# Transforming Livings, Raising Productivity: Key Messages and Facts

## Executive summary

- In 2022, the ABPI commissioned PwC to produce a report on the benefits of increased investment in clinically-and cost-effective innovative medicines.
- **The report revealed that, while the NHS has made some positive progress, access to innovative medicines remains variable and slow** in comparison to other developed countries. The three key issues are:
    - **Breadth of access** where UK patients have lower access to innovative medicines than patients in other countries. *43% of positive recommendations made by NICE between 2015-19 were for narrower populations than other regulators.*[i]
    - **Speed of access** where the average wait time to get a new medicine on the NHS once its available is slower than other countries. *NHS patients wait, on average, 335 days to get access to new, licensed medicines vs 120 in Germany.*[ii]
    - **Extent and rate of uptake** where for most medicines, even five years after they are available on the NHS, they are used less than in other countries. *Use of medicines on the NHS five years after launch is typically 64% of other nations.* [iii]
- **This contributes to poorer health outcomes in the UK** for many conditions including cancer, heart disease and stroke.
- **New medicines have the power to transform patients' lives and will be key to the NHS' post-pandemic recovery** and tackling the care backlog.
- **If we can supercharge the execution of the Life Sciences Vision** and make a step-change in access to, and uptake of, innovative medicines **we can see clear health, economic and broader social benefits.** The Voluntary Scheme for Branded Medicines Pricing and Access (VPAS) should be seen as a key component in this.

### The Size of the Prize

Our report looked at four classes of medicines and has shown that, by working together and boosting access to **just these 4 medicines**, we could deliver an estimated:

- 1.2 million additional NHS patients currently eligible getting treatment
- 429,000 additional years of life in good health for patients
- £17.9 billion in productivity gains for the United Kingdom
- £5.5 billion of which would be paid directly back to the Exchequer through taxes

## Key Facts & Figures

### Medicines Development

- Discovering, developing and bringing new medicines to market is complex, risky and costly. On average:
    - Only 1 in 10,000 compounds make it to approval[iv]
    - Only 7.9 percent of medicines that get to clinical development get approval[v]
    - It takes 8-12 years from initial discovery to launch[vi]
    - The overall R&D cost of making a single medicine is £1.9 billion[vii]
    - For ATMPs the R&D cost is even higher at £3.5 billion[viii] [ix]

### Medicines Spend

- At net prices, for every £100 in GDP, the UK spends an estimated 81p on pharmaceuticals. This compares to £2.35, £1.94, and £1.84 spent by the US, Germany and Japan, respectively.[x]
- In England, medicines spending represents about 9.5 percent of the NHS budget, totalling around £16.7 billion annually (including generic medicines).[xi] [xii] [xiii]

### Breadth of Access

- Between 2015 and 2019, 43 percent of positive NICE recommendations were 'optimised'. This means they were recommended for a smaller patient population than that for which the medicine has been approved by the EMA or MHRA.[xiv]
- Of these optimised recommendations, around two-thirds (65 per cent) recommended treatment in less than half the approved population. [xv]

### Speed of Access

- England is slower to provide access to a new medicine on the NSH after regulatory approval than other countries. It is ranked 7th in Europe, with an average of 335 days compared to 120 days in Germany.[xvi]

### Uptake

- For over 75 medicines recommended by NICE and launched between 2013 and 2019, per capita utilisation in the first three years was around 64 percent of the average in 15 comparator countries. [xvii]
- Looking at just 4 classes of medicines (DOACs, SGLT2 inhibitors, severe asthma biologics and vasopressin V2-receptor antagonists) that are an estimated 1.2 million patients in the UK who are missing out on treatment.[xviii] [xix]

## Health Outcomes

- In 2016, England had greater premature mortality across numerous diseases than other best performing countries:[xx] [xxi]
    - 50 percent more years lost to ischaemic heart disease than France of Spain
    - 60 percent more years lost to lung cancer than Finland or Sweden
    - 50 percent more years lost to stroke than Austria
- In cancer, the UK lags significantly behind other countries:[xxii]
    - NHS patients are 10.6 percent less likely to survive for five years after a cervical cancer diagnosis than patients in Japan (the best performing country)
    - The UK ranks 15 out of 18 developed countries for cervical cancer survival rates
    - NHS patients are 15.1 percent less likely to survive for five years after a colon cancer diagnosis than are patients in Australia (the best performing country)
    - The UK ranks last out of 18 developed countries for colon cancer survival rates
    - NHS patients are 5.1 percent less likely to survive for five years after a breast cancer diagnosis than are patients in the US (the best performing country)
    - The UK ranks 14 out of 18 developed countries on breast cancer survival rates

