



How To Use Longitudinal Patient Data (LPD)

Your Q&A Guide to
the What, When & Why of LPD

By the EphMRA Syndicated Data Committee



Longitudinal Data Demystified

Part of the remit of EphMRA's committees is to provide user-guides and information that will be of benefit to EphMRA members.

In the Syndicated Data Committee's experience, some marketing researchers have less experience of longitudinal patient data than of other information sources. When is it best to utilise this data? What business questions does it answer? What are the considerations? What are its advantages over other data types?

To answer all of these questions and more, the SDC has prepared this handy guide. We hope you find it useful; if you have any questions on anything related to this booklet, please email SDCommitteeChair@ephmra.org.

The Syndicated Data Committee would like to thank IMS and Cegecim Strategic Data for their contribution to this document.

Q: In brief, what is longitudinal patient data (LPD)?

LPD is anonymised patient-level data, which can be used to track patient treatments over time.

The patient data is collected from a variety of sources including:

- Electronic Medical Records
- Pharmacy Records
- Health Claims
- Diary Collection
- Physician Surveys

Generally, LPD is collected from a large sample of physicians, providing a robust database of information. It also enables information to be extracted over a period of time (historical data).

Q: What specific information does this data provide?

LPD sits alongside other sources to maximise understanding of the market. Most commonly, it can provide information such as the following:

- Prevalence and incidence of conditions
- Patient demographics (age / gender / region, etc.)
- Understanding of treatment algorithms
- Initiation of drug therapy by speciality / physician type
 - ◆ Which speciality / physician is responsible for follow-up
 - ◆ Patient referrals
 - ◆ Length of time between visits / prescription
 - ◆ Drug titration, co-prescribing, add-on, switch or repeat
 - ◆ Length / size of prescription (days of treatment)
 - ◆ Patient compliance
 - ◆ Patient testing / screening

Q: What business questions can be answered with this data?

LPD is used across the product lifecycle to help understand and measure the market. It thereby enables companies to identify: what types of patients are treated with marketed brands in their target markets; how long these patients are treated for; whether they are following their physician's recommendations; how frequently their therapy is changed; and whether a drug is improving a patient's condition.

- How are products currently used and what other products are also being prescribed to treat the same condition?
- What is the typical dosage regimen used?
- Which patient types (characteristics) receive specific treatment?
- What is the treatment flow for a particular therapy / drug?
- Which product(s) are losing and gaining prescriptions (and where from)?
- How can I understand my market dynamics and sources of business (new, switch, add-on, repeat, etc.)?
- What are the reasons for a 'switch'? (Sources can often provide a top-line insight into the reason a physician notes for switching a patient's treatment).
- Is there a specific group of patients who are less compliant than others? (e.g. Males, aged 40-50 in a certain region/country)

Q: Is special pre-requisite knowledge required before working with this data?

Although not essential, a clinical / pharmaceuticals background with strong data and analytical skills are certainly advantageous, particularly within the therapy area of interest. Also, it is beneficial to have a good understanding of the healthcare system in the respective countries and how they differ.



Q: What should the user be aware of when interpreting / working with LPD?

Most of the caveats are related to the data type or healthcare dynamics in the individual country:

- In the UK, doctors are constrained to prescribe generically and, therefore, separation of brand and generic is not always possible.
- In some European countries patients have free doctor choice, meaning there is no gatekeeper function and a patient can visit whichever doctor he or she chooses. This makes it difficult to follow patient treatment across different practices.
- When analysing multi-country data, the user must be aware of the different data collection processes in each country and the different healthcare systems, as above.
- Physicians do not always enter data comprehensively, such as test results or referrals. Also, there are some therapy areas where physicians do not routinely record the diagnosis, e.g. contraception and erectile dysfunction.
- There is no record or information to explain why patients do not return for treatment.
- The data is predominantly GP recorded, which means that there is limited data on speciality products that are largely administered in hospitals.
- There is variability across countries in terms of the availability of historical data.
- It is important to be aware that there may be cultural differences across countries, e.g. patient attitudes towards certain diseases / conditions, which may influence the level of consultation for a given disease / condition.

All of the above are common considerations to be aware of when working with LPD and are especially relevant to consider when using LPD to answer a business question across several countries. Although available for more than one country, data may not be directly comparable across all countries.



Q: What are the pros of LPD versus other data types?

The pros of patient longitudinal data are:

- Large, fixed panels that are representative of the physician and patient populations.
- Comprehensive, observational data that the physician records during his / her normal everyday work. The data reflect actual behaviour in real time rather than relying on respondent recall or perception. There is no risk of questionnaire or interviewer bias.
- Patient-focused so we are able to track individual patients over time.
- Ability to cut data by indication, look at line of treatment, market dynamics and co-prescribing.
- Limited time required to produce results.

Q: Which diseases / indications are best suited for analysis given the physician pool?

LPD originating from GP practice is best used for conditions that are likely to be treated within the primary care setting (even if treatment is initiated by specialists).

Likewise, LPD originating from office- or hospital-based practice is best used for conditions that are likely to be initiated by a specialist (however, availability of such data may be limited).

Any condition where treatment is wholly undertaken within secondary care is likely to be incomplete in the patients' records at the GP surgery. For example, the GP may know that the patient has lung cancer and is being treated by the hospital, but they will not necessarily know what treatment the patient is receiving (depending on the level of information that the GP is passed from the hospital).

Before undertaking any LPD analysis, it is important to ensure that there are sufficient levels of data available for the disease area / market.



Q: Where would these data fit within the product lifecycle?

As noted previously, longitudinal patient data can support your understanding in all phases of the product lifecycle:

- **Discovery, pre-clinic, Phase I:** search for early outcomes, find early indicators of efficacy value, unmask medical needs and determine market potential.
- **Phase II:** find patient cohorts that are most beneficial to be targeted in clinical studies, establish clinical endpoints, develop product value statements and value propositions.
- **Phase III:** discover outcome expectations in your patient target group, refine positioning vs. pricing, strengthen value statement, determine treatment patterns and identify opportunities for positioning and trial planning.
- **Pre-launch:** prepare registration and reimbursement dossiers, commercialise the value strategy and identify opportunities for targeting, messaging, and promotion.
- **Post-launch:** achieve maximum revenue during launch, predict a potential launch success, evaluate clinical guidelines, establish post launch reimbursement dossiers via observational studies showing real world evidence and analyse source of business.
- **Saturation:** find possibilities to create new value messages against new entries and proof / evidence of your product.
- **Decline:** establish strategy for generic defence.

In Summary...

We hope this guide provides a useful initial introduction to the uses of LPD. In sum, the value that can be obtained from this type of data is very much dependent on the following:

- Therapy area
- The business question you are trying to answer
- Other information that is available

It may not always be possible to use this data alone, but it can offer additional breadth and depth of understanding.

Bernadette Rogers, General Manager

Tel: +44 (0) 161 304 8262

Fax: +44 (0) 161 304 8104

Email: generalsecretary@ephmra.org

c/o Streicher & Brotschin Treuhand AG

Gartenstrasse 101

4052 Basel

Switzerland

www.ephmra.org



European *Pharmaceutical* Market Research Association