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How's your waiting list?

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Abstract

Background. *Surgical waiting lists pose a major challenge for public healthcare systems, affecting access to care and the perceived quality of services. However, there is no standardized method for assessing the efficiency and management of waiting lists.*
Study Design. *This study proposes a model based on Key Performance Indicators (KPIs) to measure the Waiting List sustainability of surgical waiting lists, evaluating their balance, attractiveness, efficiency, and timeliness.*
Methods. *Three main KPIs were defined and applied to both hypothetical and real datasets, analyzing data collected at the IRCCS Istituto Ortopedico Rizzoli from January 2024 to September 2024. Statistical analysis was conducted using Excel, calculating ratios between enrolled, admitted, canceled, and overdue patients on the waiting list.*
Results. *The analysis showed that some hospital departments have a balanced management of waiting lists, while others exhibit critical issues, with high rates of overdue or canceled patients. The graphical representation of the indicators helped identify areas for improvement in resource management.*
Conclusions. *The adoption of standardized KPIs could serve as a valuable tool for monitoring and optimizing waiting lists, supporting strategic decisions to enhance access to healthcare services.*

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Introduction

Waiting times are used as a common rationing tool in health care and the public sector (1). Surgical waiting lists are a major issue for healthcare systems in developed countries (2), especially in countries with universal healthcare. In fact, "waiting times are a major policy concern in publicly funded health systems across OECD countries" (3).

"To avoid unnecessary waiting times and queues, healthcare systems should improve their responsiveness to demand" (4). In other words, capacity shortages are rare because waiting lists remain stable and do not increase uncontrollably over time (4).

Socially, the timeliness of a response to health needs is one of the key elements affecting the quality of care perceived by citizens and significantly influences their trust in the healthcare system, contributing to defining the equity of access to healthcare services (5). In recent years, there has been a significant increase in waiting list times, driven by growing demand for surgical services due to demographic reasons (the so-called "Silver Tsunami") and technological advancements in surgery (e.g., robotic surgery) (6).

These factors represent significant barriers in achieving a balance between demand and supply, as increased demand is not always accompanied by a corresponding increase in financial and human resources, leading to waiting lists and times as a direct consequence of chronic demand exceeding supply.

In particular, for Italy, "the situation remains, despite continuous efforts, highly heterogeneous, with areas of excellence alongside others with significant issues" (2).

Moreover, the lengthening of waiting times worsened in 2020 due to the first wave of the SARS-CoV2 pandemic, which forced the NHS to redirect most resources to care for COVID-19 patients.

Many health services were suspended, leading to inevitable delays and longer waiting lists (7). This resulted in an increase in citizens opting out of healthcare services, from 6.3% of people unable to access care in 2019 to 7.6% in 2023, with a doubling of those who opted out due to waiting list issues (from 2.8% in 2019 to 4.5% in 2023) (8).

Thus, since the pandemic, the need to balance the demand and capacity for health care has increased, taking into account the needs of pandemic patients and other patients (9).

At the institutional level, a national plan was developed to "recover" the waiting lists, with the government allocating extraordinary resources to meet the financial needs of services not provided, while regions were asked to draw up an operational plan detailing the organizational measures to recover the lists (7).

To do that, it is necessary that health managers understand the dynamics and the pressures when managing waiting lists (10).

Therefore, managing waiting lists is one of the priority tasks for health institutions because, first and foremost:

- It can significantly impact clinical outcomes, thus directly affecting patients' health;
- It is often central to political debate, frequently cited as one of the «problems» of the NHS that governments periodically address and propose «systemic» solutions;
- It requires both "macro" interventions at national and regional level, "meso" interventions at hospital level and "micro" interventions at clinical level according to the international literature. It is important to underline that each level contributes to the existence of waiting lists through managerial decision-making (11).
- Given the centrality of waiting lists for the sustainability of the National Health Service and access to care for the protection of citizens' health, it has become imperative to apply increasingly precise and sensitive models for measuring and analyzing waiting lists to assess the state of waiting lists, identify management and resource allocation issues, and improve access to care.

