Differentiating ‘value’ in the real-world

Vaneet Nayar, Senior Director RWE, Parexel

Vaneet.Nayar@parexel.com

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Agenda

Highly competitive environment

Integrated evidence strategy

Real world evidence

Patients
+
Commercial value

Differentiating ‘value’ in the real-world

Vaneet Nayar

Senior Director, Real World Evidence (RWE)

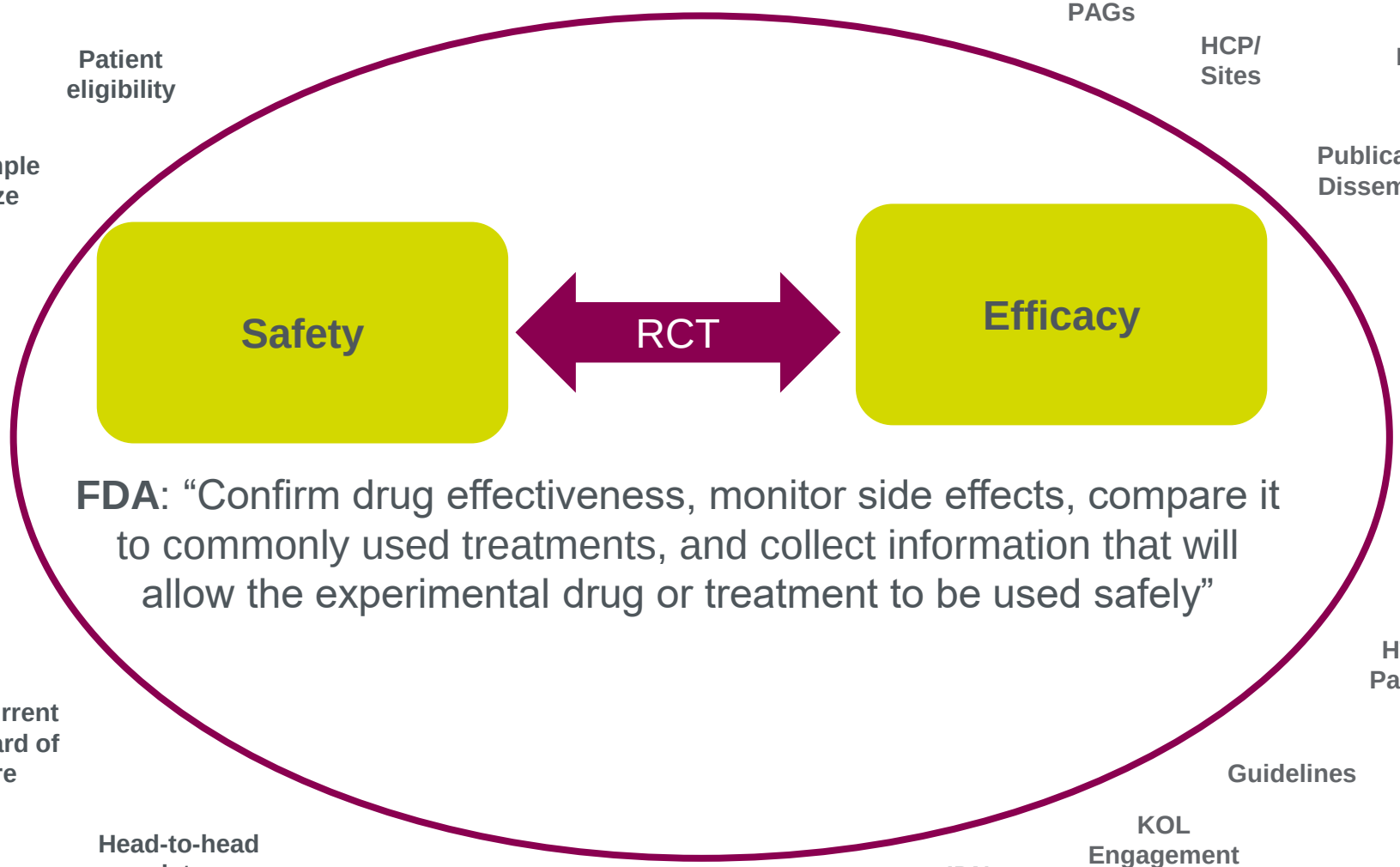
Experience

- Vaneet has 15-plus years of experience working in the global pharmaceutical industry with companies such as Astra Zeneca, Sanofi, Aventis, and Novartis—running multimillion-dollar brands and managing first-to-market disease areas.
- Prior to joining Parexel in 2022, Vaneet was a co-founder and General Manager of an RWE Consultancy, which he managed for 10 consecutive years.
- At Parexel, Vaneet is a Senior Director specializing in RWE and leading the commercial global growth strategy. He brings a wealth of experience in study design, consulting, thought leadership, and business development.
- His expertise includes end-to-end project delivery of RWE initiatives across various therapeutic areas such as oncology, hematology, cardiovascular, and rare diseases.

Parexel

- Parexel is among the world's largest clinical research organizations (CROs), providing the full range of Phase I-IV clinical development services and real world evidence solutions to help life-saving treatments reach patients faster
- Leveraging the breadth of our clinical, regulatory and therapeutic expertise, with a team of more than 21,000 global professionals
- Depth of industry knowledge and strong track record gained over the past 40 years

Why do we need RWE to support drug differentiation and value?



FDA: “Confirm drug effectiveness, monitor side effects, compare it to commonly used treatments, and collect information that will allow the experimental drug or treatment to be used safely”

Patients/ PAGs
HCP/ Sites
Digital Engagement
Publications & Dissemination
Research Groups
Medical Societies
Regulators
HTA/ Payers
Field Force Deployment
Guidelines
KOL Engagement
Natural History Studies
IDNs
Head-to-head data
Not current standard of care
Combination treatment
Off label
Long-term follow-up
