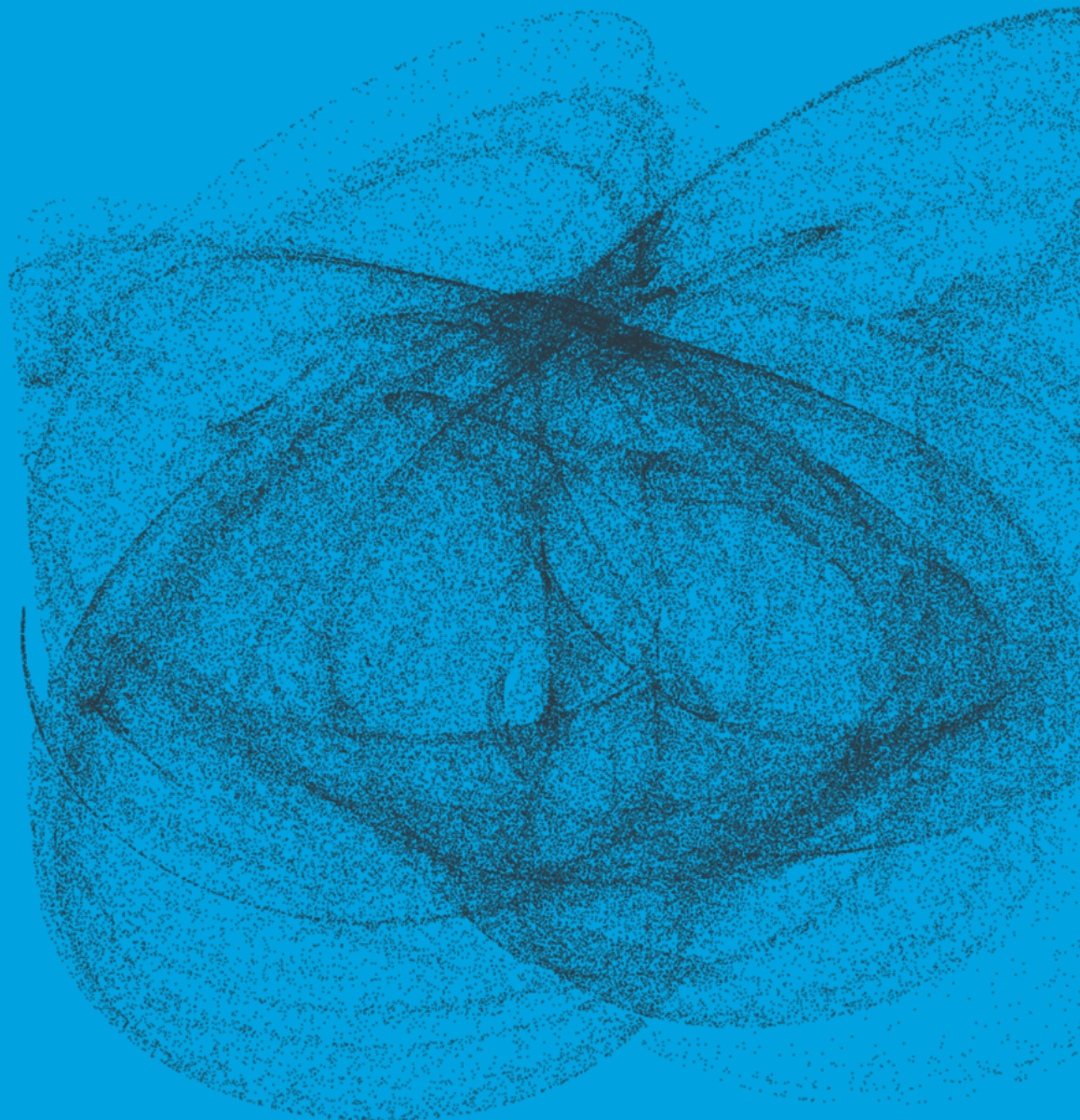




# Advancing Academic Research

BIBLIOGRAPHY OF PUBLISHED PAPERS AND  
PRESENTATIONS USING IQVIA INFORMATION



OCTOBER  
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# Introduction

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IQVIA information is used extensively by researchers around the world to advance the understanding of Human Data Science - an emerging discipline that combines insights from human science, data science and human health.

As a leading global information and technology services partner, we collaborate with academics and others whose research can be significantly advanced through access to IQVIA proprietary information.

This activity generates a significant number of peer-reviewed publications and conference presentations, covering a broad range of healthcare topics. The range of information accessed and used for research purposes is extensive. It includes summarized global and national prescription drug volume and sales information, provider-level prescription information, non-identified longitudinal patient data, provider profiles and organizational relationships, and commercial insurance medical and pharmacy claims information.