In this context of difficulty, as already emphasized, it is imperative to identify and describe indicators that are useful for evaluating and measuring the waiting lists sustainability, monitoring the dynamic aspects that characterize them by definition.

Within this reference context, it is clear that there is a lack of standardization in defining the overall efficiency of surgical waiting lists. Furthermore, there is no standardized nomenclature or consensus on which indicators should be used to evaluate the waiting lists sustainability.

Study objective

The goal of this research is to define the "sustainability" of waiting lists to support strategies and policies for managing these waiting lists.

This concept translates into measuring how balanced, attractive, efficient, and timely a hospital or specific unit's waiting list is.

For completeness, the characteristics mentioned above are defined as follows:

- balanced: A waiting list with a number of patients in balance with the hospital's admission and intervention capacity. Demand must be matched with available resources, as demand fluctuates over time, posing significant challenges for the healthcare sector (2).

- attractive: A waiting list that reflects the attractiveness of the hospital, with a patient pool matching the hospital's capacity and never lacking. Specifically, the patient's choice is closely tied to their satisfaction and can provide a measure of service quality, along with a predictive factor for health-related behaviors (12).

- efficient: The waiting list must be managed according to well-defined governance models, with performance indicators and strategic management ensuring effective and efficient care.

- timely: The waiting list must be managed to ensure care is provided within the timeframes established by regulations, protecting patients' health.

The waiting lists sustainability is defined and measured through the application of indicators with graphical representation, capable of synthesizing how balanced, attractive, efficient, and timely a waiting list is.

Methods

To assess the sustainability of the waiting list and thus its proper functioning, it is essential to first evaluate its attractiveness and compliance with the timelines defined by the National Health System, as regulated by the provisions of the National Waiting List Management Plan (PNGLA) 2019-2021 (Ministry of Health, 2019) (13).

The adoption of a Key Performance Indicator (KPI) such as the sustainability of waiting list services in healthcare systems would allow for the evaluation of how accessible the systems are to citizens and within appropriate timeframes. Furthermore, it would enable the monitoring of dynamic aspects present in real waiting lists, help prevent issues, and facilitate comparisons between regional, national, and international healthcare organizations.

This study has a cognitive objective and used an analysis approach that are innovative within the field of Operating Room Management. Specifically, although the measures and variables considered are known within the hospital-organizational field, the analysis approach and considerations made regarding the performance of waiting lists and the quality of their organization and maintenance are innovative and contribute to an improvement in the knowledge and ability to analyze waiting lists.

Glossary

- Placement on the waiting list: this is done by the specialist doctor who, after examining the patient, determines that there is a surgical indication for that condition and that the patient is in the appropriate condition to undergo surgery. This is after completing any necessary supportive treatments and diagnostic tests to make the correct diagnosis and define the therapeutic indication. The patient is then placed on the waiting list from that moment. The waiting time is calculated from the date of inclusion on the list until the admission date (hospitalization date).

- Level of clinical priority and waiting times: At the time of listing, the doctor assigns each patient a priority class based on the clinical evaluation of specific parameters related to the evolution of the patient's condition. This allows for the identification of the maximum time within which the service must be provided. The priority classes are four, and each class identifies the maximum time within which the service must be guaranteed. If a patient's condition changes while on the waiting list, the priority class needs to be updated, with reasons for the choice documented.

- Class A: admission within 30 days for clinical cases that may rapidly worsen, potentially becoming emergencies or causing serious harm to the prognosis.

- Class B: admission within 60 days for clinical cases presenting severe pain, significant dysfunction, or severe disability but without the tendency to worsen quickly into an emergency or cause significant harm to the prognosis due to the wait.

- Class C: admission within 180 days for clinical cases presenting minimal pain, dysfunction, or disability, and showing no tendency to worsen or cause significant harm to the prognosis due to the wait.

- Class D: admission with no defined maximum wait time for clinical cases causing no pain, dysfunction, or disability.