Ethnic race
Dosing
Sample size
Patient eligibility
Safety & Pharmacovigilance

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Data Analytics and Real World Interrogation Network (DARWIN EU)

Definitions for RWE and RWD

FDA

Drug, Biological Products and Devices

What is real-world evidence?

- **FDA:** Real-world evidence (RWE) is the clinical evidence about the usage and potential benefits or risks of a medical product derived from analysis of RWD
- **RWE is the transformation of RWD to gain insights, knowledge and evidence**

What is real-world data?

- **FDA**: Real-world data (RWD) are data relating to patient health status and/or the delivery of health care routinely collected from a variety of sources
- From: social media, wearable devices and mobile devices, claims and billing activities, (disease) registries, electronic health records (EHRs), product and disease registries, e-health services…..

What is primary and secondary real-world data?

1. **Primary data**, which are collected specifically for research purposes (prospective e.g., low interventional, /NIS study)
2. **Secondary data**, which are collected for purposes other than the research question of focus

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Differentiating ‘value’ in the real-world

Integrated evidence strategy

Specialist RWE teams are committed to helping meet the expectations of regulators, payers, physicians and patients and give competitive edge – through an **integrated evidence strategy**

The right data sources

Develop strategies, identify and apply the **right data sources** that generate **RWE throughout the product lifecycle to help differentiate products**, beginning at the earlier stages of development

Multi-disciplinary experts to align functions

Experts working at each step of the development process look ahead to align functions, **anticipate needs**, and address challenges proactively across the product lifecycle

Drug development and commercialisation operates in a highly competitive global marketplace

- EGFR-positive lung cancer drugs

14 years

1. gefitinib (Iressa®)
2. afatanib (Giotrif®)
3. erlotinib (Tarceva®)
4. dacomitinib (Vizimpro®)
5. osimertinib (Tagrisso®)

