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**Evaluating the performance of GIS methodologies for quantifying spatial accessibility to healthcare in Multi-Island Micro States (MIMS)****Roxanne Brizan St Martin***Civil Society Organizations (CSOs), Trinidad and Tobago*

There has been limited information on spatial accessibility to healthcare in Multi-island Micro States (MIMS). This is partly due to the application of methodologies that do not sufficiently consider the dynamic or unique characteristics of MIMS. The objective of the paper is to evaluate the performance of different Geographic Information Systems (GIS) methodologies for quantifying spatial accessibility to public healthcare in Multi-island States (MIMS). Spatial accessibility was measured using three GIS-based methodologies: Temporally Available Two-Step Floating Catchment Area (TA2SFCA) and traditional models [Two-Step Floating Catchment Area (2SFCA) and the Gravity Model]. Unlike the Gravity Model and the 2SFCA which only used population and health facilities locations along with travel times to quantify spatial accessibility, the TA2SFCA also included information on the hours of operations and health schedules in its assessment. These additional variables were used to develop the time windows to assess differences in capacity among available service sites. TA2SFCA results showed that spatial accessibility was linked to a 'traveling doctor' dynamic with access to healthcare services reflecting changes in the supply of services. As such, the Gravity Model and 2SFCA which did not account for this peculiarity were inadequate for measuring spatial accessibility in MIMS. The TA2SFCA addressed both the temporal and spatial aspects of health which were most reflective of the health system of these islands. Given the spatial-temporal dynamics, improving accessibility to healthcare requires periodic assessments and reassessments of health service delivery since this is affected by operating times and changes in capacity. Furthermore, there is the need for more research to develop methodologies that are more reflective or sensitive to MIMS dynamics.

**Biography**

Roxanne Brizan- St. Martin is an Economist and Educator with seventeen (17) years of experience in research, project management, health accounting and capacity building in the area of health and socio-economic development. She specializes in health systems management, health financing and healthcare access options and challenges in Multi-island Micro States and in the Caribbean. She is also trained in Local Capacity Advocacy and Policy Monitoring for Civil Society Organizations (CSOs), Gender Statistics and Gender Equality, Results Based Project Management, COVID-19 Contact Tracing and Spatial Econometrics. Roxanne is passionate about development that is transdisciplinary, pro-poor and pro-people which is articulated in the sustainomics framework- "making development more sustainable."