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# Integrated planning in healthcare: Evidence from PIAO indicators

**Andrea Mariani***
Università Cattolica del Sacro Cuore, Milan, Italy
Center of Research and Studies in Health Care Management (CERISMAS), Milan, Italy

**Federica Ariello**
Università Cattolica del Sacro Cuore, Milan, Italy

**Costanza Nanni**
Università Cattolica del Sacro Cuore, Milan, Italy

*Corresponding author: Andrea Mariani (andrea.mariani@unicatt.it), ORCID 0000-0002-9720-8961

**Abstract**

**Purpose**: The study examines how integrated planning is implemented in healthcare organisations through the indicators reported in the Integrated Activity and Organisation Plan (PIAO), assessing whether the framework supports strategic coherence, performance management, and public value creation.

**Design/methodology/approach**: The analysis covers 4,247 indicators drawn from fifty-two PIAO documents issued by thirteen public healthcare organisations in the ATS Milano district, including nine ASSTs, three IRCCSs and the ATS Milano health authority. Indicators were extracted, classified, and analysed across four planning cycles (2022–2024, 2023–2025, 2024–2026, 2025–2027) by type, distribution, and alignment with PIAO sections. Quantitative patterns were integrated with a qualitative assessment of coherence between objectives, measurement logic, and document structure.

**Findings**: Results show high variability in the number and type of indicators across organisations and cycles. Measurement is dominated by volume and process indicators, while outcome indicators are

almost absent. Alignment between strategic objectives, performance objectives and human capital planning is limited. Document length grows substantially across the first cycles and remains high in 2025–2027, as annexes are progressively absorbed into the main text. Overall, the findings suggest that the main limitation of the PIAO does not lie in its formal design, but in the persistence of activity-based measurement architectures that weaken its capacity to support steering, accountability, and public value.

**Research limitations/implications**: The analysis focuses on a single territorial area and on what organisations formally report in PIAO documents. Further comparative and process-based studies are needed to assess how the PIAO is used in practice.

**Practical implications**: The findings highlight the need for clearer design principles, more selective indicator sets and stronger connections between strategic objectives, performance measurement, and human capital planning to support public value.

**Originality/value**: This is the first empirical study to systematically analyse PIAO indicators in healthcare. It documents how integrated planning is interpreted in practice and shows that the main obstacle to substantive integration is not the formal architecture of the reform, but the persistence of activity-based measurement logics. In doing so, the study clarifies the conditions required for the PIAO to function as a genuine integrated planning and public value framework.

**Keywords:** integrated planning; PIAO; performance measurement; public value; healthcare organisations; indicators.

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## 1. Introduction

Public services, particularly health and social care, are among the primary infrastructures through which governments generate well-being for their communities. They absorb substantial public resources, operate in contexts marked by demographic ageing, chronic fragility and widening inequalities, and represent the main interface between citizens and public institutions (Van Dooren et al., 2015). Yet public administrations often struggle to respond effectively to these complex needs because their planning and accountability systems remain fragmented. Over time, Italian public organisations have produced multiple plans with different logics, timelines and reporting requirements, generating redundancy, weak strategic coherence and documents that are difficult for citizens, community organisations and third-sector actors to interpret (Maione, 2010; Bryson, 2004; Amelio and Orlandini, 2020). This proliferation has weakened accountability chains and reinforced a compliance-driven planning culture focused more on fulfilling obligations than on generating public value (Nisio et al., 2013).

The Integrated Activity and Organisation Plan (Piano Integrato di Attività e Organizzazione (PIAO)), introduced by Decree Law 80 2021 and operational since 2022, represents the main national attempt to address these problems. It consolidates existing planning instruments into a single three-year document updated annually and integrates strategic planning, performance measurement, human resources management and risk prevention within a coherent architecture (Gagliardo and Saporito, 2021; Gagliardo and Cepiku, 2023). Integration is understood here as the vertical and horizontal coherence among objectives, resources, indicators, and responsibilities. In line with international reforms that promote integrated public management, the PIAO aims to reduce administrative burden, strengthen alignment between organisational goals and activities, and orient planning toward the creation of public value (Barbera et al., 2017).

Despite its design, evidence on how the PIAO is actually implemented remains limited. Early analyses suggest a tension between the ambition of simplification and the risk that the PIAO becomes an additional bureaucratic layer with limited influence on decision-making (Gagliardo and Cepiku, 2023). This reflects a broader pattern observed in earlier performance reforms, where innovations often resulted in ritualistic compliance rather than substantive change (Bigoni and Gagliardo, 2013; Mauro et al., 2021). This raises a central question for public management research. Can integrated frameworks like the PIAO move organisations from compliance toward outcome-oriented governance (Anselmi, 2012; Lorusso, 2021), or do they merely repackage existing routines without altering how priorities are set and measured?

Research on New Public Management shows that reforms focused on efficiency and outputs have often failed to embed a genuine results orientation (Hood, 1991, 1995; Aucoin, 1990; Russell et al., 1999). Public value scholarship reinforces this critique by emphasising the need to measure outcomes and societal impact rather than only administrative activities (Berman and Hijal-Moghrabi, 2022). Studies on performance regimes underline the importance of coherent measurement systems that connect strategic objectives, operational processes, and stakeholder expectations (Chenhall, 2006). At the same time, research on community-based governance highlights the relevance of indicators that capture the needs and expectations of social actors and third-sector organisations (Amelio and Orlandini, 2020; Bosa et al., 2020).

Indicators lie at the core of these debates because they shape what organisations prioritise and communicate. Poorly designed indicators reinforce administrative routines and distort representations of performance, while well-designed ones support accountability, learning and public value creation (Capalbo et al., 2023; Preite and De Matteis, 2019). Poorly designed indicators not only distort internal accountability but also impair the ability of third-sector organisations and voluntary actors to engage meaningfully in service co-delivery and community governance (Amelio and Orlandini, 2020). When planning documents are dominated by activity-based measures, they become opaque to

community stakeholders and reduce the scope for collaborative decision-making, limiting the contribution of voluntary organisations and social enterprises to public value creation (Biancone et al., 2023). Conversely, outcome-oriented indicators enable dialogue among public organisations, citizens, and community actors, including volunteers and social initiatives (Bosa et al., 2020; Cavallo, 2020). Innovative technologies can further enhance measurement quality and transparency, particularly in ESG reporting and value-oriented planning (Secinaro et al., 2023).

Healthcare organisations offer a particularly relevant setting for examining these issues. ASSTs and IRCCSs manage complex systems, deliver services with direct community impact, and collaborate intensively with third-sector and voluntary organisations that depend on clear, outcome-oriented planning documents to understand organisational priorities and engage in collaborative service delivery (Amelio and Orlandini, 2020; Costanzo et al., 2025). They also employ more mature planning and control systems than many other public sectors, including advanced performance metrics and structured reporting tools (Lega and Vendramini, 2008; Paolini and Soverchia, 2013). For these reasons, their PIAO documents provide an ideal empirical context to analyse how integrated planning reforms are interpreted and operationalised. Yet no systematic study has examined how healthcare organisations translate the normative expectations of the PIAO into measurable performance and public value (Lecci et al., 2024).

This study addresses this gap by analysing how healthcare organisations construct, select and use performance indicators within the PIAO. The research question is as follows: to what extent do the indicators included in ASSTs' and IRCCSs' PIAO documents reflect the goals of integration and public value? To answer this question, the study examines 52 PIAO documents produced by thirteen healthcare organisations over four planning cycles, generating a unique dataset of 4,247 indicators. More specifically, the study investigates whether the PIAO has fostered a substantive reconfiguration of measurement practices or has instead reproduced pre-existing activity-based logics within a formally integrated document.