4% of lung cancer patients are EGFR-positive

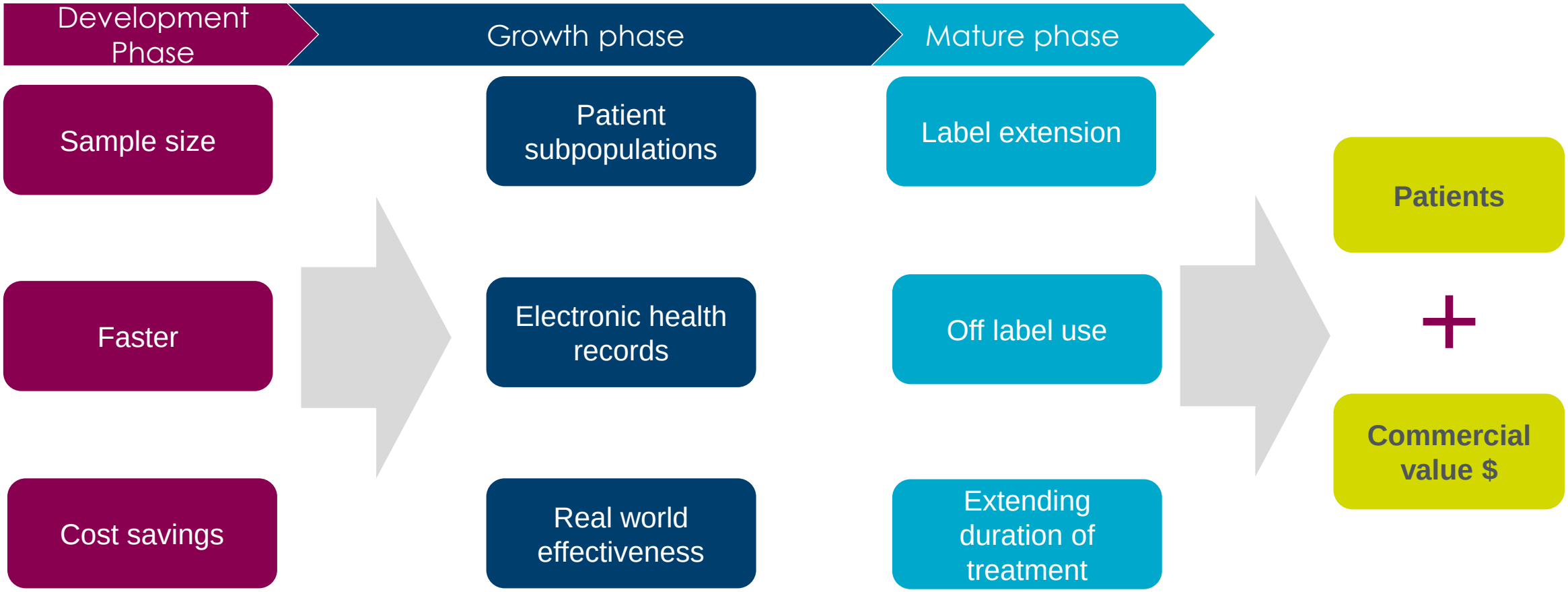
43* RWE publications from 2014-2023
39 from 2020-2023

Line of treatment | **Patient type/race** | **Efficacy** | **Treatment sequencing**

RWE studies

*PubMed accessed on 9th April 2024

RWE complements and enhances clinical research



Commercial success requires ongoing evidence generation

Source IMI GetReal

What are the real world evidence tools and how can they support decision making (europa.eu)

New class of drug displaces current standard of care

Renal cell carcinoma

Mature phase

RWE study: renal cell carcinoma patients treated with cabozantinib after first-line checkpoint inhibitor-based therapy*

- Background
  - First-line (1L) checkpoint inhibitor (CPI)-based combinations become standard of care for patients with advanced renal cell carcinoma (aRCC)
  - Data were required to inform optimal sequencing of aRCC therapies
  - CARINA is a non-interventional study of treatment sequencing and outcomes in patients with aRCC initiated on 1L CPI-based combination therapy
- Business challenge
  - The primary objective was to determine the treatment pathway for patients with aRCC who initiated treatment with a CPI-based combination and received subsequent therapy

