ALIGN

CONSORTIUM

Duke | Keprecon | saMRC advancinglife | ndia kanza

The ALIGN Market Intelligence Hub

A Shared Resource for Better Health Product Decision-making

The ALIGN Consortium

April 2026

The ALIGN Consortium aims to improve health outcomes by strengthening the critical decision-making systems that determine how health product innovations are prioritized and introduced in countries, to make those systems more effective and efficient. Comprised of the Duke Global Health Innovation Center, the South African Medical Research Council (SAMRC), the Kenya Paediatric Research Consortium (Keprecon), and ENDA Santé, the ALIGN Consortium supports national governments in Kenya, Senegal, and South Africa to enhance innovation introduction looking at four focus areas: whole-of-government coordination and capacity, data-driven decision making, whole-of-market engagement (including national, regional, and global engagement), and portfolio-based planning. The goal is to create more accountable, resilient health systems that deliver better health outcomes faster for all, and to generate insights, tools, and resources that can be used by stakeholders around the world.

The ALIGN Consortium is funded by the Gates Foundation. The findings and conclusions from this initiative are those of the ALIGN Consortium and do not necessarily reflect positions or policies of the Gates Foundation.

Learn more about the ALIGN Consortium.

Table of Contents

Glossary

Term	Definition
ALIGN Market Intelligence Hub ("Hub")	The entire set of data visualization and decision-support tools for health product prioritization developed by the ALIGN Consortium at the global and country level.
ALIGN Global Hub ("Global Hub")	The newly launched data visualization and decision-support tool for health product prioritization at the global level; the primary aggregator of product pipeline data.
ALIGN Country Hub ("Country Hub")	The data visualization and decision-support tool for health product prioritization at the pathfinder country level.
Pathfinder Countries	ALIGN Consortium country partners including Kenya, Senegal, and South Africa.
Health Products	A tangible or digital intervention intended to prevent, diagnose, treat, or manage health conditions, including pharmaceuticals, vaccines, diagnostics, medical devices, and digital health technologies.
Horizon Scanning	A systematic process for identifying and tracking emerging health products and innovations likely to have future public health impact.
Product Prioritization	A structured process of selecting health products for introduction based on criteria such as disease burden, expected impact, feasibility, cost, and alignment with national priorities.

Introduction

Health leaders, particularly those in low- and middle-income countries (LMICs), face a structural gap between the rapid pace of health innovation and the ability of their countries to anticipate, prioritize, finance, and introduce new products effectively and efficiently. Decisions about adopting devices, diagnostics, therapeutics, and vaccines are often made reactively, with limited visibility into product supply (new emerging products, pipelines, costs, regulatory timelines, delivery requirements), health system capacity, and local context, including demand. Yet such visibility is key to country-led improved health product prioritization and introduction decisions.

The lack of aggregated, structured market intelligence on innovations prevents governments from aligning health product introduction with critical considerations such as national priorities, financing strategies, health system capacity, and local needs and preferences. This is the inflection point between global research and development (R&D), including innovation on the African continent, and national delivery. Consequences include delayed access and suboptimal investment decisions, and diversion of scarce resources toward high-visibility products rather than informed, strategic interventions that would deliver greater population-level impact.

To address the gap between the possible pipeline and realized rollout of health products, we have developed the ALIGN Market Intelligence Hub ("the Hub"), a decision-support tool designed to transform fragmented data on health products into actionable prioritization and introduction insights. When used by national, regional, and global leaders, the newly launched Global Hub will support a shift in decision-making from reactive adoption toward proactive planning by providing structured intelligence on emerging or not-yet-regulated products. The Hub currently includes expected availability timelines and development status of a curated set of health products eligible for introduction; in the near future, the Hub will also include cost considerations and implementation requirements. By connecting data sources around the global innovation landscapes, the Hub will give leaders access to needed data to support prioritization, leading to improved trade-off decisions that are deliberate, reliable, transparent, data-informed, and cost- conscious.

The Data Fragmentation Problem

Health products ecosystems are characterized by extreme data fragmentation. Decision-relevant data is spread across product developers, regulatory agencies, donors, procurement platforms, clinical research networks, and national health systems. Critical supply-side information (e.g., pipeline status, regulatory progress, pricing expectations, manufacturing capacity, and implementation requirements) often exists in disconnected databases, proprietary reports, or informal networks. So far, we have identified over 40 different data sources of interest, all disconnected (see our Global Hub website for a full data source list and status of integration). Some

sources include repeated information with some variation in data collected, while others have unique information but are not standardized, harmonized, or connected with other sources. For example, the online database DrugBank contains significant data on therapeutics, including development status and efficacy data.[1] However, payment firewalls present barriers to access, and freely available data is hard to link with external sources (e.g., clinical trials data) because therapeutics in the external sources do not follow the same naming conventions.