The paper offers four contributions. First, it provides the first empirical assessment of integrated planning practices in Italian healthcare, contributing to international debates on integrated frameworks and performance regimes. Second, it shows that the main obstacle to substantive integration does not lie in the formal architecture of the PIAO, but in the persistence of activity-based measurement logics that disconnect objectives, indicators, and organisational capabilities. Third, it offers policy-relevant insights for national and regional policymakers, including the need for clearer templates, minimum indicator standards, and methodological guidance. Finally, it supports dialogue between healthcare organisations and community-based actors who depend on accessible and outcome-oriented PIAO documents to engage in collaborative service delivery and co-production of public value (Amelio and Orlandini, 2020; Costanzo et al., 2025; Biancone et al., 2023).

## 2. Background

The evolution of public management offers a useful foundation for understanding why integrated planning frameworks have become central to contemporary administrative reforms. The traditional model of bureaucratic administration, rooted in Weberian principles of legality, hierarchy and rule compliance, prioritised formal procedures over results and conceived control primarily as conformity to rules rather than as a mechanism for steering outcomes (Maione, 2010). While this model ensured stability and predictability, it offered limited capacity to respond to complex social needs or to demonstrate the value generated for communities. Planning systems tended to be inward looking and centred on regulatory compliance, a pattern that has been repeatedly observed in the Italian context (Anselmi, 2012).

Reforms inspired by New Public Management sought to address these limitations by introducing managerial tools, performance measurement, and accountability mechanisms closer to private sector practices (Hood, 1991, 1995; Aucoin, 1990). In principle, these reforms aimed to shift attention from processes to results. However, international, and comparative research has shown that such reforms

frequently produced additional layers of performance instruments without transforming underlying routines (Russell et al., 1999; Sarker, 2006). The Italian experience confirms this ambivalence: performance plans, indicators and control systems were formally adopted, yet their use often remained fragmented, compliance driven and weakly connected to strategic decision making (Bigoni and Gagliardo, 2013; Nisio et al., 2013). This compliance-driven orientation has consequences beyond administrative efficiency: when planning documents fail to communicate meaningful outcomes, they also exclude community-based actors from substantive participation in governance (Amelio and Orlandini, 2020).

In healthcare, studies show that even sophisticated budgeting and performance systems may coexist with limited strategic orientation and strong path dependence in measurement practices (Lega and Vendramini, 2008; Mauro et al., 2021).

Public value scholarship emerged partly in response to these limitations, reframing the purpose of public organisations around the generation of societal benefits beyond efficiency alone (Barbera et al., 2017). From this perspective, effectiveness should be assessed through improvements in citizens' well-being, equity, community resilience, and long-term outcomes, rather than output volumes or cost savings (Lorusso, 2021). Achieving this requires performance systems capable of capturing results that matter to communities. Yet research consistently shows that public organisations often measure what is easiest to count rather than what is strategically relevant. Activity-based indicators remain dominant across sectors because defining and operationalising outcomes and impacts is technically and organisationally challenging (Van Dooren et al., 2015). As a result, planning documents frequently describe intentions and processes while leaving substantive evaluation of effects unresolved. In this study, public value in healthcare is operationalised through three dimensions: outcome orientation, stakeholder responsiveness, and strategic coherence. Outcome orientation refers to the use of indicators that capture changes in citizens' health conditions, service accessibility, waiting times, and equity of treatment, rather than mere activity volumes. Stakeholder responsiveness

refers to the extent to which planning documents reflect the needs and expectations of patients, community organisations, and third-sector providers, thereby enabling meaningful participation in governance. Strategic coherence refers to the degree to which performance indicators are explicitly linked to organisational objectives and human capital decisions, rather than reported as isolated administrative measures. Taken together, these dimensions provide the analytical lens through which the study assesses whether PIAO indicators move organisations toward genuine public value creation or remain anchored to compliance-driven reporting.

Against this backdrop, the PIAO was introduced as an attempt to reconfigure planning and control within a single integrated framework. The PIAO merges previously separate plans into one document structured around four pillars: public value and organisational performance, organisational design and human resources, corruption risk and transparency, and transversal priorities such as digitalisation and innovation. The rationale is to create coherence between strategic goals, operational capacity, workforce planning, and risk management while reducing administrative burden by eliminating fragmentation (Gagliardo and Saporito, 2021). Early analyses highlight both the potential and fragility of the reform. Recent contributions have begun to examine PIAO documents in specific institutional contexts, such as universities (De Nicola and Fratini, 2024), highlighting recurring tensions between formal compliance and substantive integration. No systematic study has yet addressed healthcare organisations, where the interface with third-sector and community-based actors is particularly intense. This makes healthcare a particularly revealing setting in which to observe whether integration is translated into measurement practices or remains largely rhetorical.

On the one hand, the PIAO is recognised as an opportunity to connect public value, performance, and organisation. On the other, its early implementation has been highly uneven and frequently anchored to pre-existing routines (Gagliardo and Cepiku, 2023). Evidence from central administrations and universities suggests that learning processes are emerging but that the risk of reproducing “old plans in a new container” remains substantial (Gagliardo et al., 2024; Paolini and Soverchia, 2013).

Performance indicators of PIAO represent the critical link between strategic intentions and accountability. The distinction between input, process, output, and outcome indicators is well established in the public sector literature (Van Dooren et al., 2015; Berman and Hijal-Moghrabi, 2022). However, empirical analyses of Italian public organisations reveal a persistent reliance on volume and process-based indicators, with limited use of outcome measures (Nisio et al., 2013; Gobbo et al., 2016). Many indicators lack targets, denominators or clear definitions and are often replicated across planning periods without revision, weakening both strategic steering and communicative functions (Capalbo et al., 2023). These limitations determine whether integrated planning can realistically guide decisions, support accountability and inform dialogue with stakeholders, including community actors and volunteers (Abbasi and Hollman, 2000; Best et al., 2019).

Healthcare provides a particularly relevant context for examining the PIAO. Local Health Unit (Aziende Socio Sanitarie Territoriali (ASST)) and Research Hospital (Istituti di Ricovero e Cura a Carattere Scientifico (IRCCS)) operate within complex organisational architectures, deliver essential services with immediate community impact, and interact extensively with third sector actors and community-based providers (Lega and Vendramini, 2008). Their activities have high political and social visibility, and they manage substantial financial and human resources in settings marked by chronic fragility and demographic pressure (Barbera et al., 2017). These organisations already rely on advanced budgeting systems, clinical performance metrics, and structured reporting tools, creating favourable conditions for evaluating whether the PIAO enables more coherent links between outcomes, organisational priorities, and human resources (Lecci et al., 2024; Capalbo et al., 2023). At the same time, the risk of redundancy remains significant: the PIAO may simply reassemble existing plans, becoming an additional layer rather than a catalyst for integration, particularly where internal control systems exhibit fragmentation and compliance driven behaviours (Preite and De Matteis, 2019).

This study builds on these conceptual premises to assess how integrated planning is enacted within healthcare organisations and whether the PIAO moves planning systems closer to public value generation or leaves longstanding problems largely unchanged. Four analytical dimensions guide the investigation: variability across organisations and planning cycles; the balance between volume, process, and outcome indicators; the internal coherence between strategic objectives and indicators; and the structure and readability of the documents, including page count and annex consolidation. Together, these dimensions provide a systematic basis for assessing whether the PIAO is functioning as an integrated planning framework or primarily as a formal compliance exercise.