First line cabozantinib

First-line checkpoint inhibitor-based therapy

Second line cabozantinib

*Date accessed 19th April 2024 https://ascopubs.org/doi/10.1200/JCO.2023.41.6_suppl.626

RWE cabozantinib effective second line ASCO GU Cancers Symposium 2023 in San Francisco, CA.*

- **Objectives**: RWE retrospective study to show sequencing post first line checkpoint inhibitor to second line treatments
- Method: Electronic prescribing records and hospital medical records from nine participating UK specialist centers
- Study population: 281 patients (163 patients received 2L cabozantinib and 118 received other 2L therapies after 1L CPI-based therapy)

Journal of Clinical Oncology®
An American Society of Clinical Oncology Journal

2L treatment outcomes	2L cabozantinib (n = 163)	Other 2L therapies (n = 118)
Median (95% CI) DoT, months	**5.5 (4.7–6.6)**	**2.8 (2.1–4.2)**
ORR, % (95% CI)	**32.4 (24.7–40.8)**	**12.7 (7.0–20.8)**
Median (95% CI) PFS, months	9.9 (7.8–12.3)	NA
Median (95% CI) OS, months	15.2 (11.2–19.6)	16.2 (10.8–NE)

NA, not available; NE, not estimable

* Date accessed 19th April 2024 https://ascopubs.org/doi/10.1200/JCO.2023.41.6_suppl.626

Value of RWE in the mature phase of a product life cycle

- Responsive to marketplace in a timely manner
- Engagement and indorsement by key opinion leaders
- Cost effective solution not requiring an RCT
- Providing prescribers real world evidence to remove uncertainty

RWE value of mobile devices for patients

Clinical research challenges and the value of mobile devices

2016

Estimated 300 studies included a mobile health device, but none were being used to support a primary safety or efficacy endpoint

2018

Estimated 8000 studies used an actigraphy meter as a QoL measure alone, with 118 intending to use it to support a clinical or regulatory endpoint