Metrics

Based on these premises, key measures have been defined to develop an evaluation system. The following formulas use the abbreviation Pts to refer to patients:

- Volume of patients listed on the waiting list (WL)

  This value represents the sum of the number of patients currently on the waiting list with an

insertion date within the reference period, the number of patients removed from the waiting list with an insertion date within the reference period, and the number of patients admitted who had been placed on the waiting list during the reference period

$$V_{\text{listed Pts}} = (\text{n° Pts present in WL} + \text{n° Pts deleted from WL} + \text{n° Pts hospitalized})_{\text{Reference period}}$$

- Volume of patients removed from the waiting list
  This refers to the number of patients removed during the reference period, i.e., patients who cancel or abandon their position on the waiting list for a healthcare service before being treated.

$$V_{\text{cancelled Pts}} = (\text{n° Pts deleted from WL})_{\text{Reference period}}$$

- Number of overdue patients on the waiting list
  The number of patients on the waiting list who have exceeded the legally established waiting time, as defined by their assigned priority class. Beyond this period, their health conditions could worsen to the point of becoming an emergency or compromising their health condition.

$$V_{\text{overdue Pts}} = (\text{n° Pts in WL for a number of days greater than those expected by the assigned priority class})$$

- Volume of patients admitted from the waiting list
  The number of patients admitted during the reference period (year, month, week, etc.).

$$V_{\text{admitted Pts}} = (\text{n°Pts hospitalized from WL})_{\text{Reference period}}$$

- Volume of waiting list

The number of patients on the waiting list during a reference period, i.e., the number of citizens waiting to undergo surgery covered by the National Health System.

$$V_{WL} = (\text{n°Pts in WL})_{\text{today}}$$

Development and definition of key performance indicators

Through the interaction of the above metrics, three performance indicators have been formulated to summarize the waiting lists sustainability, serving as a driver to define how balanced, attractive, efficient, and timely a waiting list is.

Indicator 1: ratio of the volume of patients canceled from the waiting list to the volume of patients enrolled in the waiting list during the reference period

The first indicator provides a measure of the proportion of patients who were canceled from the waiting list relative to the volume of patients added to the list during a given period. This value reflects the effectiveness of the healthcare facility in meeting the needs of patients. Ideally, to ensure optimal operation of the list, this ratio should approach zero, indicating the ability to meet all requests without any cancellations from patients.

Indicator 2: ratio of the number of patients hospitalized to the volume of patients enrolled in the waiting list during the reference period

The second indicator defines the response capacity to the inclusion of patients on the waiting list, as it compares the number of patients enrolled in the list within a given period to those actually admitted (i.e., hospitalized) within the same period.

This indicator provides information about the alignment between the health demand of citizens and the actual service offered. The ratio should be equal to 1 or as close to 1 as possible to be considered balanced.

Indicator 3: ratio of the number of overdue patients on the waiting list to the volume of waiting list during the reference period

The third indicator provides a percentage measure, representing the ratio between the volume of patients who have exceeded the maximum waiting time established by their priority class and the total number of patients on the waiting list. This index reflects the system's effectiveness in respecting the expected waiting times and maintaining the correct order of patient calls. Therefore, it is important that this value is as low as possible, with 0% being the optimal value.

Graphical representation of key performance indicators

The waiting lists sustainability, as previously introduced, is defined and measured by the interaction of the three indicators mentioned above.

Through the graphical representation of the indicators, it is possible to obtain an overview of the actual trends of the waiting lists.

In particular, the graphical visualization of the indicators provides a clear and intuitive view, allowing the identification of potential criticalities or inefficiencies in the organization of the waiting list and pinpointing areas that require priority interventions. Furthermore, it offers the opportunity to monitor the effectiveness of corrective actions over time and adapt management strategies accordingly, to ensure