## 3. Research methods

The study adopts a descriptive and comparative research design to examine how healthcare organisations construct their integrated planning documents. A document-based approach is appropriate because the PIAO is the formal and publicly accessible expression of organisational priorities, strategic intentions, and measurement choices. Unlike interviews or surveys, which capture perceptions, the analysis of official documents allows direct observation of what organisations commit to in terms of objectives, indicators, and accountability arrangements.

The empirical setting includes the full population of public healthcare organisations in the ATS Milano district that are legally required to produce a PIAO: nine ASST, three public IRCCS and ATS Milano itself, for a total of thirteen organisations. The dataset consists of fifty-two PIAO documents produced across four planning cycles (2022–2024, 2023–2025, 2024–2026 and 2025–2027). All documents were retrieved from the transparency section of each organisation's website, ensuring that only officially approved versions were analysed.

A total of 4,247 indicators were identified and manually coded. For each indicator, the following attributes were recorded: organisation, PIAO section, planning cycle, full indicator text, presence of a numerical target and classification by indicator type. Manual coding was necessary because the

documents vary considerably in structure, formatting and lexical consistency, and automated extraction would not ensure comparability.

The coding process involved two researchers. One researcher conducted the complete coding of all 4,247 indicators, while a second researcher independently coded a structured subset of approximately 20% of the total, drawn systematically from at least three organisations and all four planning cycles to ensure representativeness across contexts and time. Intercoder agreement was assessed by comparing classifications indicator by indicator within this subset. Initial agreement exceeded 85%, and all discrepancies were discussed jointly until consensus was reached. Each disagreement prompted a review of the classification rules, which were refined iteratively and documented before being applied to the remaining dataset. This procedure strengthened internal consistency and reduced the risk of systematic bias, although the absence of full double-coding remains a limitation acknowledged in the conclusions.

Indicators were classified into three categories using explicit, replicable rules. Volume indicators capture quantities of activities (for example, number of services or processes completed). Process indicators capture the progress or quality of organisational activities (for example, compliance rates or timeliness). Outcome indicators reflect changes in conditions relevant to citizens and communities.

The analysis proceeded in three steps. First, descriptive statistics mapped the frequency and distribution of indicators across organisations, cycles, and indicator types. Second, a qualitative assessment evaluated the technical formulation of indicators, recurring issues such as duplication or lack of targets and the degree of alignment between indicators and strategic objectives. Third, a longitudinal comparison examined how indicator sets evolved across cycles, identifying whether organisations revised, stabilised, or expanded their measurement systems over time.

The approach strengthens the validity of the findings because the dataset covers the entire population of organisations subject to the PIAO requirement within the same territorial system. Nonetheless, two limitations remain.

First, the analysis focuses on a single territorial context. Although the dataset covers the entire population of healthcare organisations within the ATS Milano district, generalisation to other Italian regions or international settings requires caution. At the same time, ATS Milano represents one of the largest and most complex healthcare systems in Italy, including a diverse mix of ASSTs and IRCCSs operating under the same regulatory framework as organisations nationwide. The patterns observed here are therefore likely to reflect broader tendencies in PIAO implementation rather than purely local conditions. If similar weaknesses emerge in one of the largest and most complex healthcare systems in Italy, they are unlikely to be isolated phenomena, although future comparative studies should test this proposition explicitly.

Second, only partial double-coding was possible, which constrains the assessment of intercoder reliability. Despite these limitations, the methodological design provides a robust basis for analysing how integrated planning frameworks are operationalised in healthcare organisations.

## 4. Findings

The findings are organised around four analytical dimensions: variability across organisations and planning cycles, the balance between indicator types, internal coherence between objectives and measurement, and document structure. Across all dimensions, a consistent pattern emerges: PIAO implementation in healthcare organisations remains dominated by volume and process indicators, strategic coherence is limited, and outcome orientation is virtually absent. The sections below document this pattern in detail, showing how it manifests across the different components of the PIAO.

Table 1 reveals substantial heterogeneity in the number of indicators reported by healthcare organisations across the four planning cycles. Variability is already evident in the first triennium and remains high over time, despite a temporary reduction in both the mean and the standard deviation in 2023–2025 and 2024–2026. The pattern reverses in 2025–2027, when both the average number of indicators and dispersion increase again, driven by some organisations markedly expanding their

indicator sets. Overall, the evidence points to an unstable and weakly standardised approach to indicator selection, with limited convergence toward a shared measurement architecture.

**Table 1.** Number of indicators, mean, median and standard deviation by planning cycle and organization

| **Organisation** | **2022-2024** | **2023-2025** | **2024-2026** | **2025-2027** | **Total** |
|---|---|---|---|---|---|
| ASST Cto Gaetano Pini | 68 | 117 | 98 | 60 | 343 |
| ASST Fatebenefratelli | 106 | 72 | 69 | 90 | 337 |
| ASST Lodi | 136 | 108 | 95 | 64 | 403 |
| ASST Melegnano e Martesana | 20 | 37 | 31 | 137 | 225 |
| ASST Milano Nord | 63 | 125 | 116 | 128 | 432 |
| ASST Niguarda | 120 | 72 | 75 | 56 | 323 |
| ASST Ovest Milanese | 58 | 124 | 84 | 187 | 453 |
| ASST Rhodense | 89 | 25 | 25 | 25 | 164 |
| ASST San Paolo e San Carlo | 75 | 70 | 83 | 107 | 335 |
| ATS Milano | 114 | 94 | 83 | 92 | 383 |
| IRCCS Carlo Besta | 77 | 76 | 33 | 33 | 219 |
| IRCCS Istituto Nazionale dei Tumori | 157 | 68 | 77 | 54 | 356 |
| IRCCS Policlinico Ca' Granda | 68 | 83 | 79 | 44 | 274 |
| **Total** | **1151** | **1071** | **948** | **1077** | **4247** |
| **Mean** | **88,54** | **82,38** | **72,92** | **82,85** | **326,69** |
| **Median** | **77,00** | **76,00** | **79,00** | **64,00** | **296,00** |
| **Standard deviation** | **36,88** | **30,97** | **27,41** | **46,82** | **85,89** |

Table 2 reveals substantial variation in indicator distribution across PIAO's three core sections. The "Public value and performance" section records the highest mean (144.23) and largest standard deviation (78.29), reflecting divergent approaches to strategic and performance measurement. Some organisations deploy extensive indicator sets, while others use minimal sets, compromising comparability and strategic priority representation.

The "Organisation and human capital" section shows a lower mean (133.08) and variability (SD 68.24), yet heterogeneity persists. Most rely on stable, descriptive indicators with little cycle-to-cycle change, indicating limited strategic measurement application.

The "Anagraphic section" has the lowest mean (58.36) but relatively high standard deviation (37.45), confirming inconsistent use of this non-programmatic section. Some organisations fill it extensively, others minimally.

Collectively, these patterns indicate unbalanced measurement architectures lacking coherent design. Organisations vary in volume and emphasis across strategic, operational, and structural areas, diminishing internal coherence and the PIAO's integrative role.

