



Governing data to create value

Fasi's Data Warehouse

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EXECUTIVE SUMMARY

Against the evolving backdrop of supplementary healthcare funds, characterised by the growing complexity of the benefits provided, mounting pressures on economic sustainability and an increasing demand for transparency and accountability, data has emerged as a necessary strategic instrument for the stewardship of the system. For Fasi, the capacity to take informed, coherent and medium-to-long-term-oriented decisions is contingent upon the availability of integrated, trustable and longitudinally comparable information.

*Building on this premise, Fasi has embarked upon the implementation of its own Data Warehouse and of a structured data governance model, conceived not as mere technological artefacts but as a **knowledge infrastructure underpinning Fasi's policies**. The Data Warehouse enables the Fund to overcome the fragmentation of its information sources and to construct a unified, longitudinal view of the system's performance, thereby rendering legible complex phenomena such as the evolution of expenditure, the take-up of benefits, and the impact of preventive policies and regulatory choices.*

*he value of the project resides in its capacity to **transform data from a descriptive element into an enabler of the decision-making process**, through the construction of robust and shared information. The adoption of a governance model based on clearly delineated roles, formalised responsibilities and shared rules safeguards the quality, reliability and consistency of the information, thereby mitigating the risk of decisions grounded in partial or non-homogeneous readings. Within this framework, Executive Management exercises strategic direction; the technical and analytical functions, namely Centro Studi and Management Accounting, correlate and enrich the data, converting it into actionable information; and the Communications Department ensures the appropriate dissemination of such information in a manner consistent with institutional transparency.*

*The deployment of the DWH has translated into a strengthening of the Fund's governance capacity: enhanced quality of strategic decisions, more rigorous oversight of economic and financial dynamics, support for sustainability-oriented planning, and the consolidation of institutional credibility vis-à-vis stakeholders. Concurrently, the DWH is fostering organisational maturity by promoting **the culture of data as a shared asset within the organisation**, conducive to the informed use of information across the entire decisional value chain.*

*Taken as a whole, the DWH and data governance project constitutes a strategic investment, intended to strengthen accountability, sustainability and Fasi's ability to govern the complexity in the supplementary healthcare system. Data thus becomes a **knowledge infrastructure**, placed at the service of more robust, transparent decisions aligned with the Fund's institutional mission.*

1. FASI'S VISION

Within the landscape of supplementary healthcare funds, data has progressively acquired a structural function, evolving from a mere instrument of administrative reporting into a strategic decision-making enabler. The growing complexity of the benefits provided, the expansion in transaction volumes managed, and the imperative to ensure economic sustainability, equity of access and transparency over time, together call for a governance model anchored in reliable, coherent and shared information.

From this perspective, the Data Warehouse and the associated data governance framework are not mere technological solutions; rather, they constitute **essential components of the Fund's governance architecture**. They form the cognitive infrastructure through which Fasi is able to comprehend its own evolutionary dynamics, to inform regulatory choices and to appraise the impact of the policies adopted.

Since 2024, the Data Warehouse has constituted the cornerstone instrument for the integration, historicisation and analysis of data drawn from the various information domains of the Fund, namely the administrative, healthcare, accounting and benefits-management domains¹. By means of a structured and coherent model, it enables the Fund to overcome the fragmentation of its sources and to construct a **unified and longitudinal representation** of the Fund's evolution over time².

Such integrative capability renders it possible to apprehend complex phenomena that elude partial or static readings: the evolution of healthcare expenditure, the benefit utilisation patterns, the preventive policies efficacy, and the economic and organisational impact of regulatory choices. In this regard, the Data Warehouse does not merely describe what is taking place; it enables a **systemic and forward-looking reading** of the Fund's operations.

Within Fasi's vision, **data constitute an instrument in support of the governance of the Fund**: their collection, cleansing and remediation, organisation, correlation and enrichment, and ultimately the realisation of their value, are activities directed towards strengthening decision-making capability and rendering choices concerning healthcare cover, sustainability and planning more informed and timely. Within such a framework, it is imperative to establish a clear allocation of roles and responsibilities, drawing a sharp distinction between the functions of strategic direction, technical stewardship, analysis and interpretation, economic appraisal and institutional communication, so that information may be translated into effective decision-making capability rather than remaining a repository of ungoverned data.

1. In the scholarly literature, the data warehouse is conceptualised as an integrated, time-variant and non-volatile repository underpinning decision-support systems, designed to consolidate data drawn from heterogeneous sources and render them amenable to analytical interrogation and reporting. Sources: W. H. Inmon, *Building the Data Warehouse*, 4th edn, John Wiley & Sons, 2005; R. Kimball and M. Ross, *The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling*, 3rd edn, John Wiley & Sons, 2013.

