



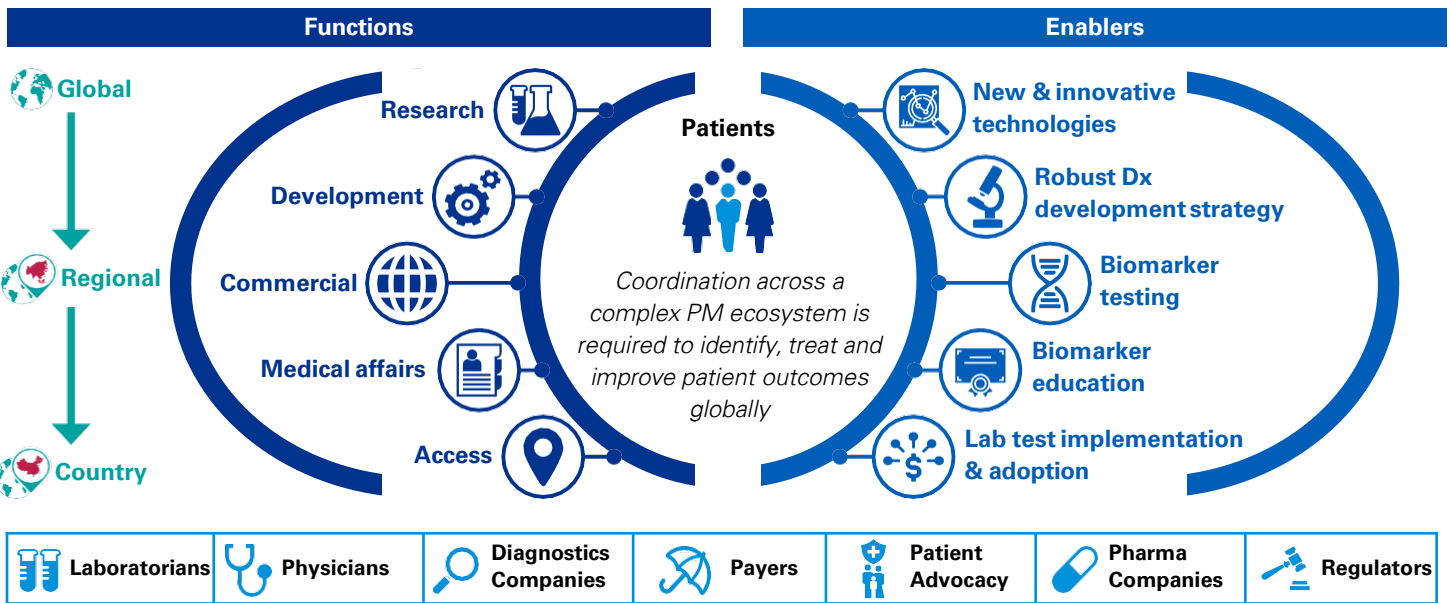
# Precision Medicine

## Navigating innovation in the new normal

Strategy | Deals | Operations

As the world emerges into a 'new normal' across life sciences due to the COVID-19 pandemic, we are entering a new phase of Precision Medicine (PM). Whether you are a medical institution developing personalized and holistic services for your patients in all therapeutic areas, a clinical laboratory restructuring to include in-house, near-patient, or kit-based offerings, or a pharmaceutical company trying to launch a new drug and diagnostic globally, the field of Precision Medicine has changed for everyone. In this 'new normal' our clients seek advisors who can provide deep scientific, technical and business insights at a local and global level. Part of the Healthcare and Life Sciences Strategy practice, the KPMG Precision Medicine strategy practice is a leader in this innovative area of medicine across all therapeutic areas, in markets around the world, with all relevant stakeholders, and fueled by experience across the value chain.

### The Precision Medicine ecosystem continues to layer complexity



### This is highlighted by survey results from our global KPMG Precision Medicine Diagnostics and Enabling Technologies (DxET) database

To what extent do you believe cancer treatment algorithms will become more or less complex in 5 years vs. today (% respondents)?



Given this complexity, to what extent do you believe that biopharma needs to play a greater role over the next 5 years in educating the clinical care team about the use of diagnostic testing (% respondents)?