Data privacy is a priority at IQVIA. The company uses a wide variety of privacy-enhancing technologies and safeguards to protect individual privacy while generating and analyzing information on a scale that supports healthcare stakeholders and researchers alike.

This IQVIA bibliography provides a summary of research published from January 2019 through June 2021 that was undertaken by academic researchers who utilized IQVIA data assets.

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It is organized in reverse chronological order by publication date and segmented into four themes:

- Understanding disease and treatment patterns
- Providing content for healthcare costs
- Assessing policy levers
- Advancing real-world patient-level clinical evidence

Collectively, this research represents a substantial advancement in understanding the real-world operation of our health system – including early evidence of the impact of the COVID-19 pandemic on patients and care. This bibliography has been produced as a public service without industry or government funding.

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#### **MURRAY AITKEN**

*Executive Director*

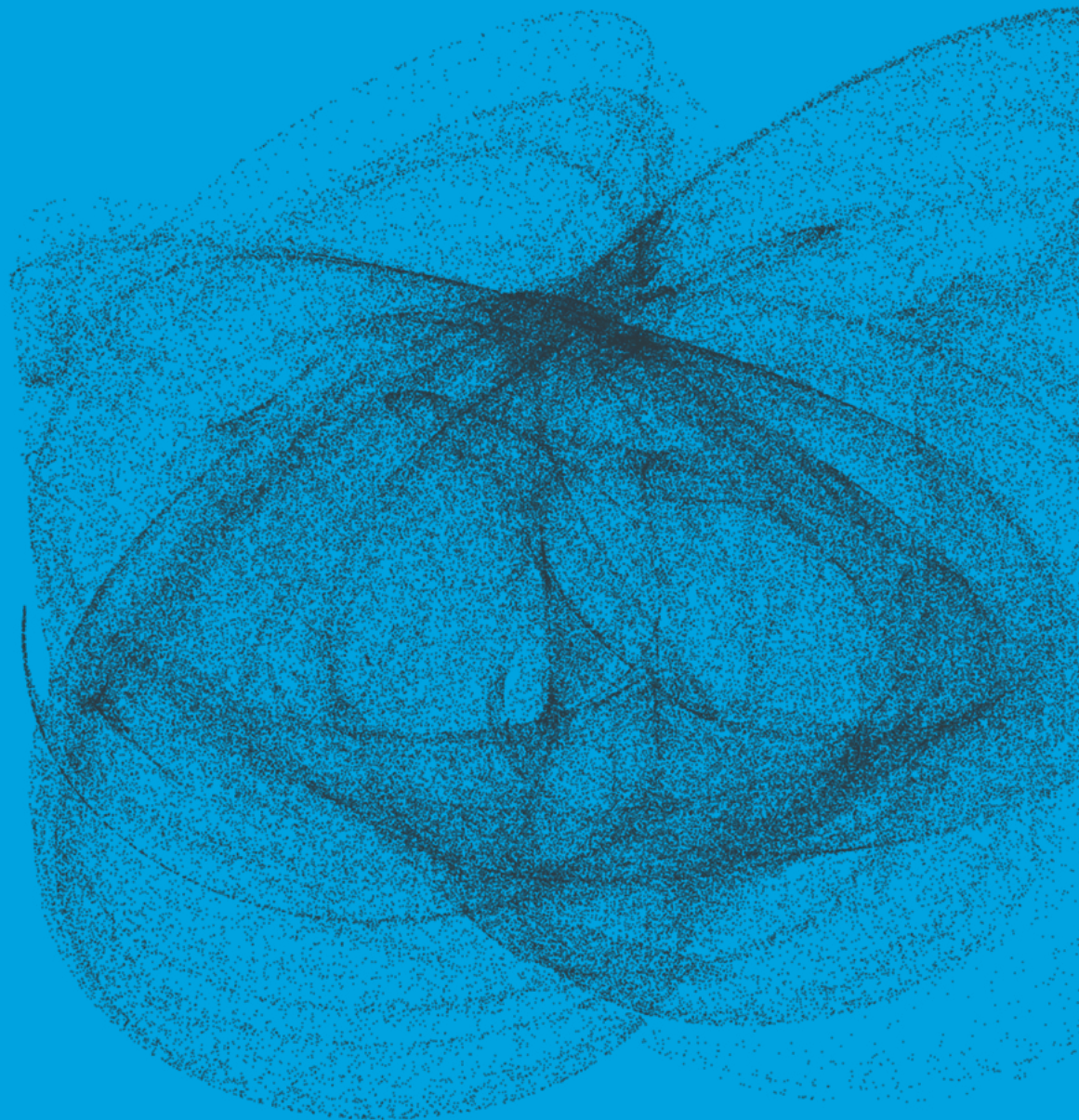
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## Understanding disease and treatment patterns