~460

clinical trials underway that use wearable technologies

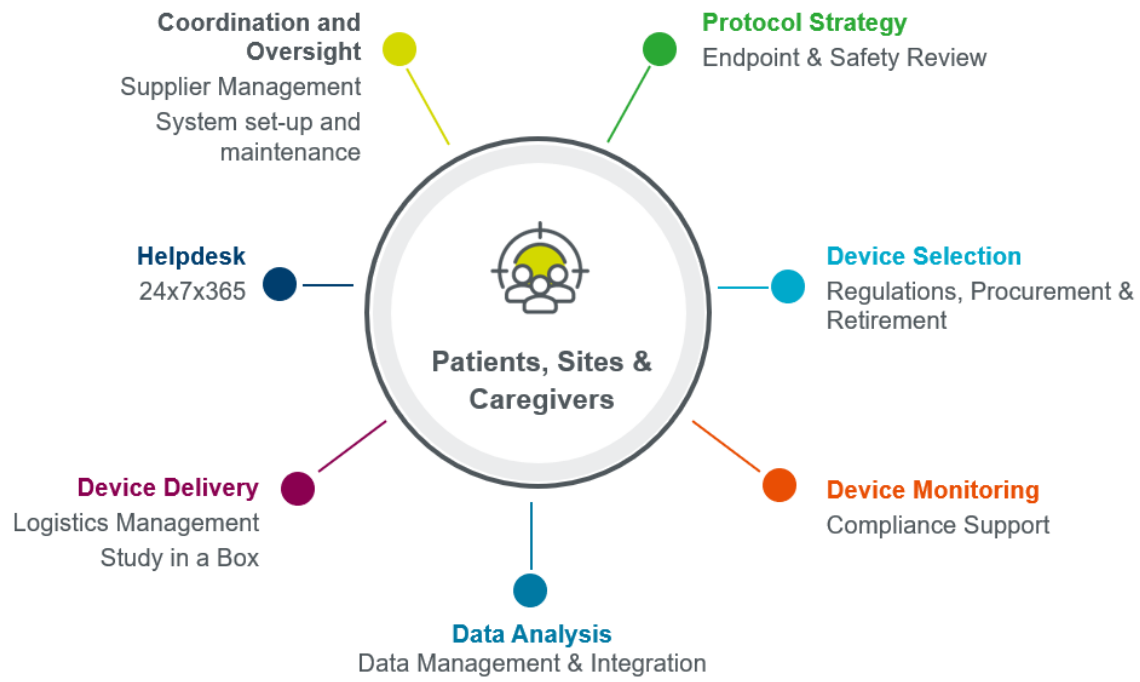
70%

trials are expected to incorporate sensors by 2025

- **>40,000** clinical studies recruiting in U.S. alone
- **85%** fail to retain enough patients
- **70%** of potential participants live ≥2 hours from nearest study site
- Face-to-face consultations increasingly not possible

RWE mobile device study implementation?

- Strategy development to operational delivery
- Expertise with hands on experience
  - Scientific expertise
  - Technological know-how
  - Device sourcing and logistics
- Clinical experience running studies across all phase's product life cycle
- Established partnerships with device manufacturers
- Industry thought leadership



Development Phase

Sleep sensors to demonstrate efficacy for treatment for Obesity in Adolescents

Situation

- Sponsor protocol for the treatment of Obesity in Adolescents includes measurement of change in Sleep Disordered Breathing (SDB), via measurement of pAHI, as a secondary endpoint.
- **An At-home sleep sensor** will measure pAHI at Baseline and again at Week 72.

Challenges

- Increased complexity device added into a clinical study
- Sensor supplier adherence to regulatory requirements for shipping
- Training for the sensor solution to Patient and their Caregiver

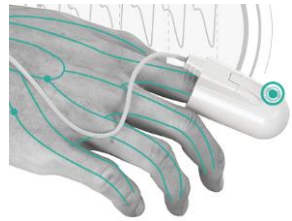
Solution

- At-home sleep sensor WatchPAT ONE being deployed for study site locations located in multiple global regions including the Americas, Europe and Taiwan
- As the Sensor is disposable, no cleaning/charging/return shipment is required- thus supporting patient-centricity and minimal training requirements
- Parexel Global Trade Compliance expert to oversee regulatory requirements for shipments

Result

- Study initiated and build\implementation is ongoing

At-home measurement of Peripheral Apnea-hypopnea Index (pAHI)



Value of RWE with sensors in pivotal study

- Patient centric
- Real life setting for data collection
- Cost effective solution as part of RCT
- Validated global solution

Real world safety registry study

Growth phase

Case Study | Safety registry study

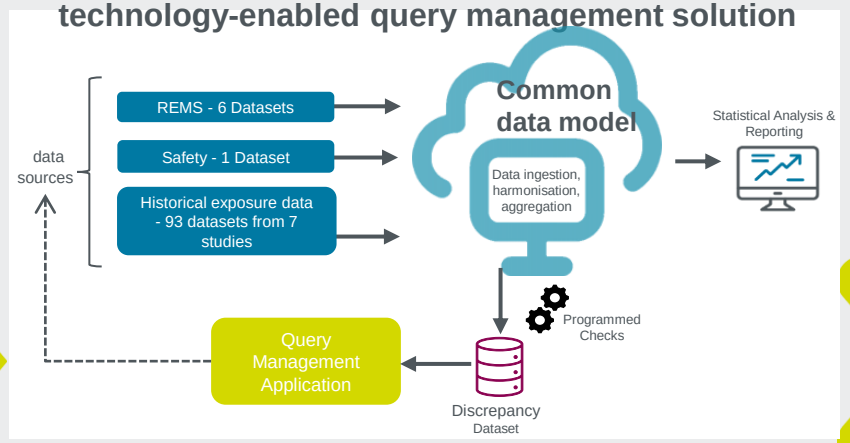
Delivering a quality-focused, long-term safety study with agile, in-house technologies