Sources: KPMG DxET database

## New technologies and innovations are changing the clinical care paradigm\*



### Liquid Biopsy

Long promised 'prime time' is here as companies continue to publish data on clinical validation and the market responds with significant M&A activity



### Multi 'omics' Data

Advances are being made in understanding the role played by the genome, transcriptome, proteome, epigenome and metabolome in disease pathogenesis



### Nucleic Acid Technologies

From 'one-and-done' gene therapies to mRNA, RNAi and ASOs, nucleic acid technologies are changing clinical outcomes across diseases, and could offer functional cures in some cases



### Artificial Intelligence

Companies are using AI and machine learning to predict the likelihood of cancer, before the tumor is detectable using traditional screening methods



### Tumor Agnostic Therapies

Identification of tumor agnostic biomarkers such as MSI and dMMR set to change the clinical care paradigm in oncology as therapies can be pan-tumor



### Multi-Modal Diagnostics

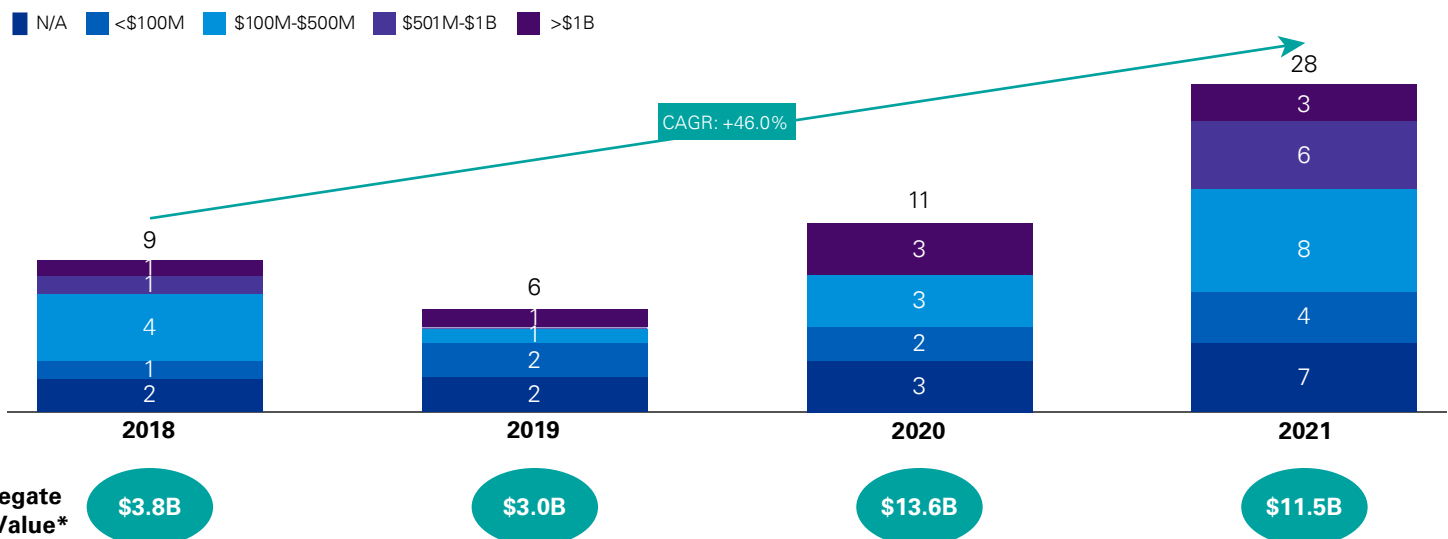
The complexity of the tumor microenvironment (TME) has led companies to develop multi-modal diagnostics that will enable HCPs to gain a holistic view of the TME and tailor treatment appropriately

\*Examples only, not exhaustive

## And this is fueling unprecedented deal activity across the PM ecosystem

### Worldwide Molecular Diagnostics (MDx) Deal Activity Snapshot, 2018 – 2021

#### Deal Activity by Transaction Value (Number of Deals = 54)



\*14 deals without publicly available transaction values were excluded for deal value aggregation