As the number of new therapeutic treatment options for patients continues to climb, and new approaches to diagnostics and use of biomarkers are adopted, the complexity of clinical decision-making has increased for all stakeholders in healthcare. Understanding disease and treatment patterns contributes to better management of patients and disease, as well as the sustainability of healthcare systems. This recent research covers a large number of vital health issues, including the use of antibiotics, opioids, and oncologics, among others. All of these treatment areas require evidence-based research based on real-world data using non-identified granular data to elicit new and useful insights for clinicians, payers, policymakers, and patients.

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## — Providing context for healthcare costs

Healthcare cost dynamics attract heightened attention each year as many – though not all – costs climb. Understanding drivers of costs – and savings – and their variability across patients, healthcare settings, and countries requires a combination of rigorous economic, clinical and analytical knowledge and skills applied to real-world cost and utilization data. These research efforts contribute to advancing the understanding of healthcare costs by providing context and clarity to this complex issue. Much of the focus is on pharmaceutical costs and the extent to which they are drivers of overall healthcare expenditure, as well as providing savings opportunities from generics, biosimilars and offset healthcare costs.

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## Assessing policy levers

Changes in public health priorities, budgets, and patient needs contribute to evolving policies related to the governance and operation of healthcare systems and directly affect all healthcare stakeholders. The policy goals, elements and approach to implementation vary widely. So too, do the measures of intended – and unintended – consequences. Applying evidence-based assessments to policy levers bring knowledge and insight that help shape policy modifications and strengthen future policy decision-making. Among the recent research undertaken in this area are studies of policies related to prescription opioid use, environmental risks associated with active pharmaceutical ingredients, the use of generics and biosimilars, and adoption of health information technologies. This collective body of research, if fully embraced and learnings applied, can contribute to improved policy development across a broad range of health areas.

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## — Advancing real world patient-level clinical evidence

Variability in clinical care and use of alternative treatment pathways contributes in some cases to sub-optimal patient outcomes. Understanding the drivers of this variability and how it affects patient sub-populations is critical to advancing care. The growing availability of real world patient-level data enables this research to advance and bring greater clarity to defining optimal care. It can also be the basis for predictive medicine and for artificial intelligence and machine learning applications. Researchers have been advancing their understanding across many disease areas and treatment settings, using a variety of electronic health record, claims and other data sources. This collection of research also reinforces the diversity of clinical care issues that require new understanding and can benefit from patient-level clinical evidence.

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## ADVANCING REAL WORLD PATIENT-LEVEL CLINICAL EVIDENCE

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# About the Institute



The IQVIA Institute for Human Data Science contributes to the advancement of human health globally through timely research, insightful analysis and scientific expertise applied to granular non-identified patient-level data.

Fulfilling an essential need within healthcare, the Institute delivers objective, relevant insights and research that accelerate understanding and innovation critical to sound decision making and improved human outcomes. With access to IQVIA's institutional knowledge, advanced analytics, technology and unparalleled data the Institute works in tandem with a broad set of healthcare stakeholders to drive a research agenda focused on Human Data Science including government agencies, academic institutions, the life sciences industry and payers.

