healthcare spending towards more effective treatments with fewer side effects across all cancer types.

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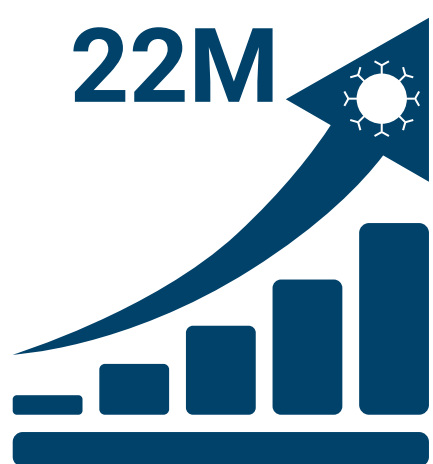
Globally, it is estimated that the number of new cancer cases will rise within two decades to 22 million.[13]
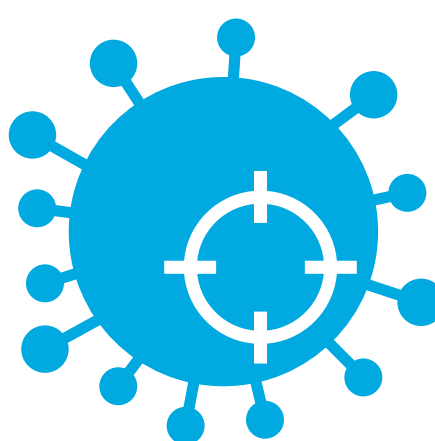
Personalized medicine and diagnostics are critical to the delivery of better healthcare in the future: getting the right therapy to the right patient at the right time.[14]
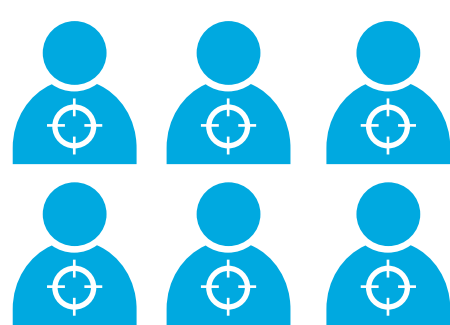
Comprehensive diagnostic characterization of each tumor could enable personalized treatment pathways assisted by artificial intelligence.

This could allow for the best possible outcomes while minimizing adverse drug reactions.
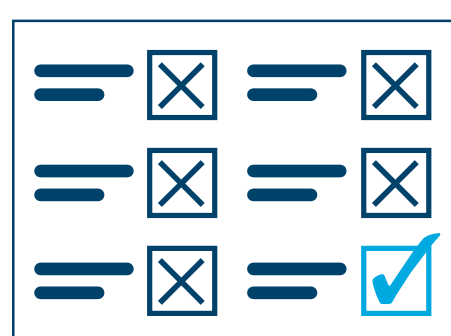
Certain companion diagnostic tests can save between $600 to $28,000[15] per patient by e.g., reducing the price of carrying out unnecessary treatments, as they allow treatments to be ruled out before initiation.[16]

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