CASE STUDY: Rare Disease - Patient finding

Geography:	Sub-National	National	Regional	Global		
Market focus:	Market/ Patient Analytics	Launch & Portfolio Strategy	Forecast & Modelling Inputs	Tactical Deployment	Performance Tracking	Evidence Generation
Therapeutic Area:	CARDIOLOGY: PULMONARY ARTERIAL HYPERTENSION					

OUR CLIENT'S CHALLENGE

Pulmonary arterial hypertension (PAH) is a rare cardiovascular disease. Patients generally present with confounding symptoms that often result in a long and complex pathway to diagnosis. Many patients remain undiagnosed or take years to be correctly diagnosed before accessing appropriate treatment, often resulting in years of frustration. If treatment is significantly delayed it can potentially increase the risk of mortality.

In most cases, a general practitioner (GP) will refer a patient to a respiratory specialist, cardiologist or rheumatologist, depending on their symptoms. It is only once they reach this secondary level of care that patients undergo a specific diagnostic screening process. In many markets, if PAH is diagnosed, patients are referred to Expert Centres for treatment.

To reduce the potential morbidity and mortality of PAH, our client wanted to better understand PAH across the varying levels of disease diagnosis across health districts within a number of countries including Japan, Australia, UK to identify where in the therapeutic journey patients were delayed from being diagnosed and accessing treatment. More specifically, they wanted to: (i) identify the level of underdiagnosis [by county]; (ii) understand the reasons for delayed diagnosis; (iii) understand drivers of underdiagnosis, at secondary care level and; (iv) highlight the potential for more accurate diagnosis at the primary care level. By identifying specific geographic areas, the client could focus their healthcare professional (HCP) education, disease awareness activities and patient/HCP support initiatives to improve diagnostic processes in areas of high need.

OUR TARGETED SOLUTION

The confounding symptoms of PAH will often see patients move through many healthcare touchpoints before being diagnosed. These include: primary, secondary and tertiary care; shared care; home care; pharmacy and; expert centres. To better understand where on the long and complex patient journey the delays occurred, Prospection accessed and analysed disparate data from each source, as well as important hospital pharmacy audit data conducted by a commercial data supplier. This combination of datasets proved to be the key to this ground-breaking project in the UK, Japan and Australia. UK sample shared for demonstration purposes.

Using our advanced algorithms, we could determine if there were patients being diagnosed with conditions likely to translate into PAH; if enough of these patients were being referred to PAH Expert Centres and; the quality of these referrals (see Figure 1). These insights were then geographically overlaid to highlight bottlenecks within the patient diagnostic pathway as well as the differences across diverse counties.