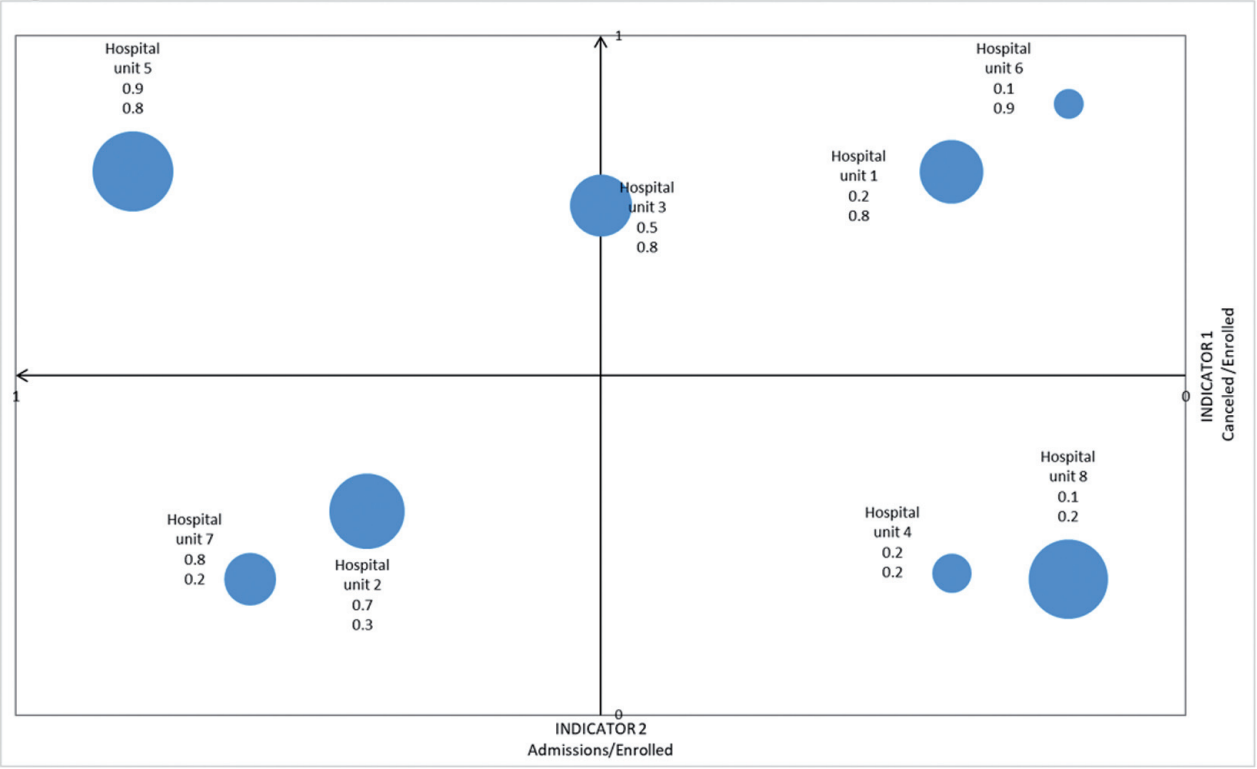

Figure 1 - Waiting list sustainability diagram of a hypothetical Waiting List.

the maintenance or continuous improvement of the sustainability of the waiting list.

The construction of the graph occurs as follows (Figure 1):

- The X-axis represents the ratio between the patients canceled from the waiting list and those enrolled in the list during the reference period for analysis, with a maximum value of 1 and a minimum value of 0. The axis is reversed, so the value 0 is positioned on the right, which represents the optimal situation, while the value 1 is on the left.
- The Y-axis represents the ratio between the patients hospitalized and the patients enrolled in the waiting list during the reference period for analysis, with a minimum value of 0 and a maximum value of 1, representing the optimal situation.

Application of key performance indicators to a hypothetical data set

Primarily, for the calculation of the indicators, data from a hypothetical hospital was used, characterized by differentiated waiting list scenarios for each department. The objective was to explore the ability of the indicators to provide objective descriptions of events (such as a high number of expired patients on the waiting list, a drastic reduction in the waiting list due to a decrease in enrollments and an increase in cancellations) and to highlight any limitations.

Application of key performance indicators to a real data set

We then applied the indicators to a real data set obtained through a retrospective analysis of data collected from January 2024 to September 2024 at the IRCCS Istituto Ortopedico Rizzoli (IOR).