As a result of this fragmentation, decision-makers in ministries of health and implementing organizations must rely on incomplete, scattered, or outdated information when planning health product introduction. These leaders must contend with a lack of transparency, duplication of effort, and a limited ability—particularly in LMICs—to anticipate which health products are most relevant to their disease burden, population preferences, and health system capacity.

The consequences of a fragmented landscape extend beyond lack of effectiveness or inefficiencies; it **affects access to nationally prioritized health products.** Without integrated intelligence, promising innovations may fail to reach countries where they are most needed, while resources may be allocated toward technologies that are not yet feasible or sustainable in local contexts. Furthermore, the absence of interoperable data systems prevents the generation of comparative insights across countries, limiting opportunities for shared learning and introduction strategies. Addressing fragmentation requires not only readily available and reliable data, but also structured mechanisms to harmonize, validate, and translate diverse data streams into decision-grade intelligence that can support proactive, evidence-based health innovation planning.

Leaders must contend with a lack of transparency, duplication of effort, and a limited ability—particularly in LMICs—to anticipate which health products are most relevant to their disease burden, population preferences, and health system capacity.

[1] Knox C, Wilson M, Klinger CM, et al. DrugBank 6.0: the DrugBank Knowledgebase for 2024. Nucleic Acids Res. 2024 Jan 5;52(D1):D1265-D1275. doi: 10.1093/nar/gkad976 . PMID: 37953279; PMCID: PMC10767804.

About the ALIGN Market Intelligence Hub

The ALIGN Market Intelligence Hub is a coordinated decision-support infrastructure designed to transform fragmented health product data into actionable prioritization and introduction insights for countries. Four "pillars" support the Hub (see Figure 1):

Figure 1: ALIGN Market Intelligence Hub's Four "Pillars" of Support.

In turn, the four pillars strengthen a **federated model consisting of a Global Hub and three Country Hubs** (see Figure 2).

- The Global Hub serves as the primary analytical engine. It offers a curated database of new health products (e.g., horizon scanning), aggregation of global product pipeline data, development of standardized analytics, and dissemination of cross-country insights. It also generates decision-relevant outputs, including global product prioritization, identification of pipeline gaps, and comparative assessments of expected impact across products and settings.

- Country Hubs—currently, South Africa, Senegal, and Kenya—function as contextualization within national ecosystems, adapting global intelligence to local policy needs, health system constraints, and implementation pathways.

Together, this global-to-local approach creates a learning network in which the Global Hub provides scale, standardization, and technical capacity, while Country Hubs ensure contextual relevance, stakeholder engagement, and translation of intelligence into actionable national strategies.