2. Within analytically oriented data warehouses, multidimensional modelling (e.g. the star schema) constitutes a well-established paradigm for ensuring legibility, semantic stability and query performance, thereby facilitating temporal comparisons and the comparability of indicators. Sources: Kimball Group, *Dimensional Modeling Techniques*; R. Kimball and M. Ross, *The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling*, 3rd edn, John Wiley & Sons, 2013.

2. THE METHODOLOGICAL ARCHITECTURE

To translate into tangible value for the Fund, the information asset made available within the Data Warehouse must be embedded within a robust and mature data governance model, predicated upon a **clearly articulated system of roles, formalised responsibilities and shared rules**.

Within supplementary healthcare funds, this requirement takes on particular salience, owing to the highly sensitive, strategic and regulated nature of the information processed³, which demands stringent standards of quality, security, reliability and continuity.

Against such a backdrop, the data and information governance model adopted by Fasi rests upon two structurally interdependent axes: on the one hand, the safeguarding of data reliability; on the other, the stewardship of the quality and coherence of the decision-making processes founded upon such data. The two dimensions do not constitute separate domains; rather, they are complementary elements of a single methodological architecture oriented towards the informed governance of information.

The Fund has long recognised **data reliability across their entire lifecycle** as a non-negotiable prerequisite of its governance.

Historical continuity, traceability of sources, verifiability of processing, and the protection of health-related information together constitute the necessary, though not sufficient, precondition for robust decision-making processes — comparable over time and aligned with the Fund's institutional purposes. The further condition is that data be interpreted according to shared criteria and well-defined responsibilities. From this standpoint, **the Data Warehouse is not a mere technological instrument for the collection and integration of data, but a knowledge infrastructure**, that transforms data into interpretable information and underpins a broader capacity to read, interpret and govern healthcare and managerial phenomena.

Data reliability is safeguarded through robust and structured governance, understood as a shared and cross-cutting responsibility throughout the organisation. This entails the adoption of common rules, formalised quality criteria, dedicated organisational measures and a high degree of operational discipline, with the aim of ensuring **vocabulary uniformity, semantic coherence and interpretive convergence**. In this respect, **transparency** stands as a defining attribute of the model: governed, validated and shared data enable the Fund to oversee, with credibility, its relationship with its beneficiaries and with the broader network of institutional *stakeholders*, thereby strengthening accountability and sustaining an evidence-based communication, consistent over time and immune to misleading simplifications.

Data governance, however, does not end with regulatory compliance or information protection. It bears directly upon the **quality of the decision-making process** and, more broadly, upon the organisation's capacity to maintain internal coherence and external reliability. With-

3. The processing of health-related data necessitates reinforced governance, security and accountability safeguards, in view of its particular sensitivity and the potential impact on data subjects' rights. Data governance therefore also operates as an instrument of institutional protection. Sources: Regulation (EU) 2016/679 (GDPR), arts. 5, 9, 24 and 32; European Data Protection Board, *Guidelines on the Processing of Health Data*.

out governed, reliable and shared data, the organisation risks generating divergent readings of phenomena, misaligned decisions and, over the medium term, a progressive erosion of stakeholder trust. Conversely, a structured and trustable⁴ information asset provides the precondition for decisions that are informed, comparable and institutionally defensible.

From this vantage, data governance does not amount to a formal compliance exercise; it is, rather, an essential instrument of organisational equilibrium and a means of reinforcing the Fund's governance capacity. Fasi's investment in the Data Warehouse and the related governance architecture is thus situated within a broader **trajectory of institutional maturation**, in which data evolve from a technical resource into a shared asset of the organisation, supporting the quality of strategic choices, the sustainability of the healthcare cover provided and stakeholder trust.

4. The term trustable is employed in the international data governance literature to denote a datum or information system meeting structural requirements of quality, reliability, traceability and semantic coherence, such as to render it fit for purpose in underpinning decision-making processes. Source: DAMA International, *DAMA-DMBOK: Data Management Body of Knowledge*, 2nd edn, Technics Publications, 2017.

3. THE PROCESS

Within this framework, the Data Warehouse's value is fully realised when various functions operate according to distinct yet integrated roles: Executive Management defines its strategic purposes; IT provides the underlying technological solutions; the Centro Studi interprets and valorises the informational content; Management Accounting oversees the translation of data into economic and managerial indicators supporting decision-making; and the Communications Department ensures transparency and consistency towards external audiences.

Executive Management exercises operational responsibility over the information system. It defines the purposes of the Data Warehouse, identifies the information material to the governance of the Fund and steers the use of data in support of decisions on benefits, economic planning and dialogue with the statutory bodies. Directional *commitment* constitutes the essential precondition for data to acquire genuine decisional value.

The **IT function** safeguards the technical reliability, security and continuity of the system. It is accountable for data integration, the technical quality of information, the protection of sensitive data and the traceability of accesses. Its role is enabling in nature: it does not define the meaning of the indicators but renders possible a stable and controlled use of the information asset.