The IOR is a highly specialized hospital and research facility in the field of orthopedics and traumatology. The role of Rizzoli in the regional network represents a significant commitment, adding to the activities of an IRCCS, primarily focused on innovative orthopedic surgery and excellence in experimental activities.

Statistical analysis

All statistics were performed using Excel software.

Results

Below are the KPIs that summarize the state of sustainability of the waiting list, calculated for the real dataset. This representation highlights, through graphical interpretation, the substantial differences between waiting lists and identifies any critical issues or strengths (Table 1, Table 2, Figure 2).

Application of key performance indicators to a hypothetical dataset

Figure 1 shows the graphical distribution of indicator 1 (cancellations/enrollments) and indicator 2 (admissions/enrollments) on a hypothetical dataset.

The spheres that appear in the graph are proportional in size to the percentage of patients expired relative to the total number of patients on the waiting list during the considered reference period (indicator 3).

It is important to specify that if indicators 1 and 2 exceed the value of 1, they should be converted based on the deviation from 1. For example, if the hospitalization/enrollment indicator is equal to 2, which is a deviation

Table 1 - Summary of metric measures related to the waiting list of each hospital unit at Rizzoli Orthopedic Institute.

Hospital Units	Admissions January 2024 to September 2024	Enrolled January 2024 to September 2024	Cancelled January 2024 to September 2024	Overdue patients in WL	Volume of waiting list
Hospital unit 1	1,386	2,541	1,039	3,909	5,633
Hospital unit 2	1,725	2,897	1,666	2,960	4,620
Hospital unit 3	1,418	1,305	140	41	148
Hospital unit 4	204	390	109	128	277
Hospital unit 5	89	108	14	4	14
Hospital unit 6	968	1,496	761	1,478	2,299
Hospital unit 7	762	955	668	680	1,139
Hospital unit 8	647	889	485	997	1,264
Hospital unit 9	875	734	189	770	808
Hospital unit 10	1,525	1,903	538	981	2,224

Table 2 - Indicators calculated for the waiting list of the Rizzoli Orthopedic Institute

Hospital units	INDICATOR 1 (Canceled /Enrolled)	INDICATOR 2 (Admissions/Enrolled)	INDICATOR 3 (Overdue patients in WL/Volume of WL)
Hospital unit 1	0.4	0.5	69%
Hospital unit 2	0.6	0.6	64%
Hospital unit 3	0.1	1.1	28%
Hospital unit 4	0.3	0.5	46%
Hospital unit 5	0.1	0.8	29%
Hospital unit 6	0.5	0.6	64%
Hospital unit 7	0.7	0.8	60%
Hospital unit 8	0.5	0.7	79%
Hospital unit 9	0.3	1.2	95%
Hospital unit 10	0.4	0.5	44%

