Evaluating Health Outcomes: Correlating the New Guarantee System Indicators with Population Health in Italy

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Background

➢ Population health indicators are essential tools for monitoring, evaluating, and improving public health, providing critical data for identifying challenges and guiding resource allocation (WHO, 2015);

➢ Effective indicator systems include diverse metrics such as life expectancy, disease prevalence, risk factors, and healthcare accessibility, offering a comprehensive perspective on health and health system performance (Nolte & McKee, 2008);

➢ Indicators play a central role in policymaking by informing intervention priorities and supporting accountability, but they must be valid, reliable, and context-appropriate to truly reflect population health and guide efficient decision-making (Murray & Frenk, 2000);

➢ **In Italy, the current health indicator system primarily focuses on care delivery metrics, such as healthcare access and service provision, rather than assessing the actual impact on population health. This approach may limit the system's ability to capture comprehensive outcomes and the real effectiveness of health interventions**.

Aim of the research

to evaluate how effectively the indicator system currently used in Italy captures the health status of the national and regional populations.

Specifically, the study seeks to determine whether the existing set of indicators provides an accurate and comprehensive picture of population health, or if it is overly focused on aspects of care delivery that do not have a demonstrated or measurable relationship with the actual health status of the population.

Methods 1/2

Setting

The new Guarantee System of the Italian Ministry of Health (2022) **monitors**, **evaluates**, and **ensures** the quality, appropriateness, and equity of care across the National Health Service.

It is based on a set of indicators covering essential levels of care (LEA), accessibility, continuity of care, safety, and health outcomes.

88 indicators covering hospital care, primary and outpatient care, prevention, and cross-cutting themes including access, quality, continuity, and safety.

22 core indicators identified for the evaluation of the delivery of Essential Levels of Care by the Regions

Methods

Analytical approach

We used a two-level analytical approach:

➢ First, we correlated the aggregate scores of the 21 regional health systems with key population health indicators: life expectancy, mortality rate, avoidable mortality, disability-free life expectancy at age 65, and infant mortality (World Health Organization, 2019; CDC, 2017; Nolte & McKee, 2004; Jagger et al., 2007; Black et al., 2013).

➢ Second, we examined the correlations between each of the 32 individual indicators and these same health outcomes, to assess the specific contributions of each indicator to population health status

Results

Our results showed significant correlations between the NSG score and population health measures.

There is a strong positive correlation between NSG scores and life expectancy ($r = .611$; $p <.000$) indicating higher NSG scores are associated with longer life expectancy.

Avoidable mortality is significantly negatively correlated with NSG scores ($r = -.4928$; $p < .000$), meaning better healthcare management reduces preventable deaths.

NSG scores also positively correlate with disability-free life expectancy at age 65 ($r = .5478$; $p< .000$) and negatively with infant mortality (($r = -5434$; $p < .000$), suggesting improved healthcare leads to healthier aging and lower infant mortality rates.

Only some of the 22 core indicators seems to be closely linked to population health status:

- Indicators measuring screening rates generally show positive correlations with health outcomes.
- Indicators reporting the rate of patients receiving home care also demonstrate positive associations.
- Indicators assessing the appropriateness of hospital care exhibit strong correlations with population health.

Conclusion

➢ Adherence to robust health indicators supports better assessment of healthcare performance and informs policy decisions.

➢ Using comprehensive indicators is crucial for policy-making and optimal resource allocation, leading to improved interventions and reduced disparities.

➢ Ongoing evaluation of indicators is necessary to adapt services, enhance access, and improve quality for better health outcomes across all population groups.

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