## Research Agenda

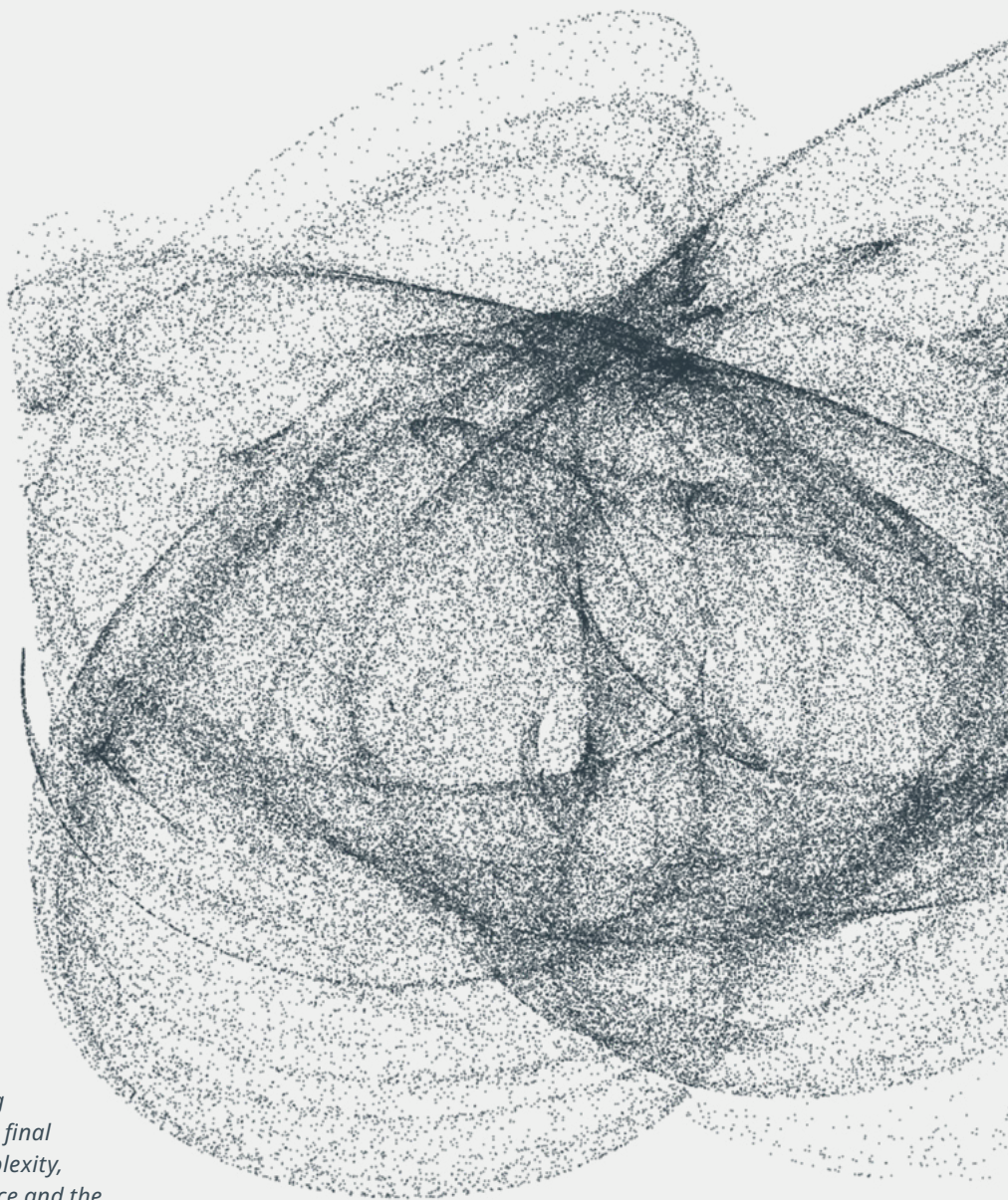
The research agenda for the Institute centers on 5 areas considered vital to contributing to the advancement of human health globally:

- Improving decision-making across health systems through the effective use of advanced analytics and methodologies applied to timely, relevant data.
- Addressing opportunities to improve clinical development productivity focused on innovative treatments that advance healthcare globally.
- Optimizing the performance of health systems by focusing on patient centricity, precision medicine and better understanding disease causes, treatment consequences and measures to improve quality and cost of healthcare delivered to patients.
- Understanding the future role for biopharmaceuticals in human health, market dynamics, and implications for manufacturers, public and private payers, providers, patients, pharmacists and distributors.
- Researching the role of technology in health system products, processes and delivery systems and the business and policy systems that drive innovation.

## Guiding Principles

The Institute operates from a set of guiding principles:

- Healthcare solutions of the future require fact based scientific evidence, expert analysis of information, technology, ingenuity and a focus on individuals.
- Rigorous analysis must be applied to vast amounts of timely, high quality and relevant data to provide value and move healthcare forward.
- Collaboration across all stakeholders in the public and private sectors is critical to advancing healthcare solutions.
- Insights gained from information and analysis should be made widely available to healthcare stakeholders.
- Protecting individual privacy is essential, so research will be based on the use of non-identified patient information and provider information will be aggregated.
- Information will be used responsibly to advance research, inform discourse, achieve better healthcare and improve the health of all people.



*The IQVIA Institute for Human Data Science is committed to using human data science to provide timely, fact-based perspectives on the dynamics of health systems and human health around the world. The cover artwork is a visual representation of this mission. Using algorithms and data from the report itself, the final image presents a new perspective on the complexity, beauty and mathematics of human data science and the insights within the pages.*

*The algorithmic art featured on the cover was generated from IQVIA longitudinal prescription claims data representing the totality of claims for 2020 by therapeutic area.*



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