**Table 2.** Number of indicators, mean, median and standard deviation by section and organisation

| **Organisation** | **Anagraphic sheet** | **Public value and performance** | **Organisation and human capital** | **Total** |
|---|---|---|---|---|
| ASST Cto Gaetano Pini | 106 | 90 | 147 | 343 |
| ASST Fatebenefratelli | 67 | 212 | 58 | 337 |
| ASST Lodi | 0 | 130 | 273 | 403 |
| ASST Melegnano e Martesana | 21 | 138 | 66 | 225 |
| ASST Milano Nord | 138 | 199 | 95 | 432 |
| ASST Niguarda | 23 | 146 | 154 | 323 |
| ASST Ovest Milanese | 30 | 335 | 88 | 453 |
| ASST Rhodense | 28 | 36 | 100 | 164 |
| ASST San Paolo e San Carlo | 70 | 100 | 165 | 335 |
| ATS Milano | 31 | 96 | 256 | 383 |
| IRCCS Carlo Besta | 0 | 64 | 155 | 219 |
| IRCCS Istituto Nazionale dei Tumori | 67 | 204 | 85 | 356 |
| IRCCS Policlinico Ca' Granda | 61 | 125 | 88 | 274 |
| **Total** | **642** | **1875** | **1730** | **4247** |
| **Mean** | **58,36** | **144,23** | **133,08** | **326,69** |
| **Median** | **61,00** | **130,00** | **100,00** | **337,00** |
| **Standard deviation** | **37,45** | **78,29** | **68,24** | **85,89** |

Figure 1 illustrates highly uneven indicator distribution across PIAO sections among the thirteen healthcare organisations, confirming divergent interpretations of the integrated planning framework.

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The "Anagraphic sheet" consistently features the fewest indicators, though exceptions appear: ASST Fatebenefratelli and ASST Milano Nord exceed "Organisation and human capital" counts, while ASST CTO Gaetano Pini surpasses "Public value and performance." Conversely, IRCCS Carlo Besta and ASST Lodi report zero anagraphic indicators despite substantial "Organisation and human capital" indicator sets.

The "Public value and performance" section exhibits widest variation. ASST Ovest Milanese leads, followed by ASST Milano Nord and ASST Fatebenefratelli, while others report far fewer, signalling inconsistent strategic measurement engagement.

ASSTs display pronounced heterogeneity across sections; IRCCSs concentrate on public value, except IRCCS Carlo Besta prioritizing human capital.

**Figure 1.** Number of indicators per PIAO section for each healthcare organisation

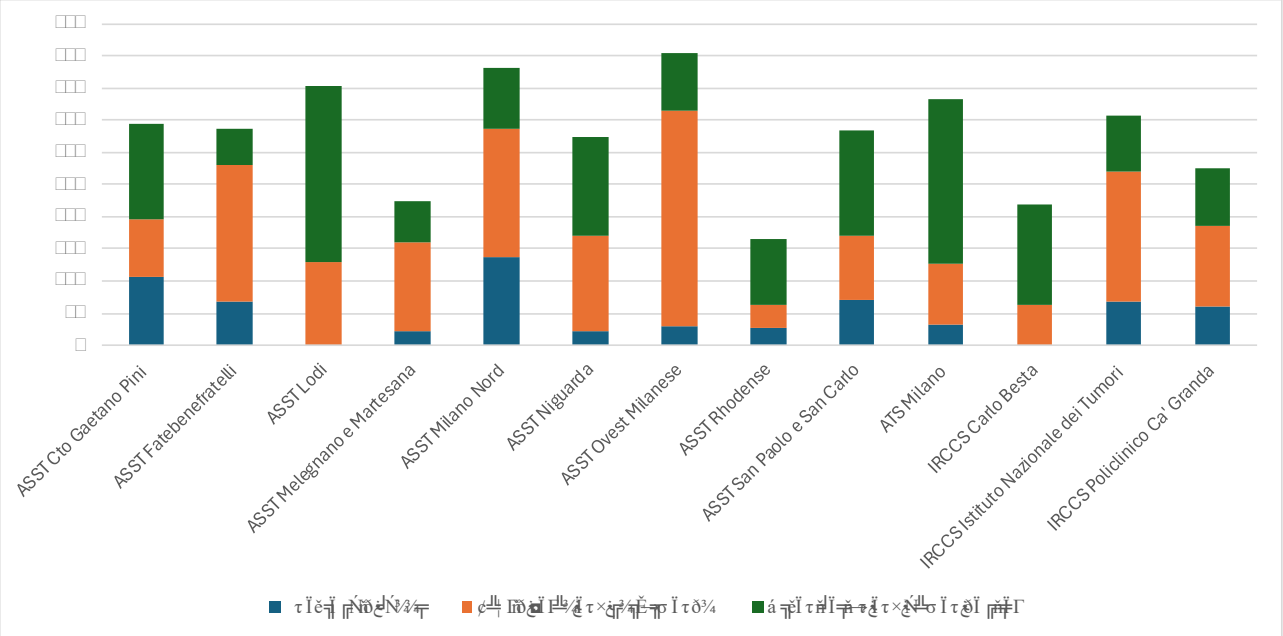


Figure 2 depicts indicator evolution across PIAO's three core sections over four planning cycles, revealing two distinct dynamics.

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The "Anagraphic sheet" maintains consistently low volumes throughout, with minimal fluctuations, underscoring its peripheral role in measurement architecture and lack of systematic expansion or reframing for integrated planning.

The "Public value and performance" and "Organisation and human capital" sections feature larger indicator volumes, but trajectories diverge. "Organisation and human capital" steadily contracts, reflecting reduced agile work indicators and stabilisation of descriptive workforce measures, suggesting a shift from experimentation to limited, standardised application.

Conversely, “Public value and performance” declines initially but rises again in 2025–2027, mainly due to the replication or expansion of indicators in some ASSTs. This suggests adjustment over time, but not a coherent redesign of the measurement architecture.

**Figure 2.** Distribution of indicators by PIAO section across planning cycles

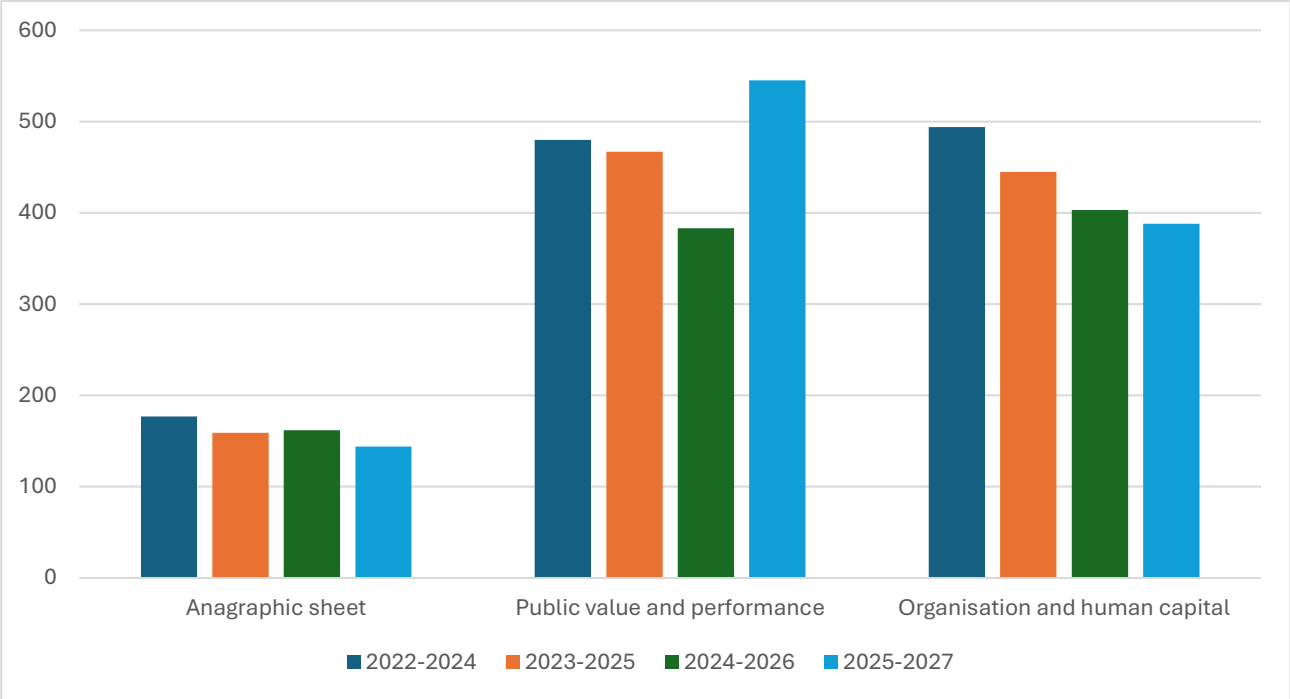


Figure 3 illustrates that the Anagraphic sheet is overwhelmingly dominated by volume indicators throughout all four planning cycles. The proportion of process and outcome indicators remains

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negligible and unchanged over time, confirming that organisations primarily use this section to report static quantitative descriptors such as service counts and structural resources.

