

The Measurement of Environmental Performance in Hospitals: A framework and process

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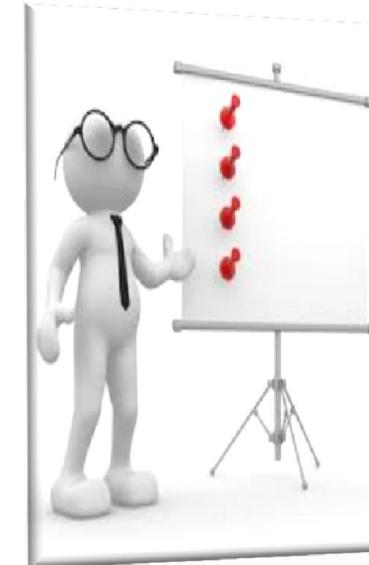
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PRESENTATION

- **Context**
- **The Brazilian regulatory framework**
- **Performance measurement frameworks used in Brazil**
- **The proposed framework and process**
- **Final considerations and further research**



CONTEXT



- New regulations related to hospital operations;
- Concerns on the enhancement of performance;
- The discussion on meaningful indicators to generate quality improvements;
- Nonetheless, in developing countries ...



CHALLENGES

- High cost of healthcare services;
- Limited productive resources;
- Inadequate infrastructure and structure (e.g. access to clean water, electricity);
- Lack of public investments;
- Lack of strategically focused governmental policies.



THE ISSUE

- To measure performance efficiently, indicators should have specific characteristics:

- ↳ Measurability ↳ Data accessibility
- ↳ Relevance ↳ Opportunity
- ↳ Clarity ↳ Long term view
- ↳ Reliability



"And this is the only performance indicator that's moving up. Unfortunately, it's my blood pressure."



BRAZILIAN REGULATORY FRAMEWORK

- NA2 Rev. 01 of 6 March 2006 (Hospital Accreditation);
- CONAMA Resolution 358 (treat and dispose of waste);
- ANVISA Resolution 306 (management of hospital waste);
- Waste transport (NBR 14652);
- Methods for the collection of perforating/cutting materials (NBR 13853);
- Internal and external collection of waste under hygienic and safe conditions (NBR 12810);
- Classification of materials and definition of terms (NBR 12807 and 12808);
- Required procedures for the intraestablishment management of healthcare services waste (NBR 12809 of 19 May 2013).



BRAZILIAN REGULATORY FRAMEWORK

- Existing regulations are yet to produce better environmental performance;
- Scarcity of regulations that define the consumption of other resources such as water, electricity and fuel;
- Some initiatives have tried to address the disposal of liquid waste with the creation of Eco-centers and Treatment Facilities for Effluents

Concerns on measurement environmental performance are regarded as insufficient and limited due to a reduced number of issues





Performance measurement frameworks

- Syrian Lebanese Hospital
- Based on quality programs
- The framework performance indicators focus on waste generation and consumption of process inputs



Performance measurement frameworks



- Global Green and Healthy Hospitals Agenda
- Main objectives related to leadership, chemicals, waste, energy, water, transportation, food, pharmaceuticals, buildings and purchasing
- No guidelines on how to develop specific indicators



Performance measurement frameworks



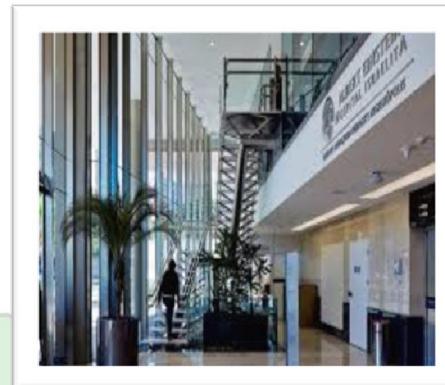
- Current legislation
- Manual of Hospital Accrediation
- Three main aspects are observed: general maintenance, waste and water potability
- The existence of indicators is recommended without systematic guidance



Performance measurement frameworks



- **Albert Einstein Hospital**
- **ISO 14001/14031**
- **Dimensions:**
 - Pollution of waters;
 - Pollution of lands;
 - Quality of the air.



Performance measurement frameworks



- **Global Reporting Initiative**
- **Standardize sustainability reporting**
- **It combines economic, social and environmental dimensions**
- **Indicators related to (1) materials, (2) energy, (3) water, (4) biodiversity, (5) emissions (6) effluents and waste, (7) products and services, (8) compliance, (9) transport, (10) overall (expenditure and investments in environmental initiatives), (11) supplier environment assessment and (12) environmental grievance mechanisms.**



The proposed framework (content guidelines)

Content Guidelines	Implications
Performance measurement systems should be developed, implemented and evaluated.	The framework should be developed considering three phases: conception, implementation and analysis.
Performance measurement should be connected with organizational goals.	The environmental performance measurement system should be linked to the strategic focus of the organization.
The performance measures should be deployed in three organizational levels: strategic, tactical and operational.	The environmental performance measurement system should encompass different organizational levels.
Legal Requirements	The field research and literature review indicate the need to fulfil environmental regulations.

