



# IMPACT OF DATA SCIENCE TO PREVENT DIABETES-RELATED HOSPITALIZATIONS

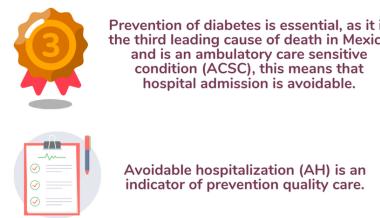
## AUTHORS

McC Carlos Hernandez-Nava & PhD Miguel-Felix Mata-Rivera  
hernandezc@ipn.mx & mmata@ipn.mx

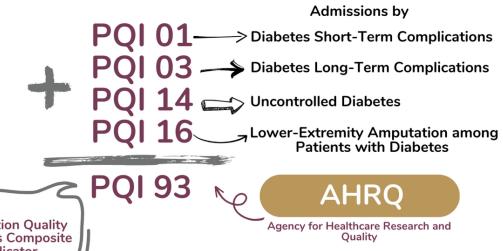
PhD Sergio Flores-Hernandez  
sergio.flores@insp.mx

**Abstract:** The increasing prevalence of diabetes worldwide presents significant challenges to healthcare systems. This work utilizes hospital diabetes discharge records from 2010 to 2023 from medical units of the Metropolitan Area of Mexico City. We aim to highlight data scientists' importance in understanding the problem and its implications. By doing so, insights can be generated to inform policy decisions and reduce the burden of avoidable hospitalizations. The approach primarily relies on stratification and standardization to uncover rates based on sex and age groups. This study provides a foundation for data scientists to approach health data in a new way.

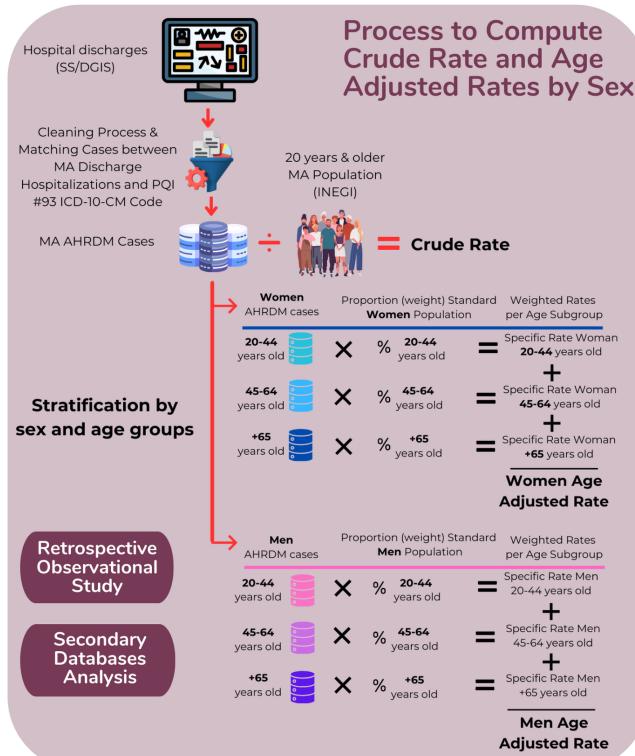
## Diabetes Mellitus as Public Health Problem



## INTRODUCTION



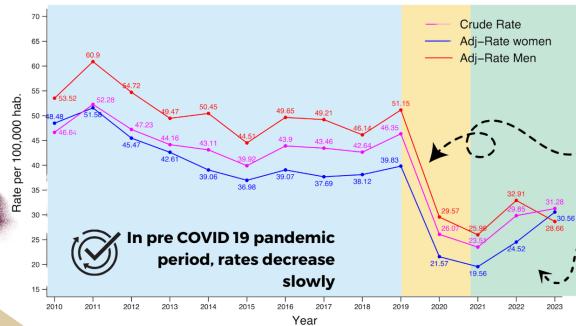
## METHODOLOGY



## RESULTS

### AHRDM Rates

On average before the pandemic period, the difference between AHRDM rates among men and women was 9.



## Acknowledgments

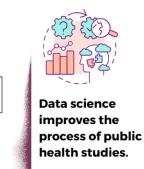
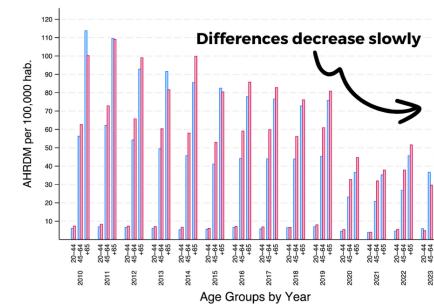
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## Bibliography

- Agency for Healthcare Research and Quality (2023), "Quality indicator User Guide: Prevention Quality Indicators (PQI) Composite Measures, v2023".

## ANALYSIS & CONCLUSIONS

### Differences between crude and adjusted rates



Data science improves the process of public health studies.

- Merchant, A.T. (2023). Standardization. In: Mitra, A.K. (eds) Statistical Approaches for Epidemiology. Springer, Cham.

**EL INSTITUTO POLITÉCNICO NACIONAL**

a través de la Secretaría de Investigación y Posgrado  
otorga la presente

# **CONSTANCIA**

**a: Carlos Hernandez Nava, Sergio Flores Hernández, Miguel Félix Mata Rivera**

Por la presentación del trabajo titulado:

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en el marco del Congreso Interpolitécnico de Investigación para Alumnos de Posgrado 2024.

Ciudad de México, octubre 2024.

*“La Técnica al Servicio de la Patria”*



**DRA. ANA LILIA CORIA PÁEZ**

Secretaria de Investigación y Posgrado, IPN

*Francisco Gutiérrez*

**DR. FRANCISCO GUTIÉRREZ GALICIA**

Director de Posgrado, IPN