This persistent pattern indicates that the Anagraphic sheet is treated as an administrative registry rather than an integral part of the planning framework, with no meaningful link to strategic objectives or performance dynamics.

**Figure 3.** Distribution of indicator types in the Anagraphic sheet across planning cycles

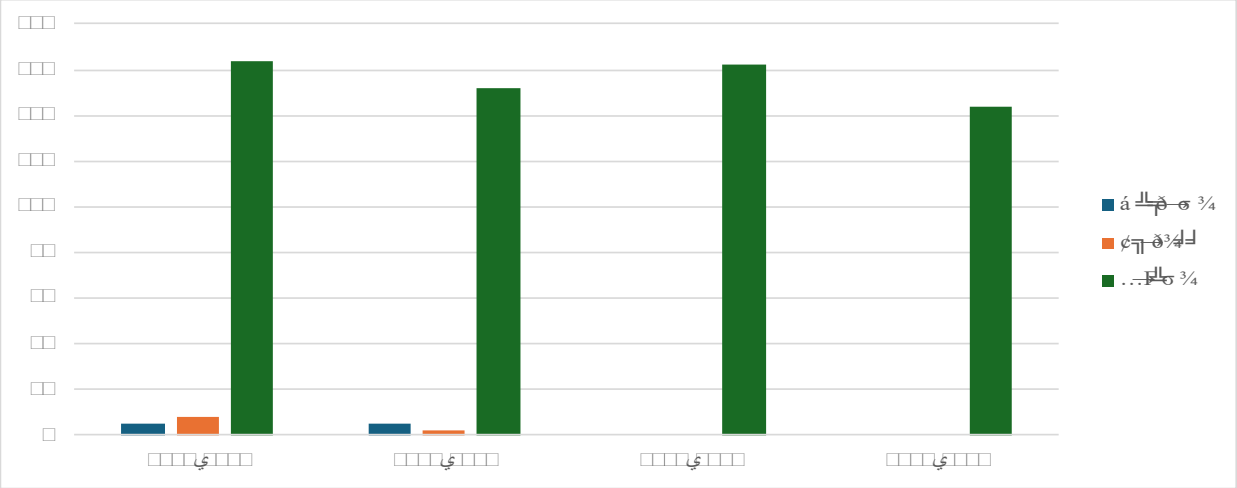

Table 3 shows that the Anagraphic sheet is dominated by highly standardised, quantitative measures. The ten most frequent indicators account for more than sixty percent of all indicators in this section, and they refer almost exclusively to structural volumes such as number of services delivered, beds, admissions, accesses, and DRG counts. This concentration highlights a measurement logic that is descriptive rather than strategic.

The prevalence of volume indicators indicates that organisations tend to use this section as a static snapshot of their productive capacity. While these data can be informative, they add limited managerial value in the PIAO context because they are not linked to utilisation levels, efficiency metrics, or strategic objectives. As a result, they remain descriptive rather than diagnostic.

The stability of these indicators across the four planning cycles also suggests a path-dependent approach: organisations replicate familiar administrative measures rather than revising or streamlining the section in line with the principles of simplification and integration.

**Table 3.** Most frequent indicators in the Anagraphic sheet

| **Anagraphic sheet** | **Number of indicators** | **Percentage impact** |
|---|---|---|
| Number of services delivered | 68 | 10,59 |
| Number of beds | 66 | 10,28 |
| Number of admissions | 62 | 9,66 |
| Number of employees | 53 | 8,26 |
| Number of accesses | 46 | 7,17 |
| Financial performance indicators | 28 | 4,36 |
| DGR counts | 27 | 4,21 |
| Number of facilities | 21 | 3,27 |
| Number of transplants | 18 | 2,80 |
| Number of occupant days | 14 | 2,18 |
| **Total** | 403 | 62,77 |

Figure 4 shows a clear and persistent imbalance in indicator construction within the Public Value subsection across all planning cycles. Process indicators dominate overwhelmingly, volume

indicators appear only in the first two cycles and nearly disappear thereafter, and outcome indicators are completely absent in every triennium.

The temporal pattern reinforces this configuration. In 2022–2024 and 2023–2025, organisations rely heavily on volume indicators, signalling a descriptive and activity-based interpretation of public value. From 2024–2026 onwards, the shift toward process indicators becomes more pronounced, but these continue to focus on internal procedures, formal compliance, and execution of organisational actions rather than results or effects associated with strategic objectives.

The complete absence of outcome indicators represents the most critical finding. This subsection should anchor the PIAO's strategic dimension, yet organisations do not measure changes experienced by citizens, communities, or service quality. Consequently, they cannot assess whether strategic objectives are achieved or corrective actions are needed, severely limiting the PIAO's role as a results-oriented planning instrument. Assessed against the three dimensions outlined in the background, the indicators in this section fall short on all counts: outcome orientation is absent, stakeholder responsiveness is not reflected in any measurable form, and strategic coherence between listed objectives and selected indicators remains weak.