Requirements

- Client needed to conduct a cardiovascular **safety registry study** utilising data collected from **multiple sources** including Risk Evaluation and Mitigation Strategy, pharmacovigilance processes, clinical trials and early access programs.
- **Regulatory requirement** to produce **annual interim reports** over 8 years with **updated data each year**
- A need to perform **secondary data cleaning** and demonstrate the quality of data

Solution

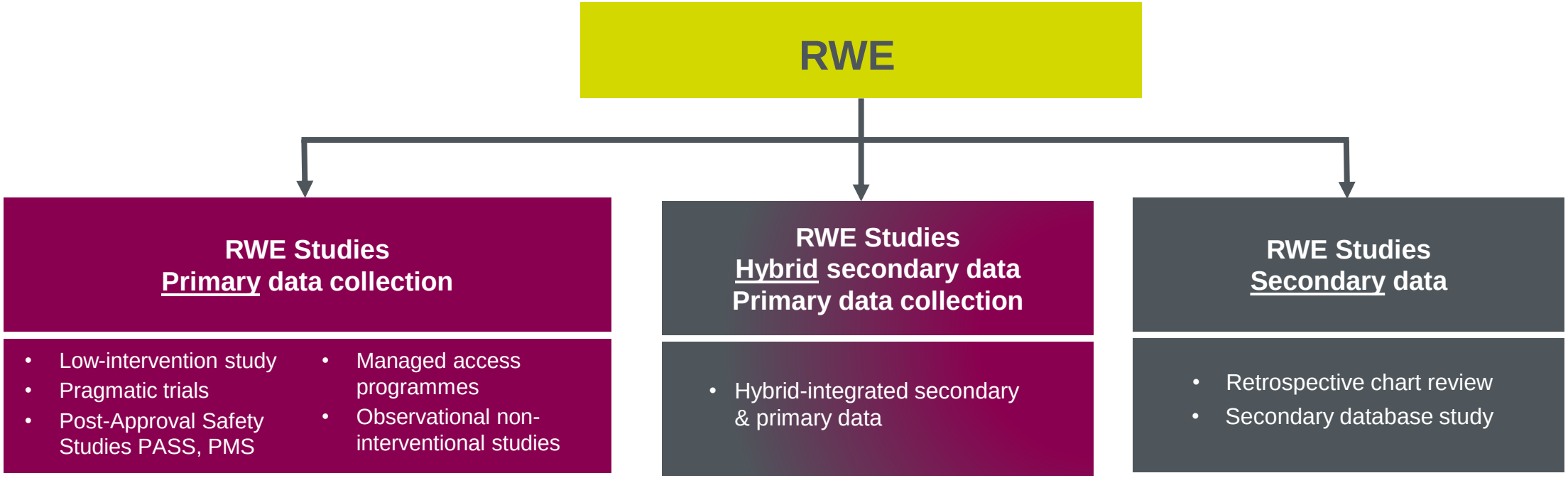
- Use **Parexel's RWD platform, common data model,** to harmonize & aggregate multiple, diverse data sources to efficiently support annual report requirements
- Establish **repeatable data processing procedures** to **shorten timelines** and **reduce effort** year over year
- Improve data quality by applying our **expertise in secondary data handling and cleaning** to manage data discrepancies and conflicts across sources via a **technology-enabled query management solution**