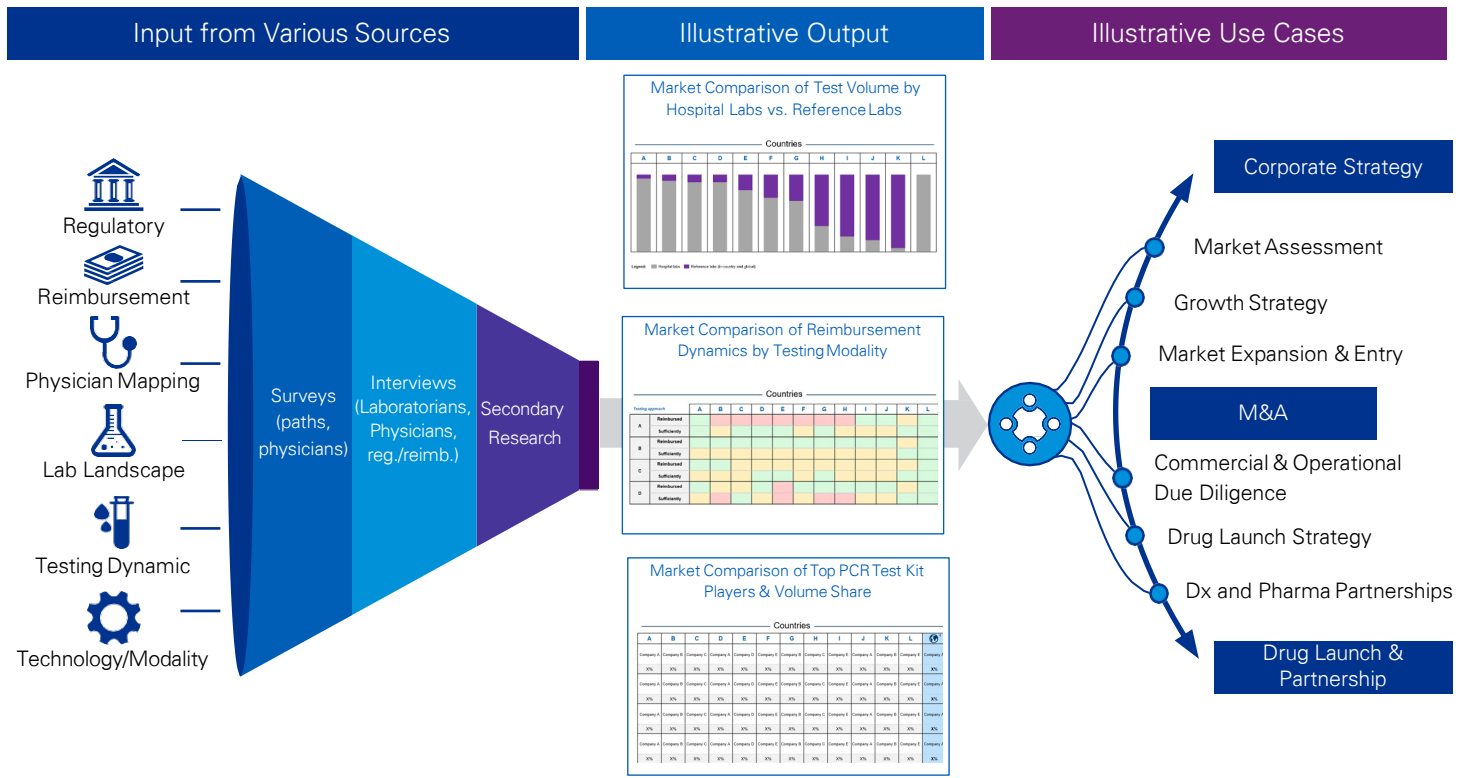
### \$1B+ deals continued in 2021 along with an increase in \$501M-\$1B deals

- 2021 was a banner year for deal-making in molecular diagnostics, with a near tripling of volume vs. 2020
- Although average deal size was down in 2021 vs. 2020, this was mostly driven by significant values in select deals in 2020, such as Illumina's acquisition of Grail (\$8B), Invitae's acquisition of ArcherDx (\$2.3B), and Exact's acquisition of Thrive Earlier Detection (\$2.2B)
- 2021 saw six deals in the \$501M-\$1B range vs. none in the prior two years, driven in many cases by COVID-19 testing cash – Thermo / Mesa, Veracyte / Decipher, Agilent / Resolution, Hologic / Mobidiag, Pacific Biosciences / Omniome, and Labcorp / PGDx
- Liquid biopsy was a theme in several 2021 deals (e.g., Labcorp's play for PGDx for \$575M and NeoGenomics acquisition of Inivata for \$390M) as this market continues to heat up, driven by MRD applications and biopharma services demand