**Figure 4.** Distribution of indicators by type across the four planning cycles in the Public Value subsection

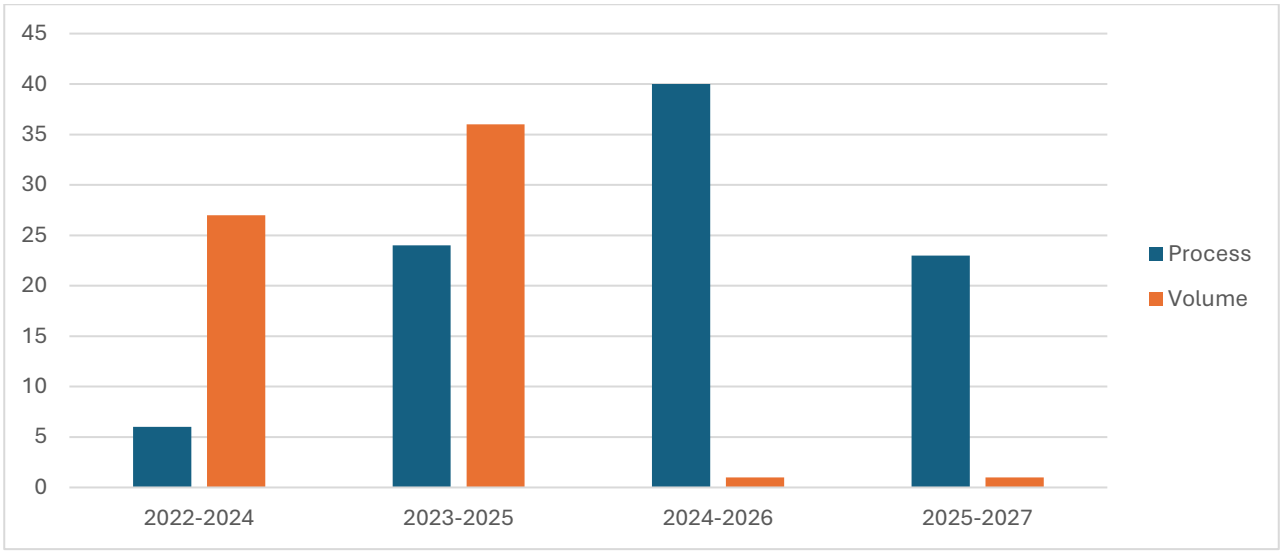

Figure 5 shows that the Performance subsection remains consistently dominated by process indicators across all four planning cycles. Their volume substantially exceeds other categories and fluctuates markedly over time. After reduction between 2022–2024 and 2024–2026, process indicators rise sharply in 2025–2027. This instability suggests organisations expand or contract operational measures through procedural adjustments rather than coherent strategic redesign.

Volume indicators form a small but stable component. Their persistence shows that even in a performance assessment area, measurement partly focuses on activity levels rather than progress or quality. This reflects enduring descriptive reporting practices not yet displaced by integrated planning.

Outcome indicators are almost absent across the four planning cycles. This is the subsection's main limitation, because it prevents assessment of whether actions yield meaningful improvements for users or communities. Overall, the subsection functions mainly as a procedural tracking tool, focused on internal compliance and task completion rather than on the assessment of results.

**Figure 5.** Distribution of indicator types across the four planning cycles in the Performance subsection

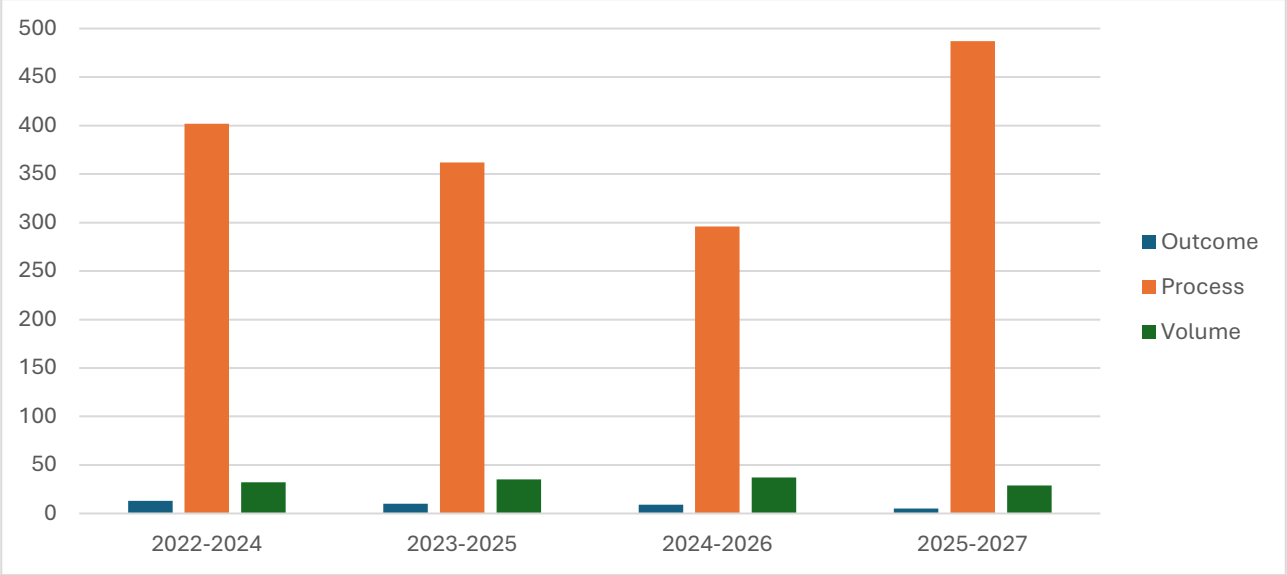


Table 4 shows that the most frequent indicators in the Public Value and Performance section focus overwhelmingly on internal procedures rather than results. The three most common concern

compliance with targets, compliance with timelines, and monitoring of action plans. Together, these account for more than one quarter of all indicators in the section. Their prominence confirms that organisations prioritise documenting task execution over assessing strategic objective achievement.

The remaining indicators reinforce this pattern. Many relate to activities such as completing improvement actions, advancing digitalisation initiatives, or complying with transparency requirements. Although these align with national priorities, the indicators remain descriptive and rarely convey progress or effects. They avoid ratios or linkages between numerators and denominators that would enable proper evaluation.

Training indicators appear marginally, mainly as counts of courses or participants. This illustrates the measurement system's limited strategic orientation, documenting activity levels without evaluating capability development or public value contribution. Table 4 confirms that the Public Value and Performance section does not function as a results-oriented framework: the emphasis on internal processes, administrative compliance, and action tracking limits the PIAO's capacity to demonstrate organisational impact on citizens and communities.

**Table 4.** Most frequent indicators in the Public value and Performance section

| **Public value and performance** | **Number of indicators** | **Percentage impact** |
|---|---|---|
| Compliance with targets | 90 | 4,80 |
| Cost and sustainability monitoring | 56 | 2,99 |
| Compliance with timelines | 54 | 2,88 |
| Monitoring of waiting times | 43 | 2,29 |
| Completing improvement actions | 38 | 2,03 |
| Controls | 30 | 1,60 |
| Advancing digitalisation initiatives | 29 | 1,55 |
| Compliance with transparency requirements | 20 | 1,07 |
| Training indicators | 18 | 0,96 |
| Screening activity indicators | 16 | 0,85 |
| **Total** | 394 | 21,01 |

Figure 6 shows a pattern that differs from the rest of the PIAO. All three types of indicators remain present across planning cycles, and outcome indicators display a noticeably higher weight than in any

other section. In the 2022–2024 and 2023–2025 triennia, outcome indicators represent a substantial share of the total. This reflects the nature of agile work, which requires organisations to monitor not only activities and compliance but also the effects of new working arrangements on efficiency, service quality, and employee well-being.

Process indicators dominate the first two triennia, as organisations focus on defining procedures, eligibility rules, and internal monitoring mechanisms. Their reduction in 2025–2027 suggests either consolidation of these processes or a diminished strategic emphasis on agile work. Volume indicators decline progressively across cycles. This is consistent with the institutionalisation of agile work practices. Initial cycles require measurement of participation, access to tools and other quantitative aspects, which become less relevant once the system stabilises.

Despite the stronger presence of outcome measures compared to other areas, the sharp decline in all indicator types in 2025–2027 signals reduced organisational attention to agile work. This contraction limits the ability to evaluate how remote and flexible work arrangements influence organisational performance or contribute to public value.