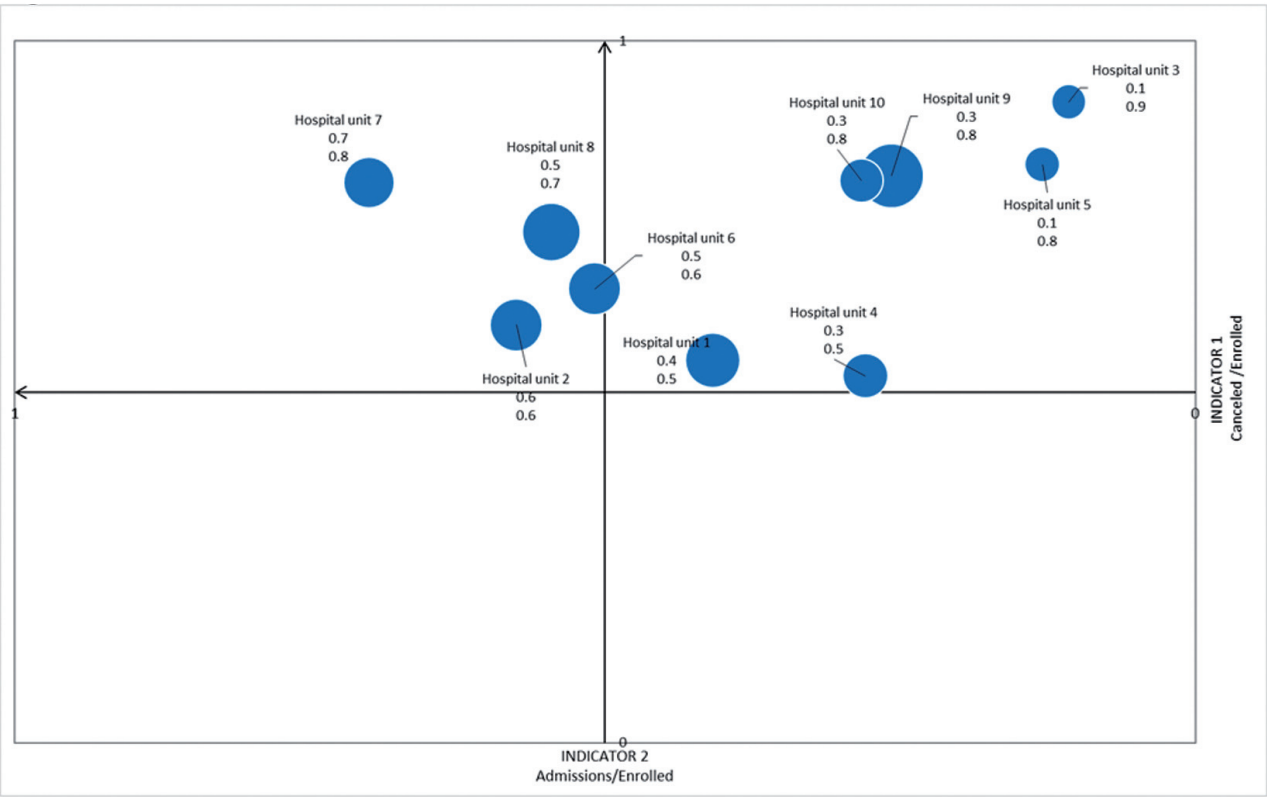

Figure 2 - Waiting list sustainability diagram of the Waiting List of Rizzoli Orthopedic Institute.

of 1 from 1, it will be converted to 0. If this value were 1.3, it would be converted to 0.7.

If the sphere is in the first quadrant (top right), it means the list is sustainable because both indicator 1 and indicator 2 tend toward their optimum values, respectively 0 and 1. This indicates a balanced flow of hospitalized and enrolled patients, with a low number of patients dropping out of the list. In this quadrant, if the sphere's size is small, the list is confirmed to be sustainable; if the sphere were large, it could represent a critical issue regarding the disposal of patients currently on the list since they are expired, which could likely lead to an increase in dropouts over time, causing the sphere to move leftward.

If the sphere is in the second quadrant (top left), it means indicator 2 is in the optimal zone (balanced flow), while indicator 1 is shifted toward the value of 1, indicating a high number of cancellations. This means a higher likelihood that the expired patients on the waiting list are proportional to the cancellations. If the sphere were small, the patients leaving the list might not be expired but are patients who choose to no longer stay on the list. The number of patients to be admitted will likely decrease, and over time, the sphere will shift toward the third quadrant.

If the sphere is in the third quadrant (bottom left), it means both indicators are far from optimal, indicating that the flow is unbalanced, and the dropout rate is high. The third quadrant describes the worst-case scenario for a waiting list. In this quadrant, if the sphere is large (many expired patients on the waiting list), it is likely that the list is "clearing," and over time, its state will improve, moving toward the previous two quadrants. If the expired patients are few, it may indicate a qualitatively good but static list, an attractive list but not dynamic, or a list that will eventually fade out entirely.

Finally, when the sphere is in the fourth quadrant (bottom right), it highlights an imbalance in the flow, characterized by a low dropout rate. In this context, considering also the percentage of expired patients, the waiting list can be defined as "hypertrophic," meaning it is growing excessively without a proper balance between enrollments and hospitalizations.