Content Guidelines	Implications
Performance indicators should be developed based on criteria such as measurability, validity and controllability.	Measures should be reliable in order to characterize the environmental performance of hospitals.
Evaluation of indicators	Performance indicators should be evaluated in terms of the purpose for their conception.
Monitoring of strategic goals	Collected data should be analyzed to evaluate the achievement of strategic goals.
Environmental reporting	Through performance evaluation reports, it is possible to characterize the environmental performance of hospitals.



MEDIDA	O título de medida. Uma boa medida é autoexplicativa, evita jargões e explica o que é a medida e por que ela é importante.
PROpósito	Se a medida não tem um propósito, por que introduzi-la? Exemplos de propósito: 1) para monitorar a taxa de melhoria e desse modo uma diminuição do custo total; 2) para assegurar que finalmente os atrasos nas ordens de produção vão ser eliminados; 3) para estimular melhoria no desempenho da entrega dos fornecedores; 4) para assegurar que o lead time da introdução de novos produtos seja continuamente reduzido.
RELACIONADO A	Identifica a que objetivo de negócio a medida é relacionada, assim como no caso do propósito, se a medida que está sendo considerada não se relaciona a nenhum objetivo de negócio, então por que introduzi-la?
ALVO	Alvos especificam os níveis de desempenho e as escalas de tempo que devem ser atingidos. Exemplos de alvos: 1) X% de melhoria em um ano; 2) Y% de redução nos próximos 12 meses; 3) alcançar Z% de desempenho nas entregas (no tempo certo, completas) até o final do ano.
FÓRMULA	A forma com que alguma coisa é medida afeta o comportamento das pessoas. Uma fórmula apropriadamente definida deverá estimular as pessoas a terem boas atitudes em relação às suas atividades.
FREQUÊNCIA	A frequência com que o desempenho deve ser medido e informado, é uma função da importância da medida e da quantidade de dados disponíveis.
QUEM MEDE?	Neste campo deve ser identificada a pessoa que deverá medir e informar os dados.
FONTE DE DADOS	Este campo deve especificar de onde vem o dado para a medida. Se é esperado ver-se como o desempenho evolui com o tempo, é necessário que os dados sejam obtidos da mesma fonte.
QUEM AGE SOBRE OS DADOS?	Neste campo deve ser identificada a pessoa que vai agir sobre o dado, ou seja, sobre o que ele informa.
O QUE ELES FAZEM?	Sem nenhuma ação aqui, a medida fica sem sentido. Pode-se não estar apto para descrever em detalhe a ação a ser tomada no caso do desempenho ser aceitável ou inaceitável, uma vez que o detalhe pode depender do contexto do momento. No entanto, pode-se em geral definir o processo a ser seguido no caso de um desempenho ser aceitável ou inaceitável. Exemplos: 1) criar um grupo de melhoria contínua para identificar as razões para o baixo desempenho a fazer recomendações em relação a maneira com que o desempenho pode ser melhorado; 2) publicar todos os dados de desempenho e um sumário executivo no chão de fábrica como uma forma de demonstrar comprometimento e empowerment; 3) identificar problemas de ocorrência comum. Estabelecer um time de revisão composto por vendas, desenvolvimento e pessoal da manufatura para estabelecer se podem ser utilizados materiais alternativos.
NOTAS E COMENTÁRIOS	Qualquer especificidade, questão de destaque, problema peculiar etc., relacionados com a medida.



Process Approach

- Existing Control = EC
- Non-existent Control = NC
- IL = Importance Level 0 – not applicable 1 – applicable

Ex.: Materials (GRI Dimensions): Used materials, by weight or volume

- **Good practices (Legislation)**

Ex.: RDC 63 ANVISA (2011)

- Waste Management Plan
- **Good practices (Literature) ISO 14001, BSC, Hospital Accreditation Manual, Salud Sin Daño**

Ex.: Does the hospital provide training to deal with waste?



Final considerations and further research

- A starting point in proposing a meaningful framework to measure environmental sustainability in hospitals within the Brazilian setting
- The process has been applied in six hospitals (Southern region)
- Satisfactory results so far
- Feedback:
 - ‘Hard’ results – Sound indicators, meaningful monitoring, effective resource deployment
 - ‘Soft’ results – Enhanced commitment, focus on environmental awareness and performance measurement



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Thank you for
your attention

Any
questions?