The **Centro Studi** constitutes the interpretive layer of the system. It is the function entrusted with transforming data into knowledge, through structured analyses and longitudinal readings of phenomena across the healthcare, economic and social spheres. In so doing, it helps to build a shared vocabulary for the indicators and to mitigate the risk of decisions founded upon partial or inconsistent interpretations.

Management Accounting performs a bridging function between information and economic sustainability. By means of the Data Warehouse, it monitors expenditure dynamics, assesses variances against forecasts and analyses the economic impact of the healthcare cover provided. Its contribution is essential to informed planning and to risk management over the medium-to-long term.

The **Communications Department**, in turn, ensures that data are translated into transparent communication, in line with the differing needs of the various *stakeholders*. Governed and validated data provide the foundation for credible and tailored institutional communication addressed to beneficiaries and Social Partners.

Data governance is the precondition for reporting, financial statements and accountability processes that avoid misleading simplifications and inconsistent communication.

4. PROJECT OUTCOMES AND EXPECTED BENEFITS

The Fasi Data Warehouse, coupled with a structured data governance model, has markedly strengthened the Fund's ability to govern in an informed, coherent and prospective manner. Its value does not lie in new reporting capabilities or in a single integrated repository alone: it lies in a knowledge infrastructure that underpins strategic direction, reinforces institutional accountability and equips the Fund to manage complexity with greater insight.

The deployment of the Data Warehouse has further raised the quality of the decision-making process, marking a genuine step in maturity from the data that are merely observed to data that are actively governed. With information that is timely, integrated, historicised and subject to shared rules of quality and interpretation, Executive Management and the Fund's governing bodies can anchor strategic choices in robust evidence, rather than falling back on episodic, fragmentary or inconsistent readings. The Fund is thus better placed to steer healthcare cover policies, to weigh the effects of regulatory choices and to track, over time, phenomena that are dynamic and multidimensional by their very nature: how expenditure evolves, how demand takes shape, how benefits are actually used, and how prevention initiatives deliver in terms of appropriateness and sustainability.

Bound up with this dimension is a systemic gain on the economic and financial front: the project allows expenditure dynamics to be monitored more robustly and promptly, opening up the kind of longitudinal, comparative reading on which advanced management control depends⁵. **Sustainability cannot be reduced to cost-cutting; it is the ability to keep the healthcare cover provided in balance and continuous over time.** On that view, access to homogeneous, trustable and comparable data makes it possible to spot trends, variances and weak signals early, to gauge the economic impact of choices and to plan with greater rigour and foresight. **The Data Warehouse thus works as a means of reducing uncertainty, reinforcing the Fund's resilience and its ability to govern the inherent variability and the mounting complexity of healthcare needs.**

At the same time, the project puts Fasi's information assets to work, turning a scatter of data dispersed across disparate systems into a **single, coherent body of information that is credible and accessible**. This is not merely a technical transition but an epistemic one: it makes data intelligible, and therefore capable of becoming knowledge. Those who gain most directly are the technical and analytical functions, now equipped to develop shared indicators and models, to produce readings that are more comparable and more robust, and to place what they observe within its temporal, clinical, economic and demographic coordinates. Data thus ceases to be an operational *output* and takes on the standing of a strategic *resource*, that sharpens organisational awareness and strengthens the Fund's positioning.

A further gain concerns the institutional dimension of **transparency**. Governed, validated and coherent data lend the Fund greater credibility in its dealings with beneficiaries, Social Partners

5. The availability of longitudinal data, comparable over time, constitutes *a sine qua non* for the analysis of expenditure dynamics, utilisation patterns and outcomes within complex healthcare systems. The absence of semantic and temporal continuity undermines the capacity to assess structural trends and to disentangle cyclical phenomena from underlying shifts. Source: WHO, *Health System Performance Assessment: A Framework for Policy Analysis*, 2010.

and other *stakeholders*, allowing it to rest its communication on firm foundations that hold up over time. Reporting, accountability documents and institutional communications can then draw on a verifiable body of information, which lowers the risk of inconsistencies, misleading simplifications or mixed messages. Seen in this light, **transparency is not a secondary obligation but part of what confers legitimacy**: a safeguard of trust, sustained by the quality of the information and by the fact that it can be governed.

Beyond the immediately visible outcomes, the project is driving the **Fund's organisational and cultural maturation**. A Data Warehouse, backed by effective governance, settles a shared vocabulary, makes plain where responsibilities lie along the data value chain, and encourages an informed use of information that moves beyond siloed or proprietary habits. **The value created lies not simply in access to data, but in the ability to recognise them as a shared asset across the organisation** and to steward them as such, through controls and processes that secure coherence, traceability, quality and security.

Taken as a whole, the project stands as a strategic investment in Fasi's future. Its anticipated benefits go beyond gains in operational efficiency: they enable a broader capacity to govern complexity, underpin long-term viability, reinforce accountability and **consolidate the Fund's role within the supplementary healthcare system**.



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