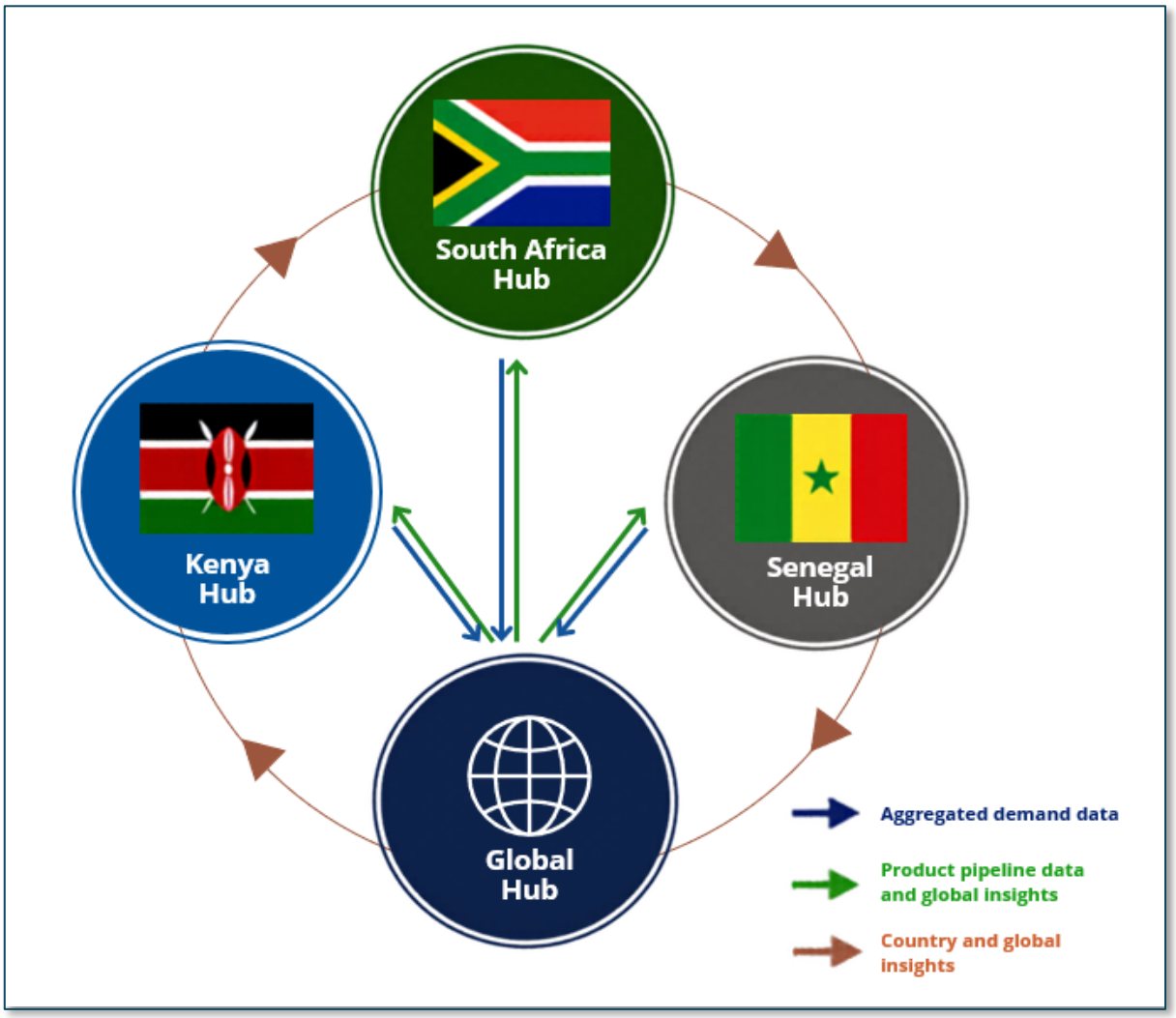

Figure 2: ALIGN's Federated Model.

The ALIGN Market Intelligence Hub is designed to inform three decision domains that determine successful introduction of health products:

- **Prioritization**
  Which products should be considered, given national disease burden, policy priorities, operational constraints, and expected population impact? Countries often lack structured approaches to compare innovations across criteria, resulting in reactive or opportunity-driven adoption, rather than strategic selection.

- **Financing**
  How do projected product availability timelines align with national budget cycles, donor funding windows, and procurement planning processes? Misalignment between innovation readiness and financing availability can delay adoption or create unsustainable introduction pathways.

- **Introduction**
  Are delivery systems prepared to support product introduction and scale? Variables include workforce capacity, supply chains, regulatory preparedness, service delivery platforms, and monitoring systems to ensure innovations are effectively implemented.

These decisions are often made with incomplete, fragmented, or non-standardized data. The ALIGN Market Intelligence Hub addresses this challenge by structuring diverse data streams into comparable, decision-grade intelligence, enabling countries and partners to make more transparent, coordinated, and evidence-driven product introduction decisions.

Target Stakeholders and Applications

The ALIGN Market Intelligence Hub engages multi-level stakeholders whose participation is necessary to ensure that health product introduction is timely, evidence-based, and aligned with system needs:

- **Global stakeholders: Who generates and curates the upstream intelligence needed to understand the innovation landscape?**
  This group—including product developers, global health organizations, multilateral agencies, donors, regulatory harmonization initiatives, and global procurement mechanisms—contribute critical information on product pipelines, clinical evidence, regulatory pathways, manufacturing capacity, and global financing trends that inform strategic foresight and cross-country comparisons.

- **Regional stakeholders: Who supports coordination, policy alignment, and technical assistance across countries with similar regulatory environments, disease burdens, or market structures?**
  Regional regulatory bodies, economic communities, regional public health agencies, development banks, and technical networks help harmonize regulatory processes, support pooled procurement strategies, facilitate knowledge exchange, and strengthen regional market shaping efforts.

- **Country stakeholders**: **Who translates intelligence into policy and implementation decisions?**
  Ministries of health, regulatory authorities, procurement agencies, health financing bodies, implementing partners, research institutions, and service delivery organizations are responsible for contextualizing intelligence within national priorities, assessing feasibility, coordinating introduction strategies, and ensuring that innovation adoption aligns with local health system realities.

Where the Global Hub supports visibility and standardization, regional and country stakeholders strengthen coordination, technical alignment, contextualization, and operational translation into relevant decision-making.

Key Features

While improvements and updates are integrating on a rolling basis, the Hub is currently configured according to the following considerations.

Data Scope and Inclusion Criteria

The Global Hub aggregates structured intelligence on health products relevant to global health priorities, stage of development, and potential public health impact. The scope includes products across the development lifecycle, from late discovery and clinical development through regulatory review and early introduction. This scope supports planning rather than retrospective monitoring. The ALIGN Global Hub prioritizes products with clear relevance to high-burden diseases, expected use in LMICs, and sufficient available evidence to support horizon scanning and comparative analysis.