This could cause the sphere to migrate toward the third quadrant.

Application of key performance indicators to a real dataset

Table 1 shows the measures related to the waiting list of each hospital unit of the IRCCS Istituto Ortopedico Rizzoli. Table 2 displays the key performance indicators calculated from the measures in Table 1. Figure 2 graphically presents the results obtained from the indicators, calculated for each department. It should be specified that for hospital units 3 and 9 the calculation of the indicators turns out to be greater than 1 and, as explained above, were converted based on the deviation from one.

The distribution model of the spheres in Figure 2 generally indicates that hospital units 3 and 5 have a sustainable waiting list, with a balance between enrollments and hospitalizations and a low number of cancellations. The spheres are small, indicating a low percentage of overdue patients on the list.

Hospital units 10 and 9 are also positioned in the first quadrant, representing that both have sustainable waiting lists. Specifically, in the first case, the list is attractive (high enrollments) and the percentage of overdue patients is low, so despite the high number of entries, there are just as many admissions, ensuring that patients do not expire or drop out of the waiting list. Hospital unit 9, on the other hand, has a waiting list that is "cleaning up," meaning that hospitalizations are higher than enrollments as overdue patients still on the waiting list are being operated on. By the end of the reference period, the sphere in hospital unit 9 is expected to shrink.

Hospital units 2, 7, and 8 are in the second quadrant, and given their sizes, it can be expected that their condition will worsen, especially hospital units 7 and 8, which will likely shift leftward.

Finally, hospital units 1, 6, and 4 represent lists with disproportionate dropouts and hospitalizations compared to enrollments. The lists in ward 1 and 6, with the passage of time and considering the sphere size, are likely to worsen further. As for hospital unit 4, the situation depends on the number of hospitalizations: if they increase, the waiting list will improve; otherwise, it will worsen.

Discussion and conclusions

This paper presents key performance indicators to describe the state of sustainability of surgical waiting lists. The indicators were applied meaningfully to both hypothetical and real datasets to provide direct feedback on real organizations, not just hypothetical ones.

From the results and considerations made, it is suggested that the measures applied to assess the state of sustainability are applicable to many contexts for monitoring, planning, and benchmarking purposes. In particular, in addition to the usefulness of calculating the indicators, their graphical representation has proven even more significant in identifying the state of sustainability of a waiting list and demonstrating the effectiveness of the proposed indicators.

Specifically, in the healthcare context, the system must be capable of making sustainable promises to patients who, through an outpatient visit, become part of a waiting list. This concept refers to the system's ability to continuously and efficiently meet demands by making optimal use of available resources.

Having a sustainable waiting list means:

- Ensuring that the healthcare system has an adequate response capacity, meaning the ability to acquire and allocate resources efficiently to meet demand (9). This implies that the number of patients on the waiting list is balanced relative to the available capacity. In other words, enrolling a number of patients proportional to the production capacity (the number of patients hospitalized from the waiting list) ensures equilibrium, guaranteeing timely responses to health needs for patients on the list.

Two additional considerations regarding patient enrollment in the waiting list:

• A facility that enrolls more patients than it admits, while demonstrating high attractiveness, will generate an increase in the number of patients on the waiting list, worsening health conditions and increasing the number of patients who expire or drop out without receiving necessary treatment.

• A facility that enrolls fewer patients than it admits is destined to exhaust its list of patients.

- For the system to make a sustainable care promise, having a number of patients leaving the waiting list without receiving treatment shows that the facility is in serious planning and sustainability difficulties.

Specifically:

• A list with high enrollments and high dropout rates will be a "transitory" list with likely inappropriate entries, designed to create volume under the logic of "I enroll many to gain weight and importance, but I can't treat them, and they exit."

• A list with low enrollment and high dropouts is an exhausted list that lacks appeal and is ineffective.