## The Value of Medicines

- If the UK increased uptake across just 4 types of medicines (DOACs, SGLT2 inhibitors, severe asthma biologics and vasopressin V2-receptor antagonists) to the NICE recommended eligible patient population, this would deliver:
    - 1.2 million additional NHS patients currently eligible getting treatment[xxiii] [xxiv]
    - 429,000 additional years of life in good health for patients[xxv] [xxvi]
    - £17.9 billion in productivity gains for the United Kingdom[xxvii]
    - £5.5 billion of which would be paid directly back to the Exchequer through taxes[xxviii]

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[i] Office of Health Economics (2020). 'NICE 'Optimised' Recommendations: What Do They Mean for Patient Access?', 30 July 2020.
[ii] EFPIA, 'EFPIA Patients W.A.I.T. Indicator 2020 Survey', April 2021.
[iii] Office for Life Sciences (2021). 'Life Science Competitiveness Indicators 2021', 30 July 2021.
[iv] EFPIA (2021). 'The Pharmaceutical Industry in Figures – Key Data 2021', 2021
[v] PharmaIntelligence (2021). 'Clinical Development Success Rates and Contributing Factors 2011-2020'
[vi] EFPIA (2021). 'The Pharmaceutical Industry in Figures – Key Data 2021', 2021
[vii] Converted from US dollars to pound sterling using 2021 average annual foreign exchange rate from the Bank of England.
[viii] Raconteur (2021). 'Rare Diseases', 2021.
[ix] Converted from US dollars to pound sterling using 2021 average annual foreign exchange rate from the Bank of England.
[x] PwC analysis of data from IQVIA (2021). 'Drug Expenditure Dynamics 1995–2020', October 2021, Exhibit 1; OECD, Health Spending dataset; and OECD, GDP dataset. Estimates based on 2018 figures.

[xi] NHS Business Services Authority (NHSBSA) Statistics (2021). 'Prescribing Costs in Hospitals and the Community – England 2020/21', 11 November 2021: 'The total expenditure on medicines in England by the NHS in 2020/21 was estimated to be £16.7 billion.
[xii] The King's Fund (2021). 'The NHS budget and how it has changed', 24 March 2021.
[xiii] DHSC and ABPI (2019). 'Analysis of UK medicine sales 2019'.
[xiv] Office of Health Economics (2020). 'NICE 'Optimised' Recommendations: What Do They Mean for Patient Access?', 30 July 2020.
[xv] Office of Health Economics (2020). 'NICE 'Optimised' Recommendations: What Do They Mean for Patient Access?', 30 July 2020.
[xvi] EFPIA, 'EFPIA Patients W.A.I.T. Indicator 2020 Survey', April 2021.
[xvii] Office for Life Sciences (2021). 'Life Science Competitiveness Indicators 2021', 30 July 2021.
[xviii] EMA 2016-2020
[xix] Note that the eligible patient populations are defined by the NHS Digital Estimates Report for 9 of the 13 medicines for which it is available. The eligible patient populations for the remaining 4 medicines are sourced from IQVIA, NICE guidance and analysis from ABPI member companies. Industry sources have confirmed in each case that these are the appropriate figures to use.
[xx] Compares the UK's YLLs (age standardised rate per 100,000) against 22 peer countries; countries listed are the top-performing countries in the poo
[xxi] Public Health England (2020). 'The Burden of Disease in England compared with 22 peer countries – A report for NHS England', January 2020, p. 31.
[xxii] Nuffield Trust. 'Cancer survival rates', updated 25 May 2021
[xxiii] EMA 2016-2020
[xxiv] Note that the eligible patient populations are defined by the NHS Digital Estimates Report for 9 of the 13 medicines for which it is available. The eligible patient populations for the remaining 4 medicines are sourced from IQVIA, NICE guidance and analysis from ABPI member companies. Industry sources have confirmed in each case that these are the appropriate figures to use.
[xxv] Fouad et al. (2017). 'Effect of Chronic Diseases on Work Productivity: A Propensity Score Analysis', Journal of occupational and environmental medicine, May 2017, 59(5):480-485, Doi: 10.1097/JOM.0000000000000981. PMID: 28486344. 127 Madsen et al. (2019)
[xxvi] 'Willingness to pay for flexibility at the workplace for people with diabetes and chronic disease: a discrete choice experiment in a population of workers in Denmark', BMC Public Health 19, 584 (2019). https://doi.org/10.1186/s12889-019-6919-6
[xxvii] DCMS (2021). 'DCMS Economic Estimates 2019 (provisional): Gross Value Added', 19 February 2021.
[xxviii] OECD, 'Revenue Statistics 2020 – the United Kingdom'