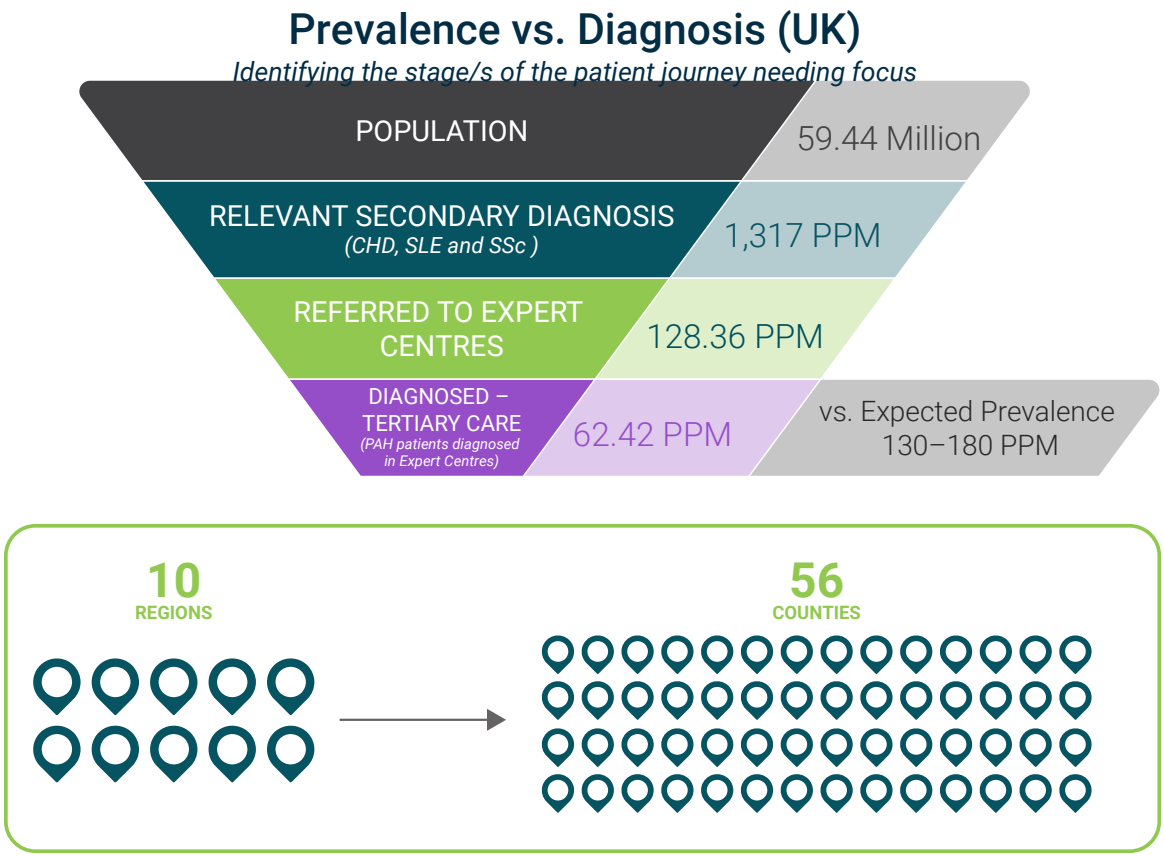


Figure 1

CHD = Coronary Heart Disease
SLE = Systemic Lupus Erythematosus
SSc = Systemic Sclerosis

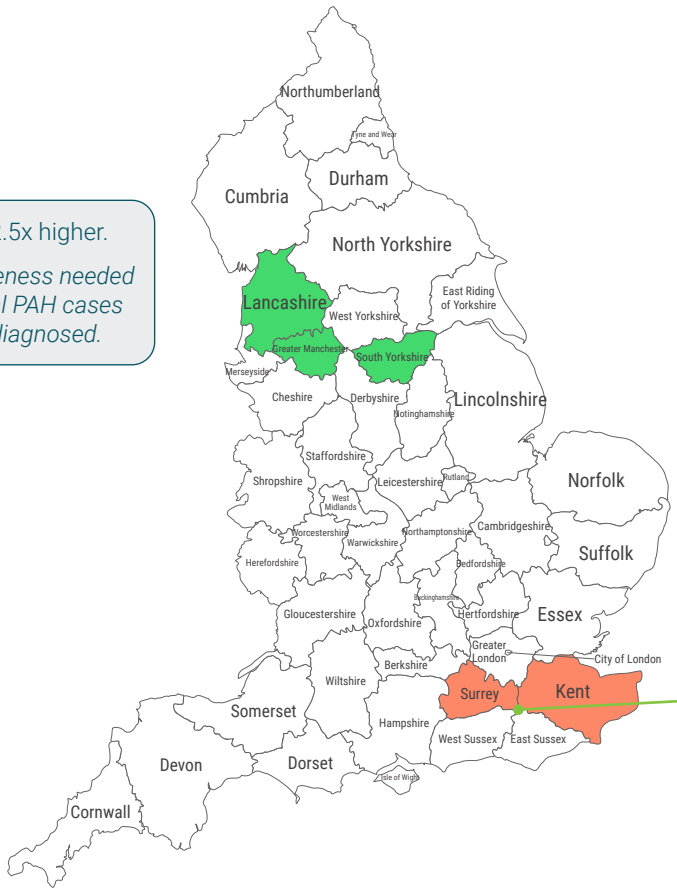
OUR KEY INSIGHTS

The analysis identified significant differences between counties (see Figure 2). For example, the northern counties of Lancashire, Manchester and South Yorkshire have a similar population and demographic profile to the southern counties of Surrey and Kent, yet the prevalence of PAH is very different in these two areas. Surrey and Kent had higher referral rates, largely attributable to their relative proximity to one of the PAH Expert Centres, but the diagnosed prevalence of PAH was 2.5 times lower here than in the northern counties. The analysis not only identified geographic anomalies; it also identified which specialities were receiving most of the referrals.

The insights provided a clear indication of where, and on whom, the client needed to focus to improve the diagnosis of PAH. For example, the insights pointed to a gap in the level of appropriate diagnostic screening in the southern counties and the need to improve awareness in the northern counties. These insights provided tools for the client to work with relevant PAH stakeholders to develop screening, educational and patient support programs aimed at delivering earlier diagnosis and better referral programs.

Diagnosis of PAH 2.5x higher.

Greater disease awareness needed to ensure all potential PAH cases are identified and diagnosed.



PAH Expert Centre

Higher referrals per million in Surrey & Kent.

Better diagnostic screening required to ensure patients are referred appropriately.

Figure 2

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