Results

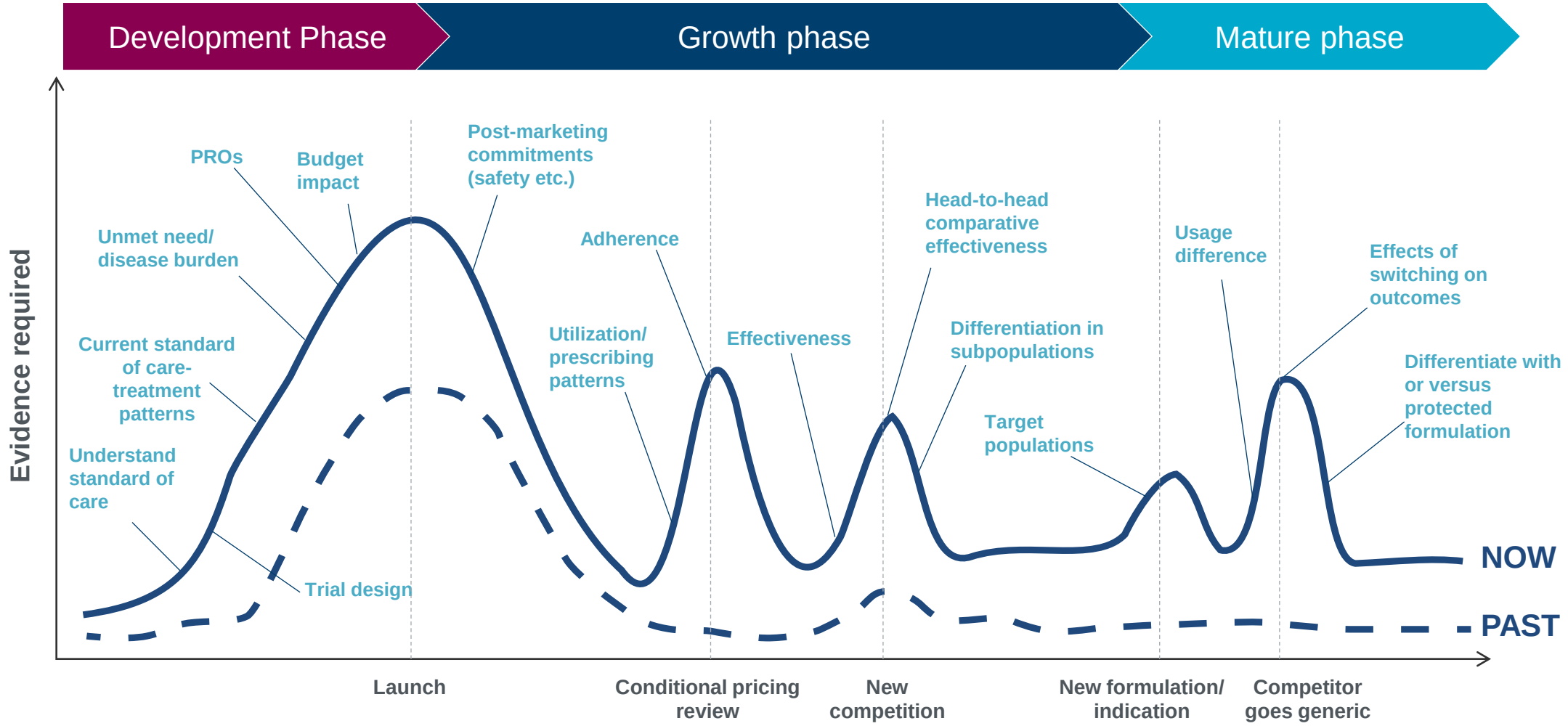
- All **100 datasets from 3 data sources ingested and aggregated** to client's common data model to support **on-time annual report delivery**
- Critical data discrepancies identified and addressed at source, resulting in **significant improvement in data quality**
- Established **repeatable workflows and data pipelines to simplify** the management and analysis of data over 8 years
- Successful **deployment of innovative tech solution** to support client business needs

The RWE evidence generation techniques to unlock product potential



RWE across the product lifecycle

Commercial success requires ongoing evidence generation



Source IMI GetReal

What are the real world evidence tools and how can they support decision making (europa.eu)

Differentiating ‘value’ in the real-world

- Commercialisation of drugs is within a highly competitive global environment
- Integrated evidence strategy is required across the product life cycle
- Value must be defined for multiple stakeholders
- RWE adds value across the product life cycle

Thank you