

DMAIC Application in an Emergency Care Unit

Milena Estanislau Diniz Mansur dos Reis

 <https://orcid.org/0000-0003-1080-8735>

Federal University of Rio de Janeiro, Brazil

Melissa Felix Abreu

Fluminense Federal University, Brazil

Olavo de Oliveira Braga Neto

Ministry of Health, Brazil

Helder Gomes Costa

 <https://orcid.org/0000-0001-9945-0367>

Fluminense Federal University, Brazil

Luis Enrique Valdiviezo Viera

Fluminense Federal University, Brazil

EXECUTIVE SUMMARY

Overcrowding in emergency hospital units represents a serious problem in the health system and is a phenomenon faced worldwide. And when investigating the origin of this disorder, it is observed that the great demand for care of cases considered low risk directly influences the quality of the service provided. Thus, it is necessary to apply tools and methods to improve the service offered. The Lean Six Sigma methodology allows the construction of problem-solving proposals based on statistical data and effective mechanisms. And with the use of the DMAIC method, which is also the methodological framework of Lean Six Sigma, it is possible to clearly direct the resolution of problems through process improvement and restructuring in an organization. The present study aims to present a successful experience in the application of DMAIC to improve patient care and assistance in UPA Cumbica, located in the city of Guarulhos, SP.

ORGANIZATION BACKGROUND

The Emergency Care Unit Cumbica started its activities in 2017 and is located at Cidade Industrial Satélite, Guarulhos - São Paulo, Brazil. The Unit is located in the Health Region IV - Pimentas/Cumbica, being a reference to the urgent and emergency care of 05 Basic Health Units, a region with approximately 160,000 inhabitants. Management is shared between the Guarulhos City Hall, through the Health Secretariat, and the Social Health Organization Fundação do ABC.

The Cumbica UPA is installed in an area of over 1,300 m². The Unit has a reception desk, three medical clinic offices, a pediatric office, and a dental office, an adult observation ward with 9 full mixed beds, 1 full isolation room, and 2 male and female bathrooms. In addition, it has a pediatric observation ward with four complete beds and four armchairs, two reception rooms for risk classification. It also has specific rooms for social service, radiology, central room for sterilized materials, for pharmaceutical supply, pharmacy for drug dispensation, electrocardiogram, utilities, and also for the application of intramuscular and oral medication, and serum therapy. Besides these, there is a room for serotherapy, an emergency room with four complete beds and a nursing station.

In UPA Cumbica, considering the year 2019, an average of 12400 attendances per month were performed. Table 1 shows the distribution of employees responsible for the management and operation of the UPA.

Table 1. Distribution of employees responsible for the management and operation of the UPA.

Professional/ Sector	Quantity
Medical Doctors	33
Dentists	7
Nurses	24
Nursing Assistants	90
Ordinance, Coordination, ADM	9
X-Rays	10
Hygiene	18
Drivers	2
Maintenance	2
Pantry	4

Source: Own Elaboration based on Descriptive Memorial – UPA Cumbica (2020)

SETTING THE STAGE

The UPA occupy the intermediate level of complexity, between the Primary Healthcare Centers (Primary Care) and Medium and High complexity, integrating the Pre-Hospital Stabilization Site Network (Oliveira et al., 2015) inside the structure of SUS (Unified Health System). Within the scope of their attributions, the UPA must meet demands 24 hours a day, perform the risk classification of patients, resolve cases of medium complexity, stabilize serious cases, as well as provide backup to primary care units (Silva et

23 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/dmaic-application-in-an-emergency-care-unit/313647

Related Content

Participatory Literacy and Taking Informed Action in the Social Studies

Casey Holmes and Meghan McGlinn Manfra (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 40-56).

www.irma-international.org/chapter/participatory-literacy-and-taking-informed-action-in-the-social-studies/237412

DFM as a Conceptual Model for Data Warehouse

Matteo Golfarelli (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 638-645).

www.irma-international.org/chapter/dfm-conceptual-model-data-warehouse/10888

Real-Time Face Detection and Classification for ICCTV

Brian C. Lovell, Shaokang Chen and Ting Shan (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1659-1666).

www.irma-international.org/chapter/real-time-face-detection-classification/11041

Facial Recognition

Rory A. Lewis and Zbigniew W. Ras (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 857-862).

www.irma-international.org/chapter/facial-recognition/10920

Knowledge Acquisition from Semantically Heterogeneous Data

Doina Caragea and Vasant Honavar (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1110-1116).

www.irma-international.org/chapter/knowledge-acquisition-semantically-heterogeneous-data/10960