• A low percentage of expired patients on the waiting list indicates high efficiency. As stated in the PNGLA 2019-2021, patients should be hospitalized within the number of days determined by their assigned priority class (12). The PNGLA also identifies protection and guarantee elements to increase the efficiency and appropriateness of resource use, ensuring equity and timely access for citizens to treatments through the use of appropriateness criteria, priority classes, and transparency regarding waiting times for citizens.

• A waiting list with a high number of expired patients means the referring facility is inefficient in providing timely care.

Therefore, the ideal and sustainable waiting list is one that starts today with:

- Volume of patients in waiting list = 0
- Enrolled = admissions
- Dropouts = 0
- Overdue patients = 0

The first value, volume of waiting list equal to 0, indicates that all patients on the waiting list have a scheduled admission date. This reflects the concept of "tight flow" in Lean Thinking, a logistics strategy in which goods are received at the time they are scheduled to be dispatched or are required for production. It refers to a workflow managed with precise control, free from waste or inefficiencies.

Through the waiting lists sustainability model, we have presented an innovative analysis system capable of describing waiting lists using measurable and replicable indicators.

It is recommended for adoption by the National Health Service (SSN) as an objective model for evaluating waiting lists, and it could serve as a basis for strategic evaluations by institutions in the allocation of resources to meet health needs expressed.

Strengths and weaknesses

In some aspects, the presented indicators are not innovative but merely reflect empirical evidence, showing that any concept of "efficiency" for a waiting list must necessarily consider patients who:

- are added to the waiting list
- leave the waiting list due to cancellations or hospitalizations
- have been on the waiting list for longer than their priority class.

The study was conducted using elementary algebra, which led to complex evaluations that require knowledge of the functioning, management, and monitoring of the waiting list.

However, the formula has some limitations as described below:

- The formula does not account for the type of cases but only considers the total number of cases. It is difficult to determine the extent to which this factor influenced the data, but the case type could be an important factor.
- The graph, although three-dimensional, presents the X and Y axes, which are more prominent than the size of the sphere. While the X and Y axes clearly highlight the spatial coordinates, the sphere's size, which should represent an additional variable, is not as obvious or intuitive. This visual imbalance can lead to an underestimation of the importance of the sphere's size, making it more difficult to immediately perceive the impact of the expired patient indicator relative to the other two indicators.

In addition, two further limitations of the study that could become future research questions related to this work are:

- the paper focuses on waiting list efficiency by considering efficiency evaluation measures and KPIs, but does not consider patients' health care needs;
- the paper focuses on the organizational aspect of waiting list management, without considering the skills and knowledge of clinicians in waiting list management.

Riassunto

Quanto è sostenibile la tua lista di attesa?

Introduzione. Le liste di attesa per interventi chirurgici rappresentano una sfida cruciale per i sistemi sanitari pubblici, influenzando l'accessibilità alle cure e la percezione della qualità dell'assistenza. Tuttavia, manca una standardizzazione nella valutazione dell'efficienza e della gestione delle liste di attesa.

Disegno dello studio. Questo studio propone un modello basato su Key Performance Indicators (KPI) per misurare lo "stato di salute" delle liste di attesa chirurgiche, valutandone equilibrio, attrattività, efficienza e tempestività.

Metodi. Sono stati definiti tre KPI principali e applicati a dataset ipotetici e reali, analizzando dati raccolti presso l'IRCCS Istituto Ortopedico Rizzoli da gennaio 2024 a settembre 2024. L'analisi statistica è stata condotta tramite Excel, calcolando rapporti tra pazienti arruolati, ricoverati, cancellati e scaduti in lista di attesa.

Risultati. L'analisi ha evidenziato che alcuni reparti ospedalieri mostrano una gestione bilanciata delle liste di attesa, mentre altri presentano criticità, con elevato tasso di pazienti scaduti o cancellati. La rappresentazione grafica degli indicatori ha permesso di individuare aree di miglioramento nella gestione delle risorse.

Conclusioni. L'adozione di KPI standardizzati potrebbe rappresentare uno strumento utile per il monitoraggio e l'ottimizzazione delle liste di attesa, supportando le decisioni strategiche per migliorare l'accesso alle cure.

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