**Figure 6.** Distribution of indicator types across the four planning cycles in the agile work subsection

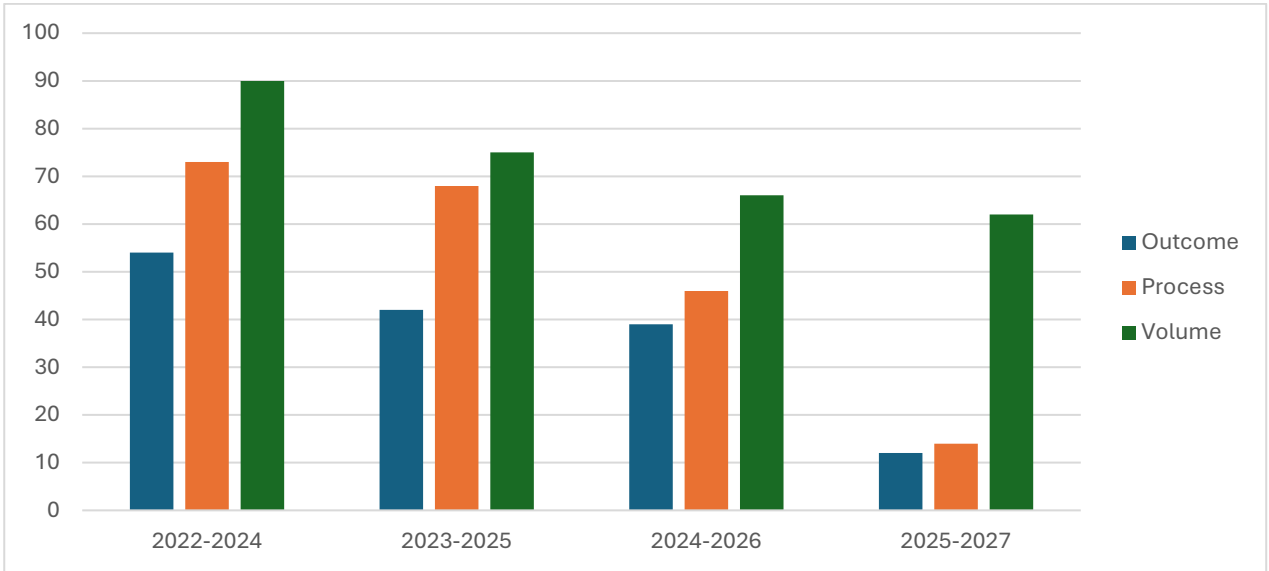

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Figure 7 shows that the training subsection remains dominated by volume indicators across all planning cycles. These indicators refer to the number of courses delivered, participants involved, and total hours provided. Their prevalence confirms that organisations treat training primarily as an administrative activity to report rather than a strategic lever for capability development or performance improvement.

Process indicators appear only marginally and decline sharply after the 2022–2024 cycle. This suggests that procedural aspects of training planning and delivery stabilise early or receive no systematic monitoring later. Outcome indicators remain almost absent throughout, with no measures capturing effects on competencies, organisational processes, or service quality. This indicates weak connection to performance objectives and limited support for strategic steering.

The increase in volume indicators in 2025–2027 signals renewed emphasis on mapping activities rather than assessing whether training contributes to organisational capabilities or performance improvement.

**Figure 7.** Distribution of training indicators by type across period

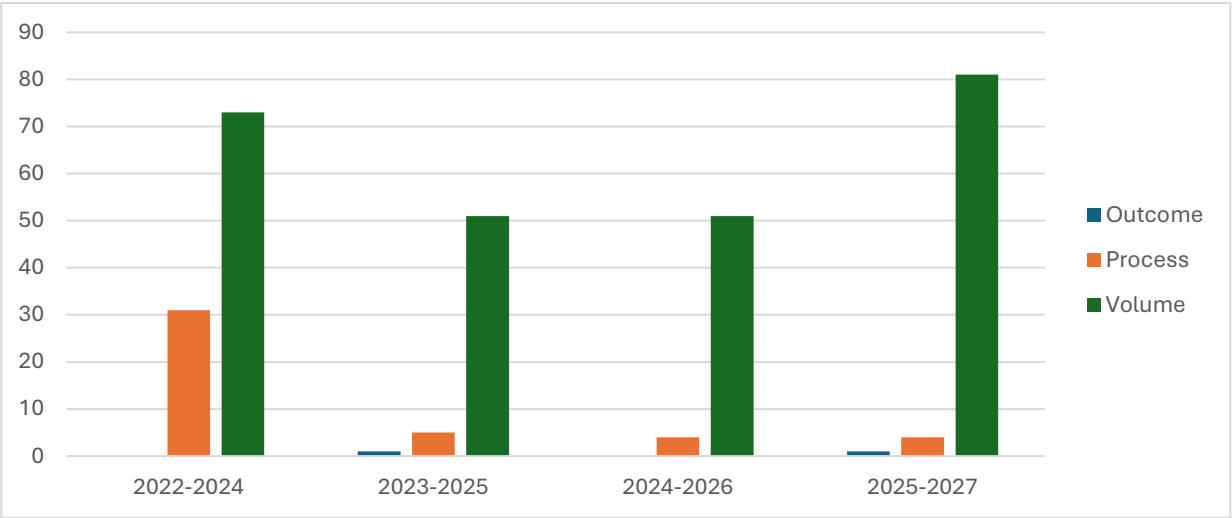

Table 5 highlights that measurement in the "Organisation and Human Capital" section relies predominantly on descriptive, activity-based indicators. The most frequent concerns training, specifically the number of courses delivered and participants involved, representing over 13% of all indicators. This confirms organisations view training as quantitative reporting rather than strategic capability enhancement.

The next common set addresses equipment and digital tools for staff, particularly for remote and agile work. These provide infrastructure insights but remain static, failing to evaluate contributions to processes or productivity.

Other frequent indicators cover agile work course editions and participants, staff distribution by department or level, and gender composition. These describe workforce structure without assessing alignment to strategic priorities or performance outcomes.

Smart working frequency, new hires, and terminations round out the most frequent indicator. Though potentially useful for dynamics and flexibility, their formulation lacks connection to performance or public value. Table 5 shows heavy reliance on volume measures for structural and training aspects. The near absence of outcome indicators reveals the section's disconnection from broader performance management, hindering results-oriented workforce development.

**Table 5.** Most frequent indicators in “Organisation and Human Capital”

| **Organisation and human capital** | **Number of indicators** | **Percentage impact** |
|---|---|---|
| Number of courses delivered and participants involved | 230 | 13,29 |
| Organic allocation and staff requirements | 206 | 11,91 |
| Equipment and digital tools for agile work | 114 | 6,59 |
| Number of agile work course editions and participants | 100 | 5,78 |
| Staff distribution by department and level | 96 | 5,55 |
| Staff distribution by permanent and fixed-term | 77 | 4,45 |
| Staff composition by gender | 76 | 4,39 |
| Frequency of use of smart working | 73 | 4,22 |
| Number of recruitments or terminations | 72 | 4,16 |
| Staff composition by age | 48 | 2,77 |
| **Total** | 1092 | 63,12 |

Table 6 reveals significant variation in PIAO document lengths across organisations and planning cycles, despite a common regulatory framework. In the 2022–2024 cycle, page counts range from under 30 to over 160 pages. This heterogeneity persists and intensifies in some cases; for example, ATS Milano grows from 135 pages in the first cycle to 218 in 2023–2025, stabilizing around 170–190 pages thereafter. Similar growth and partial consolidation patterns are observed in several ASSTs. Median page numbers increase overall across cycles, with fluctuations. This pattern reflects a general tendency towards longer documents at system level. Concurrently, high standard deviations peak in 2024–2026, signalling uneven expansion with some organisations significantly increasing document size while others keep more concise formats.

These trends indicate a shift away from the reform goal of concise, selective documents. Instead, organisations often migrate annex material into main texts, increasing length without improving strategic clarity or integration. The broad length variability underscores absence of a shared interpretive model for PIAO implementation. Table 6 highlights increasing complexity and reduced selectivity, hindering comparability, and limiting PIAO's effectiveness as an accessible, strategically oriented planning tool.