The data model captures multiple, growing, decision-ready dimensions of each product, including product characteristics, development stage, target populations, regulatory status, anticipated timelines, and implementation considerations. The Hub can transform heterogeneous information into standardized intelligence that supports prioritization, sequencing, financing alignment, and system readiness decisions.

Health Product Inclusion Criteria

The Hub focuses on products that are in advanced development or already available somewhere in the global market. A product is included if it:

- Has reached **Phase 2 clinical trials** (or later).
- Has not yet achieved **market authorization** in at least one of the pathfinder countries (Senegal, South Africa, or Kenya).[2]
- Focuses on **four disease areas** where coordinated product introduction has demonstrated high population health impact: **HIV/AIDS, tuberculosis (TB), malaria, and maternal, newborn, and child health (MNCH)**.[3, 4]
- Falls within **four health product categories** that support comparison across innovation types, and demonstrate differences in development pathways, regulatory processes, and implementation requirements:
    - **Therapeutics**: Medicines and biological products intended for treatment or prevention of disease, including small molecules, biologics, and combination therapies.
    - **Vaccines**: Preventive biological products designed to induce immunity against infectious diseases and reduce transmission risk.
    - **Diagnostics**: Technologies used to detect, confirm, or monitor disease, including laboratory tests, point-of-care diagnostics, and screening tools.
    - **Medical devices**: Equipment and technologies used for prevention, diagnosis, monitoring, or treatment, including digital health tools, delivery devices, and supportive clinical technologies.

Data Sources

The Global Hub draws from diverse data sources to ensure wide visibility into the global innovation landscape. These include publicly available product pipeline databases, clinical trial registries, regulatory agency publications, global health organization reports, manufacturer disclosures, and technical partner databases. Additional sources include market shaping reports, procurement forecasts, donor investment strategies, and implementation partner documentation. This multi-source approach reflects the reality that actionable market intelligence requires triangulation across research, regulatory, financing, and delivery ecosystems. See a full list of data sources in our ALIGN Global Hub Repository on our Github Repository.

---

[2] Additional countries may be included later.

[3] MNCH is defined as interventions targeting the health of women during pregnancy and childbirth, newborns during the first 28 days of life, and children through early childhood, with the goal of reducing preventable mortality and improving long-term health outcomes. This includes technologies supporting safe pregnancy, neonatal survival, child disease prevention, and early life health interventions. Improving access to effective MNCH interventions remains central to achieving global health targets and reducing preventable mortality.

[4] Disease areas may be expanded as the ALIGN Consortium mission grows.

By integrating these sources into a harmonized structure, the Hub reduces fragmentation and creates a continuously updated intelligence environment. Stakeholders can move toward systematic and comparable assessment of innovation opportunities. Horizon scanning approaches that integrate multiple information streams can anticipate emerging health technologies and reduce uncertainty in product introduction planning.

Market Intelligence Insights

The Global Hub is designed to provide market intelligence insights. In this beta version, we are launching two initial features: product introduction status, and timeline for introduction forecasting. Additional features will be rolled out as the project progresses.

Product Introduction Timeline Forecasting

The Global Hub incorporates forecasting methods designed to anticipate the expected development, launch, and scale-up timelines of health products to support forward-looking country planning. Rather than relying solely on current pipeline status, the Hub uses historical patterns of innovation development and access to generate projections about when products are likely to enter markets and achieve meaningful uptake (see Figure 3).[5] Decision-makers can move from reactive monitoring toward proactive preparation for innovation adoption.

The forecasting engine is based on a methodology derived from analyses of historical trajectories of dozens of health products, which identified typical timelines from late development through regulatory approval, initial country introduction, and scale-up in LMICs. Using these patterns, the Hub generates two key projections: 1) the **estimated date of first launch in an LMIC** following regulatory approval; and 2) the **expected timeline for reaching early population uptake**. These estimates are adjusted based on product characteristics such as category, development stage, and contextual factors that influence adoption.

[5] Mao W, Hodges EU, Zimmerman A, Ortiz EJ, Kilburn K, Silimperi D, et al. Development, launch, and scale-up of health products in low-income and middle-income countries: a retrospective analysis on 59 health products. Lancet Glob Health. 2025 Jun;13(6):e1132–9. doi:10.1016/S2214-109X(25)00062-2 PubMed PMID: 40412401; PubMed Central PMCID: PMC12100461.

