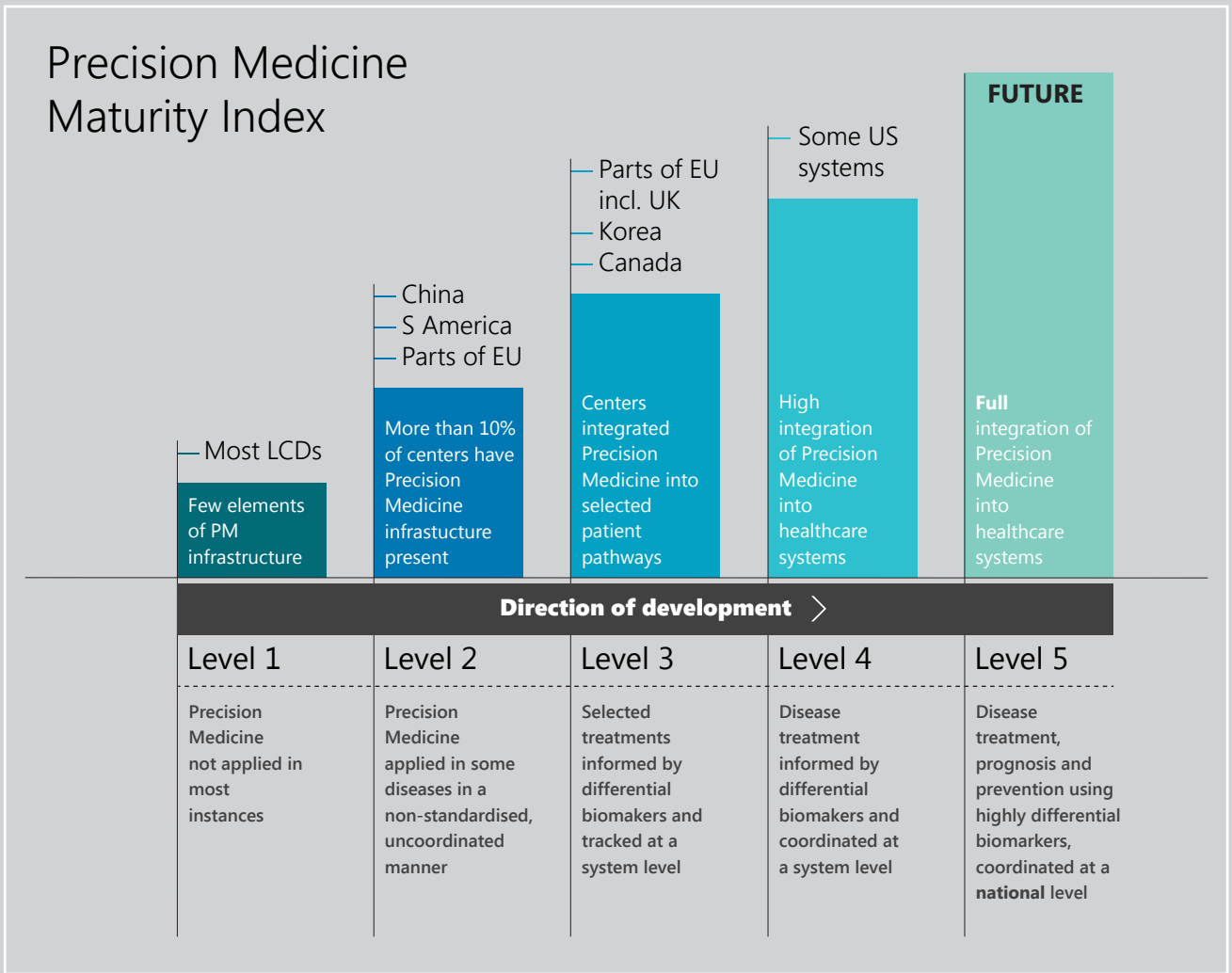
TAKING PRECISION MEDICINE GLOBAL

Precision medicine (PM) is now widely seen as the new era in medicine. Combining precise molecular diagnosis, with tailored treatment, outcome tracking and powerful data analytics, it has the potential to deliver major patient benefits and greater health system productivity. It is not without its critics, who point to the high costs of some PM tests and medicines and the limited evidence so far that they have delivered on their promise, but most new waves of biomedical technology, from MRI to organ transplants and implants, initially attracted such criticism. The future of medicine must surely take maximum advantage of molecular insights, targeted treatments and advanced analytics, as part of securing sustainable care. PM has global potential. However, every country (or region) and health system needs to make progress in precision medicine in its own way, bearing in mind the state of its current health infrastructure, its disease priorities and of course its economic strength. Both the systems themselves and the suppliers of PM technologies have a strong interest in crafting strategies and roadmaps that are practical, affordable and yet future-compatible. This is where New Medicine Partners is focusing its efforts.

As a starting point, we have developed a 'precision medicine readiness index', based on the current application of PM thinking and technologies and the level of their integration into the health system(s):



The PM readiness analysis not only positions geographical countries, regions and systems in one of the five levels of maturity but also indicates the areas of highest potential industry growth. This leads into the construction of a 5–10 year roadmap for future development, encompassing investments, R&D programmes, equipment requirements and skills development.

Getting this right should not be a concern only for the countries and systems themselves, but for the diagnostic and biopharma companies that wish to serve them. Industry has initially focused their PM strategies on the more mature markets, mainly the US, but the highest future growth potential lies in the major middle income and emerging markets within Europe, Latin America and the APAC region (particularly China).

In our work across the world, New Medicine Partners finds many countries and regions anxious to develop their PM capabilities and many are receptive to the private sector as they do so. The UK—NMP's base—has the most advanced set of PM investments, notably in the form of the 100,000 genome project (just successfully completed), the UK Biobank and a fast-growing biotech sector. France has a well-developed cancer genomics programme, and regions of Italy and Spain are setting up PM initiatives and data centres. India has spawned several genomic testing companies serving both the provider systems and consumers, and has a particular interest in personalised prevention at a mass scale. China has committed a large sum to developing PM and has a host of rapidly growing young companies on both the diagnostic and therapeutic side. In addition, several countries not usually associated with advanced life sciences have expressed a desire to join the genomics revolution and have reached out to the UK for advice.

A recent survey by the Tufts Centre for Drug Development showed that several biopharmaceutical companies have doubled their investments in PM over the last five years in PM and are expecting to increase their investments by another third over the next five years, propelling the market growth globally. Thus, PM is coming closer and closer to becoming an integral component of healthcare systems.

But there are a number of tough issues that both the public and private sector need to grapple with as they craft their PM strategies: defining the health priorities that will benefit the most; integrating their life science research and implementation strategies; striking the balance between bio-technologies and digital health tools; demonstrating the health economics case for PM; creating—where necessary—biotech clusters to drive PM forward; and ensuring the right level of political and health system support. These are all issues on which NMP stands ready to support, as precision medicine goes global.