**Table 6.** Number of PIAO pages by organisation and triennium

| **Organisation** | **2022-2024** | **2023-2025** | **2024-2026** | **2025-2027** | **Total** |
|---|---|---|---|---|---|
| ATS Milano | 135 | 218 | 168 | 196 | 717 |
| ASST Niguarda | 41 | 188 | 219 | 210 | 658 |
| ASST San Paolo e San Carlo | 109 | 115 | 120 | 155 | 499 |
| ASST Fatebenefratelli | 43 | 138 | 120 | 129 | 430 |
| ASST Cto Gaetano Pini | 110 | 135 | 136 | 77 | 458 |
| ASST Ovest Milanese | 52 | 70 | 61 | 63 | 246 |
| ASST Rhodense | 64 | 137 | 137 | 136 | 474 |
| ASST Milano Nord | 27 | 137 | 84 | 162 | 410 |
| ASST Melegnano e Martesana | 97 | 115 | 189 | 141 | 542 |
| ASST Lodi | 91 | 74 | 71 | 88 | 324 |
| IRCCS Policlinico Ca' Granda | 168 | 140 | 250 | 141 | 699 |
| IRCCS Carlo Besta | 74 | 105 | 97 | 94 | 370 |
| IRCCS Istituto Nazionale dei Tumori | 54 | 53 | 119 | 156 | 382 |

| | | | | | |
|---|---|---|---|---|---|
| **Total** | 1065 | 1625 | 1771 | 1748 | 6209 |
| **Mean** | 81,92 | 125,00 | 136,23 | 134,46 | 477,62 |
| **Median** | 74,00 | 135,00 | 120,00 | 141,00 | 470,00 |
| **Standard deviation** | 41,15 | 45,47 | 56,71 | 44,21 | 187,55 |

Taken together, the findings reveal a measurement architecture that is structurally misaligned with the goals of integrated planning. Three cross-cutting weaknesses stand out. First, outcome indicators are absent or negligible across all PIAO sections, with the partial exception of the agile work subsection in the early cycles. Second, the dominant measurement logic is activity-based: organisations systematically count what they do rather than assess what they achieve. Third, internal coherence is weak at every level: between strategic objectives and performance indicators, between human capital planning and organisational results, and between the formal ambition of integration and the actual structure of the documents. These weaknesses are not isolated or organisation-specific. They reflect a systemic interpretation of the PIAO as a compliance instrument rather than a strategic planning tool, consistent with broader patterns observed in Italian public management reform (Bigoni and Gagliardo, 2013; Mauro et al., 2021). Assessed through the lens of public value, these patterns reveal a systematic failure across all three dimensions identified in this study. Outcome orientation is absent, stakeholder responsiveness is not translated into measurable indicators, and strategic coherence between objectives, measurement, and organisational capabilities remains weak.

## 5. Discussion and conclusions

The analysis shows that the PIAO is still far from operating as a mature instrument of integrated planning and public value management. Persistent variability in the number and type of indicators, the dominance of descriptive measures, and the limited use of outcome metrics reflect an early stage of implementation. More importantly, the findings suggest that the main limitation of the PIAO does not lie in its formal design, but in the persistence of activity-based measurement architectures. While the reform formally promotes integration, strategic alignment, and public value, its implementation remains anchored to indicators that document organisational activity rather than assess its effects. The

result is a compliance-oriented adoption in which the PIAO is interpreted primarily as an administrative obligation.

A central limitation concerns the underlying logic of measurement. Across all sections, indicators remain descriptive and seldom assess progress towards strategic objectives. Outcome measures are almost entirely absent, except for a temporary presence in the agile work subsection, where some organisations initially experimented with impact-oriented metrics before abandoning them in the most recent cycle. Targets are frequently missing or incomplete, preventing organisations from evaluating changes in service quality, citizen experience, or organisational performance. This finding aligns with evidence showing that budget goal clarity plays a mediating role in the relationship between planning practices and actual performance outcomes in healthcare organisations (Rizzo, 2025). More broadly, it contributes to the literature on performance regimes by showing that integration reforms may fail not because organisations lack formal planning instruments, but because the underlying logic of measurement remains centred on activities, compliance, and procedural completion.

This pattern confirms that none of the three dimensions of public value identified in this study, namely outcome orientation, stakeholder responsiveness, and strategic coherence, is systematically reflected in current PIAO measurement practices. The result is a planning architecture that formally references public value without operationalising it. The documents therefore record activities rather than supporting decision making, learning or accountability.

Integration also remains weak. Although the PIAO formally brings together strategic objectives, performance measurement and human capital planning, internal coherence is limited. Human capital plans rarely connect staffing decisions to expected results. Training is measured almost exclusively through volumes, with a renewed expansion of activity-based indicators in the 2025–2027 cycle. The public value and performance sections seldom include indicators capable of assessing impacts, and only a small subset of organisations report metrics explicitly linked to public value. The frequent practice of repeating identical indicators across the three years of each triennium further signals the

absence of a shared design logic. Overall, consolidation produces aggregation rather than integration, hindering the development of a coherent planning architecture.

Document complexity further undermines the usefulness of the PIAO. The progressive increase in page length, together with the incorporation of annexes into the main document, dilutes strategic focus and makes navigation difficult. Median page numbers rise across cycles, confirming that expansion is a system level tendency rather than an isolated phenomenon. As a result, managerial actors face higher costs in using the PIAO as a steering tool, while external stakeholders encounter greater difficulty in interpreting organisational priorities. This weakens the potential of the PIAO to support transparency and public accountability.

Taken together, these findings indicate that the PIAO remains an immature framework whose potential is largely unrealised. Unlocking this potential requires stabilising the measurement architecture, strengthening the link between objectives and indicators and adopting a more selective and outcome-oriented approach. Policymakers can facilitate this shift by introducing minimum sets of core indicators, standardised templates, and clear rules for constructing measurable indicators. These elements would reduce unnecessary discretion, improve comparability, and provide a more stable basis for organisational learning.

Involving community and third-sector actors, including voluntary organisations, social enterprises, and citizen groups, in defining relevant outcomes would not only reorient planning towards impacts that matter for local well-being, but would also strengthen the accountability function of the PIAO as a public-facing document accessible to the broader ecosystem of community-based providers (Amelio and Orlandini, 2020; De Nicola and Fratini, 2024; Costanzo et al., 2025).

This study has two main limitations.

It focuses on a single territorial context. However, ATS Milano is among the most structurally complex healthcare districts in Italy and operates under the same national regulatory framework as all other public healthcare organisations subject to the PIAO requirement. This suggests that the

measurement patterns documented here, particularly the dominance of activity-based indicators and the absence of outcome measures, are likely to reflect systemic features of early PIAO implementation rather than context-specific anomalies. Comparative studies extending the analysis to other regions would allow this hypothesis to be tested and would strengthen the transferability of the findings.

It also analyses planning documents without examining how the PIAO is used in managerial practice, how objectives are negotiated or how the measurement system influences decision making. Future research should extend the analysis to other regions, explore the routines through which indicator sets are constructed and investigate how digital tools may support more coherent and outcome-oriented planning. Longitudinal studies could also clarify the conditions under which organisations shift from compliance oriented to strategic uses of integrated planning.

Despite its current constraints, the PIAO retains significant potential. However, realising this potential requires more than incremental adjustments. It requires a shift from activity-based reporting to outcome-oriented measurement architectures capable of linking objectives, indicators, and organisational capabilities. Without this shift, integrated planning risks remaining a formal exercise rather than a mechanism for steering, accountability, and public value creation in the Italian healthcare system.

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