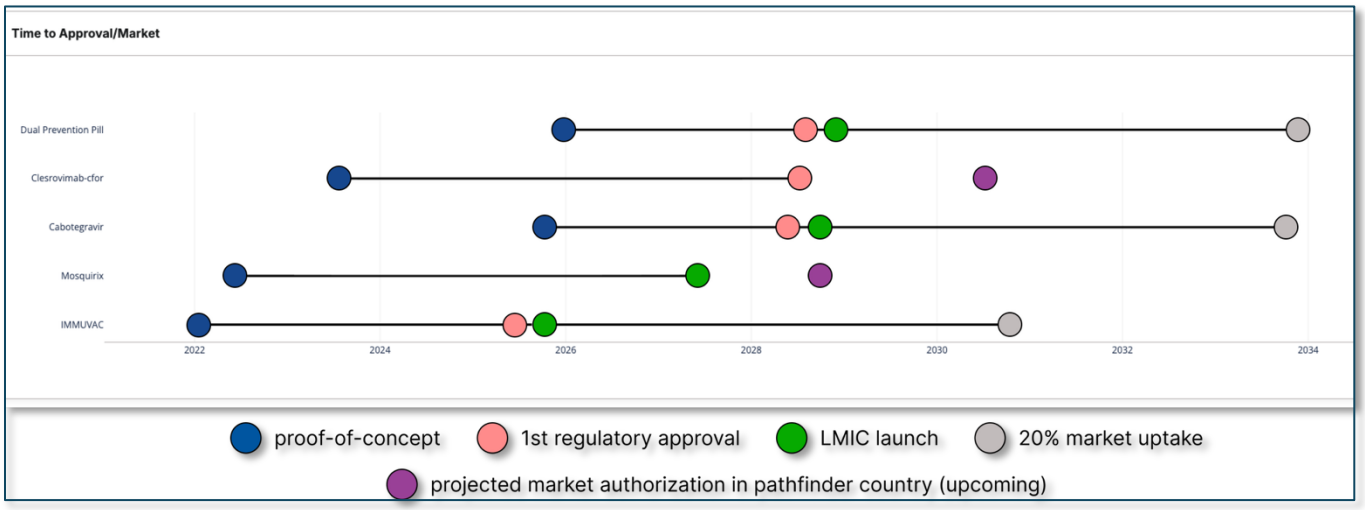

Figure 3: Product introduction milestone tracking and forecast.

Projections are intended to function as strategic planning tools rather than precise predictions. The Hub emphasizes that forecasts should be interpreted as probabilistic estimates, informed by historical experience; forecasts will be updated as the database aggregates further information. By providing structured projections of when innovations may become available and scalable, the forecasting framework supports alignment of financing decisions, regulatory preparation, and health system readiness efforts. Ultimately, this capability strengthens the ability of countries and partners to anticipate innovation introduction and plan coordinated, evidence-informed adoption strategies.

Future Insights

The ALIGN Global Hub is currently released as a beta (version 0.1), representing an initial step toward a more comprehensive and dynamic market intelligence platform. While the current version enables structured exploration and comparison of health product pipelines, ongoing development will expand the breadth and depth of available intelligence. In calendar 2026, the Hub will incorporate **expanded horizon scanning coverage**, significantly increasing the number of products tracked across disease areas and development stages, thereby improving the completeness and forward-looking capacity of the platform. In parallel, **new metrics**, including cost, economic evaluation, and implementation indicators, will substantially enhance decision-making utility. Economic evaluation metrics will include cost-effectiveness analyses, enabling assessment of value relative to health outcomes, and budget impact estimates,

In calendar 2026, the Hub will incorporate expanded horizon scanning coverage, significantly increasing the number of products tracked across disease areas and development stages, thereby improving the completeness and forward-looking capacity of the platform.

allowing countries to understand the financial implications of adopting and scaling products within constrained fiscal environments. Implementation metrics will capture introduction prioritization, supporting structured ranking of products based on need and feasibility, and demand generation, assessing the level of effort required to drive uptake among providers and populations.

The Hub will also introduce **more advanced analytical and user interaction capabilities.** A key enhancement will include the development of a portfolio-based comparison approach, enabling users to group and assess sets of products as coordinated strategies, rather than isolated technologies, reflecting the reality of integrated health interventions. Furthermore, the integration of large language model (LLM)-enabled interfaces will facilitate more intuitive access to the platform, allowing users to query, interpret, and synthesize complex data more efficiently.

These enhancements reflect a broader vision of the Hub as an evolving, user-centered decision-support system, with continuous input from stakeholders helping to guide future iterations and ensure relevance to real-world policy and implementation needs.

How to Use the ALIGN Global Hub

The ALIGN Global Hub is designed for simple, intuitive decision workflow, structured around four steps: explore → compare → interpret → decide. This workflow allows users to move from broad landscape awareness to evidence-informed decision making through a structured and transparent analytical process. Currently, we focus only on timeline forecasting and development status, but additional metrics and features will be released in the future.

1. Users begin by **exploring** the product pipeline through the interactive Overview dashboard, which summarizes horizon-scanning results and visualizes key trends across applications, product types, and development stages (see Figure 4).