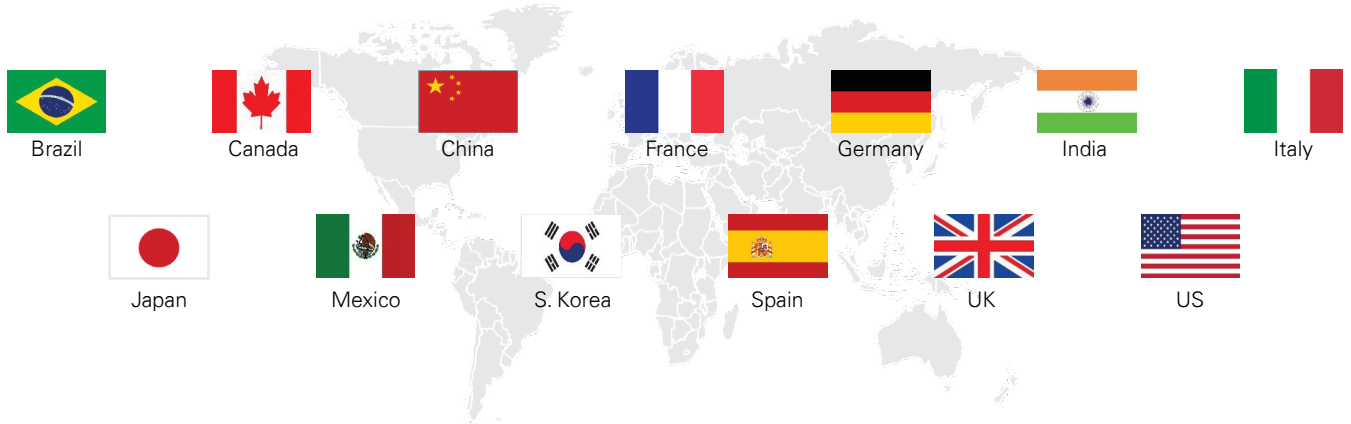
Sources: Informa

The database is used as a supplement to KPMG Strategy’s deals and projects in the precision medicine space, worldwide, and the sample set is designed to be easily expandable and re-queried for specific studies

PM DxET Analytics & Use Cases



Market Data on 13 Countries Around the World



Representative Datapoints (not exhaustive)

- Indication-specific biomarker testing rates
- Use of tumor-agnostic biomarker testing
- Testing modality adoption rates by indication
- Testing vs. positivity rates by indication
- Market perception of share by testing modality type, e.g., NGS, PCR, FISH, IHC
- Market perception of share by sample type (liquid vs. tissue)
- Market perception of share by key kits per indication
- Market perception of share by NGS installed base / sequencers
- Dx partner presence in each region and perceived share
- Setting of PM tests performed by modality and by type (hospital vs. commercial / reference labs)

## Our Precision Medicine Offerings



### Strategy

We help our clients solve their most complex strategic problems on a G-LOCAL level – global strategic focus and local level strategy and execution, leveraging our deep market knowledge, and powered by our proprietary KPMG DxET Database



### Deals

We support clients across the deal continuum, from front-end ideation and planning, to commercial, financial and operational due diligence, and through integration and separation. Our practice has been on the buy- and sell-side for many deals in the Precision Medicine ecosystem for both corporate and private investors



### Operations

KPMG leverages a holistic approach, helping organizations design and align operating models with business strategy, positioning the mid- and back-office functions of Precision Medicine organizations for performance transformation and commercial success

## Who we work with



Hospital and healthcare systems



Biopharma companies



Diagnostics and life science tools companies



Commercial, academic, and hospital labs



Private investors

### Example Case Studies:



#### Strategy

Global market assessment of the current and future Precision Medicine landscape to optimize future launch strategies for a global biopharma client



#### Deals

Full service diligence and integration work for a leading diagnostics company on back-to-back acquisitions (one international) within 6 months



#### Operations

Setting up COVID-19 testing capabilities for one of the largest reference labs in the United States

### Why KPMG?



#### We Have Extensive Experience

Our teams have worked with clients across the precision medicine ecosystem, which means we bring deep experience and the 'so what' to each project



#### We Work Across Client Types

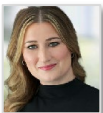
We work across client types, from the smallest genomics companies to the largest biopharmas and across the PE continuum, meaning that we can provide our clients with tailored perspectives



#### We Bring Global Strength

KPMG has access to a network of local teams around the world who understand the specific nuances of their market. We are able to bring these valuable insights to bear, while working as a global team, to enable project success

## Contact us



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