

DEAL WATCH

Impact of COVID-19 on pharmaceutical external innovation sourcing

The disruptive impact of the COVID-19 pandemic on the pharmaceutical sector has been multifaceted, given the industry's role in delivering innovations to address the pandemic. Here, we evaluate the impact of COVID-19 on investments in pharmaceutical innovation sourcing by analysing R&D deals with such a goal in the past 5 years (see Supplementary Box 1 for details of the data and analysis). We also reflect on how the innovation sourcing landscape may evolve.

Impact on innovation sourcing

In 2019, the industry R&D deal value totalled US\$485 billion and 45% of the clinical pipelines of the top 20 pharmaceutical companies (by R&D spending) were sourced externally (Supplementary Figure 1). As the pandemic hit, the total number of external innovation-focused deals (including partnerships and M&As) remained the same between February 2020 and July 2020 as compared with the same months of 2015–2019, with 1,984 deals in this period being equal to the mean number of deals in the respective months of the previous 5 years. However, the cumulative deal value of the 2020 deals dropped by ~36% to \$122 billion from an average of \$190 billion in the respective months of 2015–2019 (Supplementary Figure 2). This was primarily

driven by a 54% drop in the median value of M&A deals compared with the same period in previous years. This was counter-balanced somewhat by a 142% increase in the median value of partnership deals to \$2 million compared with recent years (FIG. 1a).

Nearly a quarter (453) of the innovation-related deals announced between February and July 2020 were directly related to COVID-19. These rapidly configured deals included therapeutics (34%), diagnostics (26%) and vaccines (14%), and were largely focused on discovery and preclinical-stage R&D collaborations and co-development. During the same period, activity for non-COVID-19-related deals was dampened across all therapeutic areas, with a drop of ~23% compared with 2015–2019 (FIG. 1b,c; Supplementary Figure 2).

Although there has clearly been a short-term disruption to biopharma deals, the relative health of the early innovation landscape, represented by relevant venture capital and private equity investments, does not seem to have been affected substantially. 2020 has seen a slight reduction in the number of such investments (12% versus 36% across other industries), but the overall value of invested capital in 2020 exceeded the average of previous years (Supplementary Figure 3). This suggests

that the pandemic has emphasized the investment potential of early-stage pharmaceutical innovation and that external innovation sourcing will regain its momentum.

Outlook

While the pharmaceutical industry's deal dynamics are likely to rebound from the COVID-19 pandemic, there may be some investment themes that endure. First, there is likely to be a sustained investment focus on the infectious disease and immunology space, given the heightened understanding of the health economic impact of such diseases. Second, operational learnings from delivering trials (increasingly remotely) in a pandemic are likely to translate into an accelerated investment level in clinical digitization solutions. Finally, an industry-wide pivot towards developing innovations across companies and geographies via a more networked and 'remote' external collaboration model may broaden the geographic reach of investments beyond the traditional innovation hubs.

Lucas Robke¹, Lotte Berghauer Pont², Jens Bongard¹,
Stephan Wurzer³, Katarzyna Smietana⁴
and Rachel Moss⁵✉

¹McKinsey & Company, Dusseldorf, Germany.

²McKinsey & Company, Amsterdam, Netherlands.

³McKinsey & Company, Munich, Germany.

⁴McKinsey & Company, Wroclaw, Poland.

⁵McKinsey & Company, London, UK.

✉e-mail: Rachel_Moss@mckinsey.com

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Competing interests

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Supplementary information

Supplementary information is available for this paper at <https://doi.org/10.1038/d41573-020-00184-z>.

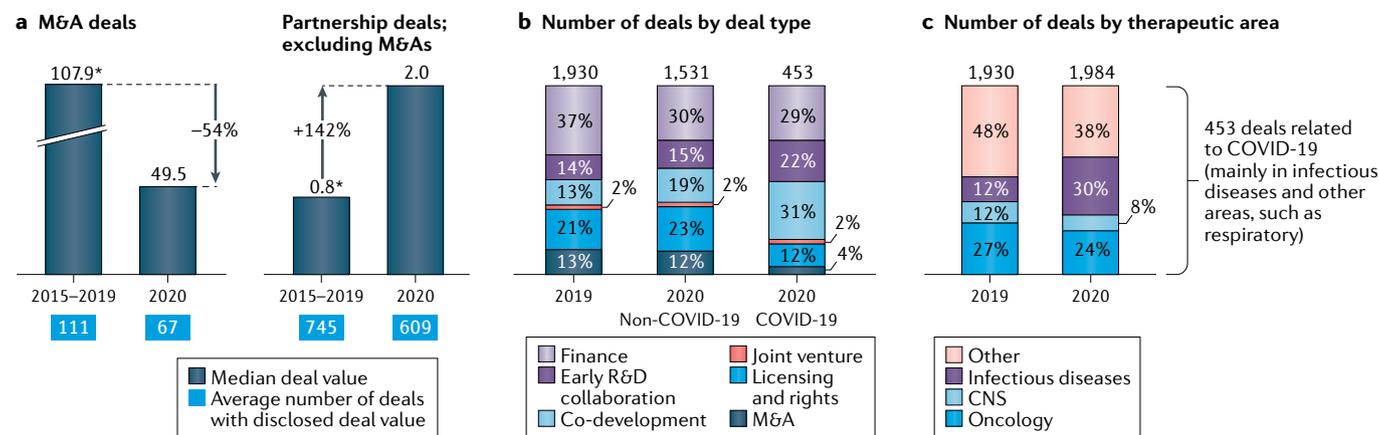


Fig. 1 | **Impact of COVID-19 on pharmaceutical innovation sourcing.** a | Mean number and median value (in US\$ millions) of innovation-focused pharmaceutical deals with a disclosed value between February 2020 and July 2020 compared with the respective months of 2015–2019. b | Number

of deals by deal type for COVID-19-related and non-COVID-19-related deals. c | Number of deals by therapeutic area. Data source: IQVIA Ltd Pharmadeals; as of August 2020. See Supplementary Box 1 for details of the data and analysis. *Mean of medians for each year.