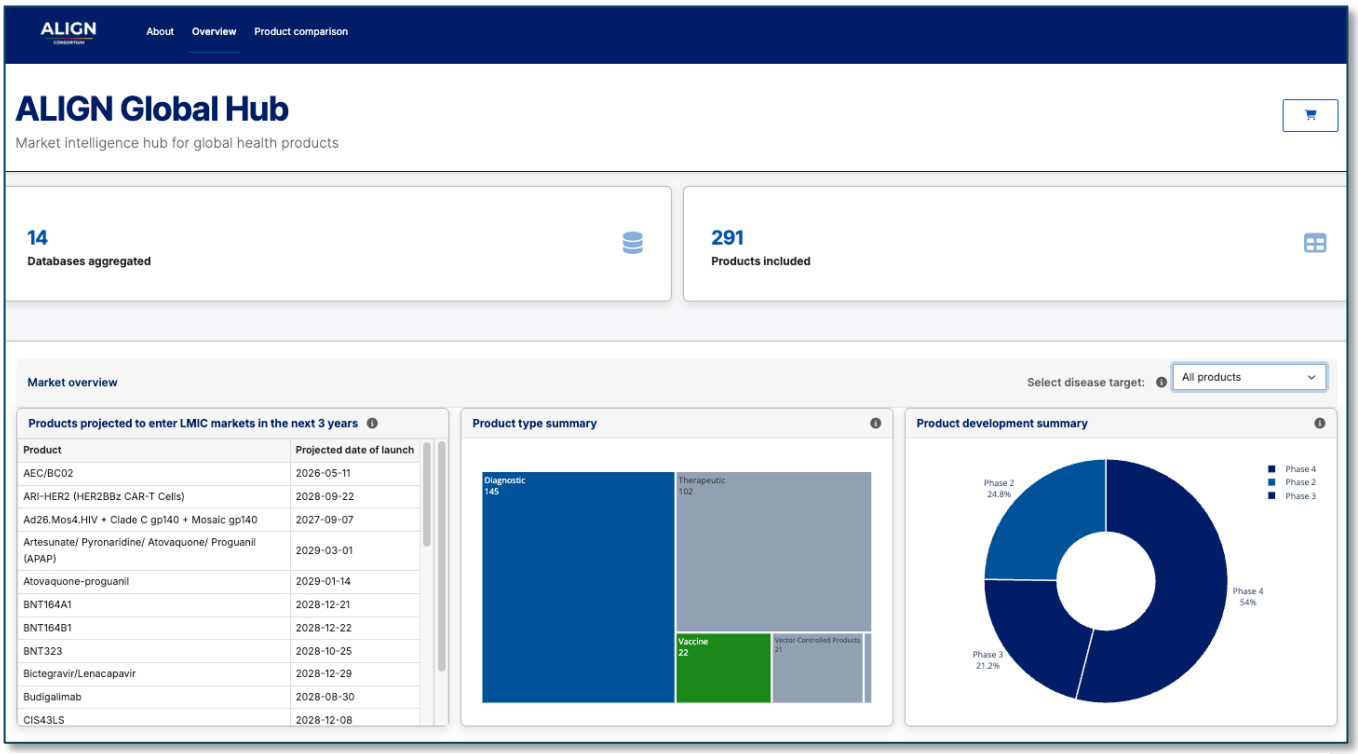

Figure 4: Overview page of the ALIGN Global Hub dashboard with summaries of the horizon scanning and interactive plots.

2. From there, the **product explorer** allows users to filter and select specific innovations of interest and add them to a comparison cart (see Figure 5).

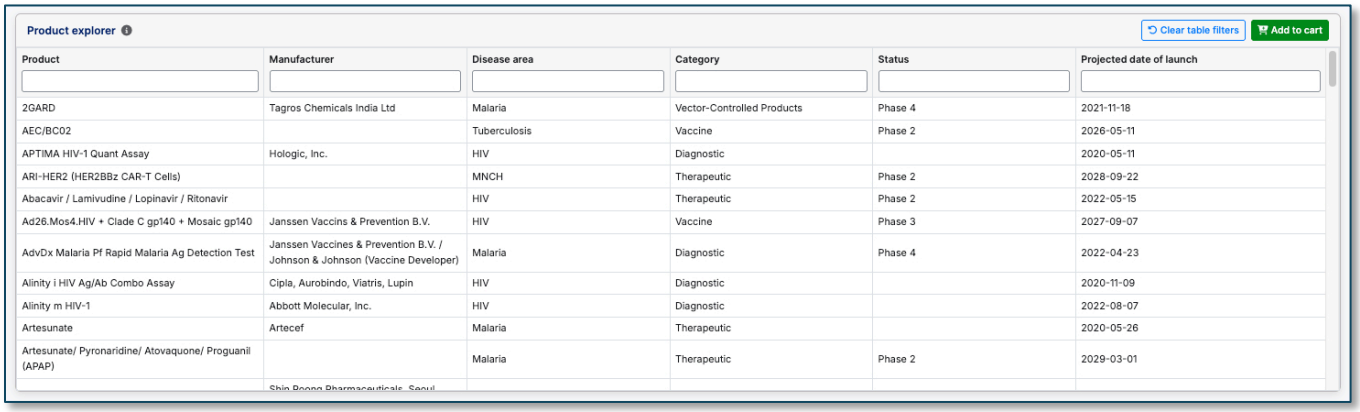

Figure 5: Interactive product explorer table for filtering, selecting, and adding products to the cart.

3. Users can then **interpret** individual products through product detail cards that display development milestones and projected introduction timelines, along with readiness indicators (see Figure 6 and Figure 7).

Figure 6: Product detail card with Introduction milestone timeline.

Figure 7: Product detail card with introduction readiness metrics.

4. Finally, selected products can be **compared** side by side for differences in introduction timelines and readiness metrics to inform prioritization and planning decisions (see Figure 8).

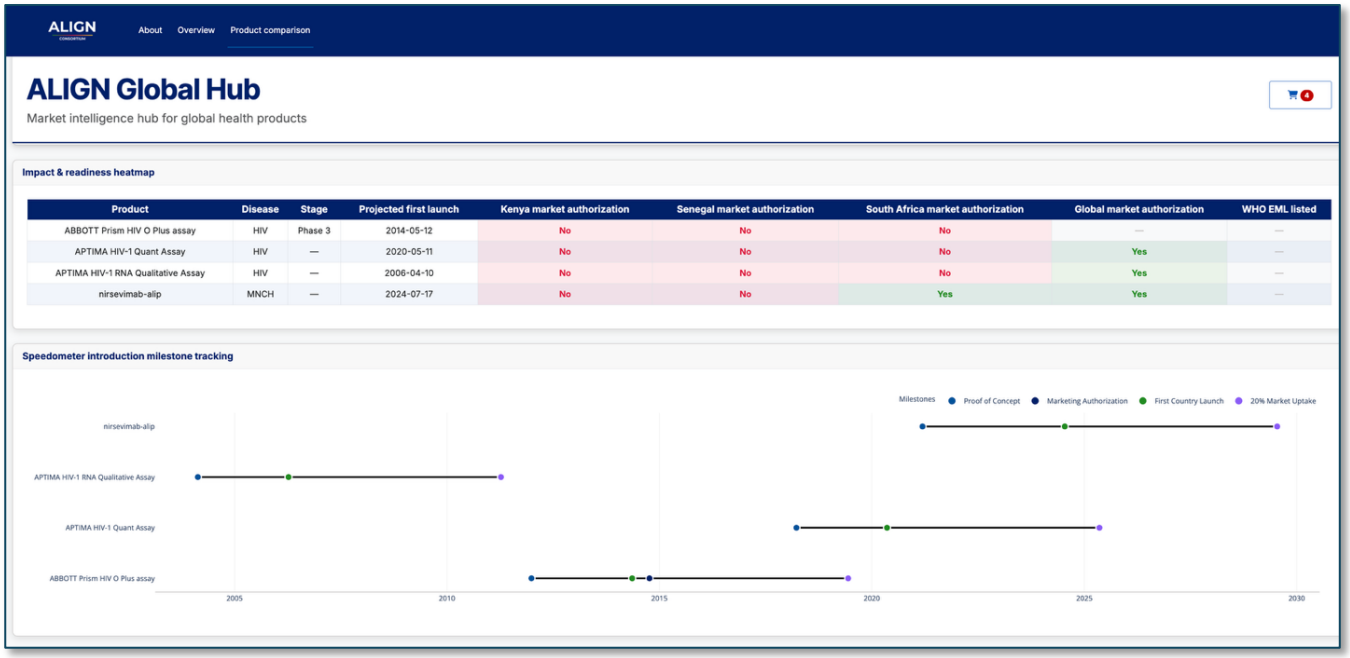

Figure 8: Products added to the cart can be compared on introduction milestone timeline and readiness metrics.

Hub Design and Technical Architecture

The ALIGN Global Hub is designed as a structured data integration and analytics platform that transforms fragmented product pipeline information into standardized, decision-ready intelligence. The system is built around open sources and modular architecture for continuous data ingestion, harmonization, forecasting, and visualization. The Global Hub is currently developed using core resources from R Language for Statistical Computing and Python. At its core, the Global Hub integrates multiple data streams into a unified data model that allows consistent comparison of products across diseases, development stages, and expected introduction timelines. This architecture enables the platform to evolve as new data sources and analytical needs emerge. Further details and shared codes are available in our Github Repository.[6]

The technical workflow of the Global Hub follows a pipeline structure in which data are collected from curated sources, cleaned and standardized, and then enriched through linkages with additional data sources and analytical methods such as timeline forecasting and product classification.

The Hub is also designed to be scalable and interoperable, allowing expansion across disease areas, countries, and product types while maintaining consistent analytical standards. Its structure supports both centralized global analysis and decentralized country use through a federated model following data standards and FAIR Data Principles,[7] enabling global intelligence generation and contextual adaptation. This approach ensures the platform can function as both a global public good and a practical decision-support tool for country stakeholders planning health product introduction strategies.

Conclusion

Bridging the gap between rapidly evolving health innovation and country-level decision-making is essential to achieving timely, equitable, and impactful access to health products, particularly in low- and middle-income countries. The current landscape of fragmented, inconsistent, and inaccessible market intelligence fails to equip leaders at all levels—country, regional, and global—to plan proactively, align investments, and ensure that new technologies translate into meaningful population health gains.

[6] https://dukeghic.org/projects/align-consortium/

[7] The FAIR Data Principles are a set of guidelines—Findable, Accessible, Interoperable, and Reusable—designed to improve the infrastructure and stewardship of digital assets, ensuring they can be found and used by both humans and machines.

The ALIGN Global Market Intelligence Hub represents a critical step toward addressing this challenge by transforming dispersed data into structured, decision-grade intelligence. By enabling greater visibility into product pipelines, anticipated timelines, and implementation considerations, the Hub supports a shift from reactive adoption to proactive, evidence-informed planning. Its federated model—linking global analytics with country-level contextualization—ensures that intelligence is both accessible and locally relevant, strengthening alignment across stakeholders and decision domains.

As the platform continues to evolve, expanding its data scope, analytical capabilities, and user functionality, it has the potential to become a foundational shared resource for global health decision-making. Ultimately, the success of the ALIGN Global Market Intelligence Hub will depend on sustained collaboration across global, regional, and country stakeholders to contribute data, validate insights, and translate intelligence into action. By doing so, the Hub can help ensure that innovation reaches the populations who need it most—faster, more efficiently, and with greater impact. Thus, we invite all the community to collaborate with us, provide feedback, engage with us through our communication channels as we continue developing this tool. Launching a beta version is our call for the community to engage with the ALIGN Consortium early on and help shape its development.

Appendix: ALIGN Consortium Members

Name	Organization
Beth Boyer	Duke Margolis Institute for Public Policy
Don Goldmann	Duke Global Health Innovation Center
Jules Iradukunda	Duke Global Health Innovation Center
Heather Lanthorn	Duke Global Health Innovation Center
Jennifer Larson Sawin	Duke Global Health Innovation Center
Emily Macharia	Duke Global Health Innovation Center
Wenhui Mao	Duke Global Health Innovation Center
Lakia Marshall	Duke Global Health Innovation Center
Gedion Titus Ngeno	Duke Global Health Institute
João Vítor Perez De Souza	Duke Global Health Institute
Krishna Udayakumar	Duke Global Health Innovation Center
Elina Urli Hodges	Duke Global Health Innovation Center
João Ricardo Nickenig Vissoci	Duke Global Health Institute
Celestine Adipo	Keprecon
Irene Amadi	Keprecon
Prof. Ambrose Agweyu	Keprecon
Dr. Rebecca Kiptui	Kenya Ministry of Health
Dr. Wilson Liambila	Keprecon
Nelson Maina	Keprecon
Dr. Ayub Manya	Kenya Ministry of Health
Juliet Nyambura	Keprecon
Dr. Dan Odallo	Keprecon
Dr. Walter Obita Oyamo	Kenya Health Federation
Richard John Osaga	Keprecon
Robinson Oyando	Keprecon

Zeka Wekesa	Keprecon
Prof. Fred Were	Keprecon
Dr. Ian Were	Kenya Ministry of Health
Ibrahima Bâ	ENDA Santé
Mouhamadou Siradji Bâ	ENDA Santé
Ngoundji Dieng	ENDA Santé
Daouda Mouhamed Diop	ENDA Santé
Fatou Maria Dramé	ENDA Santé
Papa Djibril Ndoye	ENDA Santé
Sidy Mokhtar Ndiaye	ENDA Santé
Khadime Sall	ENDA Santé
Léna Virot	ENDA Santé
Ms. Fatima Abrahams	SAMRC,[8] GIPD[9]
Dr. Lee-Ann Davids	SAMRC, OATB[10]
Mr. Fundile Gebremedhin	National Department of Health (South Africa)
Prof. Tamara Kredo	SAMRC, HSRU[11]
Ms. Trudy Leong	SAMRC, HSRU
Dr. Duduzile Ndwandwe	SAMRC, Cochrane SA

[8] South African Medical Research Council
[9] Grants, Innovation, and Product Development
[10] Office of AIDS and TB Research
[11] Health Systems Research Unit