

Stakeholder cohesion within the schistosomiasis control program in Oyo state, Nigeria: Insights from a social network analysis study

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Background: The World Health Organization has developed a roadmap for NTD control and elimination by 2030. Eliminating NTDs such as schistosomiasis requires collaboration among diverse stakeholders globally and nationally, country ownership of elimination plans and the involvement of community-level stakeholders. Achieving these goals can be limited by gaps in stakeholder relationships within the schistosomiasis control programme. Assessing the gaps can provide insights into pathways for increasing stakeholder cohesion leading to improved program implementation. The objective of the study was to assess the degree of network cohesion in Nigeria in terms of contact, cooperation, and resource sharing using social network analysis.

Methods: The research was carried out in Oyo state, Nigeria, and involved two Local Government Areas (LGAs): Ibadan North (urban) and Akinyele (rural). Data collected from state, and local government, public and private healthcare stakeholders, academia, and non-governmental organisations was analysed using Gephi software.

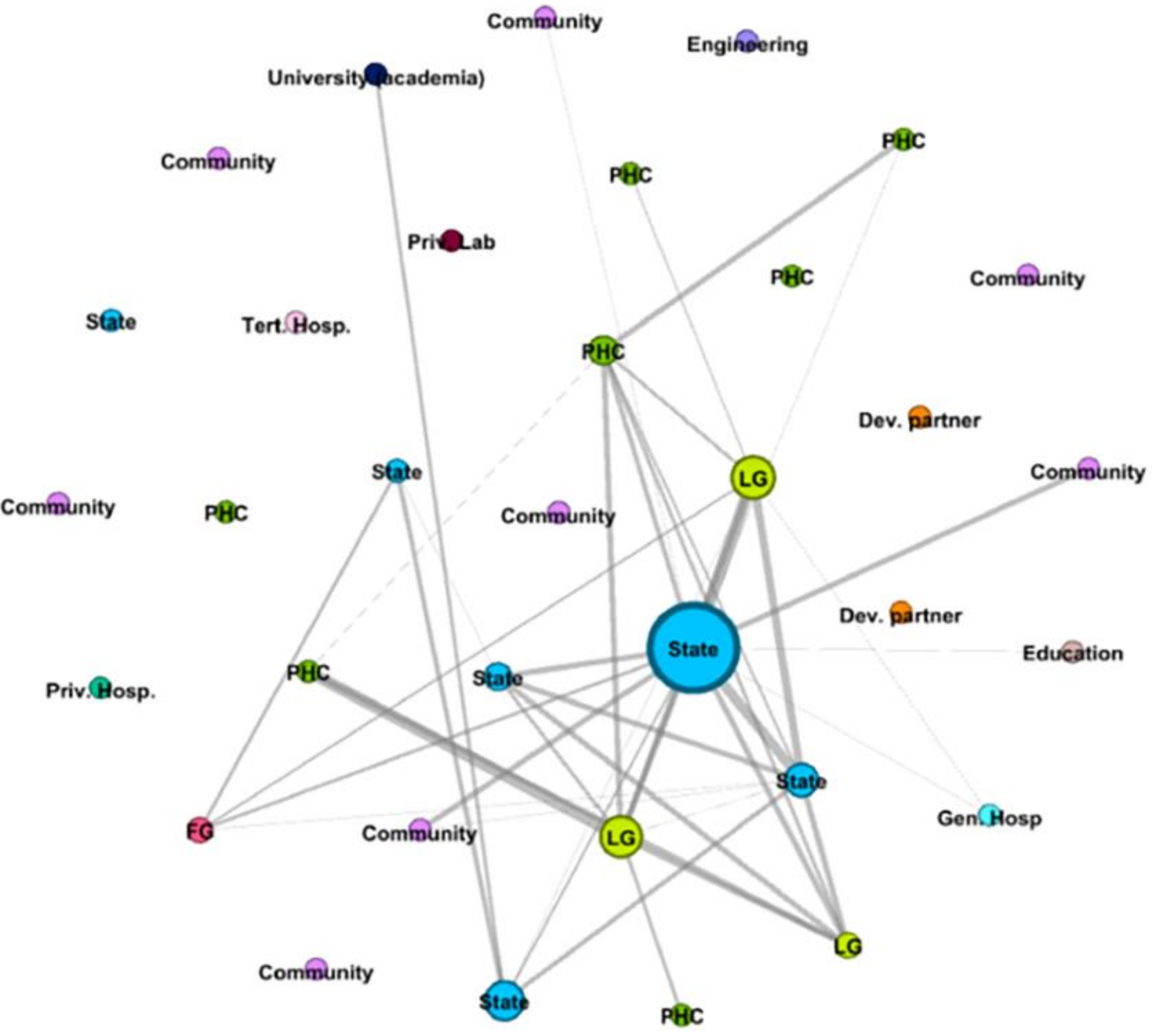
Result: The social network analysis of the three networks revealed high clustering and low density, indicating low cohesion across various stakeholder categories. The resource-sharing network had the lowest level of cohesion while the contact and collaborative networks were the most active. Stakeholders in the organised governance and public health systems were the main actors in the schistosomiasis control programme, and they were more active in the rural LGA than the urban one.

Conclusion: Strengthening Nigeria's NTD program requires strategic resolution of low stakeholder cohesion, skewed clustering, and low network density among stakeholders. Active engagement with diverse stakeholders, including private healthcare and community representatives, is also essential.

Table 1: NTD network cohesion

	Contact		Linkage/collaboration		Resource support	
	IBN	Akinyele	IBN	Akinyele	IBN	Akinyele
Number of relational ties	41	58	50	72	24	43
Average degree	2.118	2.938	2.471	3.625	0.706	1.344
Network diameter	4	4	4	3	3	3
Network density	0.064	0.095	0.075	0.117	0.021	0.043
Average clustering coefficient	0.353	0.487	0.591	0.648	0.05	0.119

Ibadan North (Urban)



Akinyele (Rural)

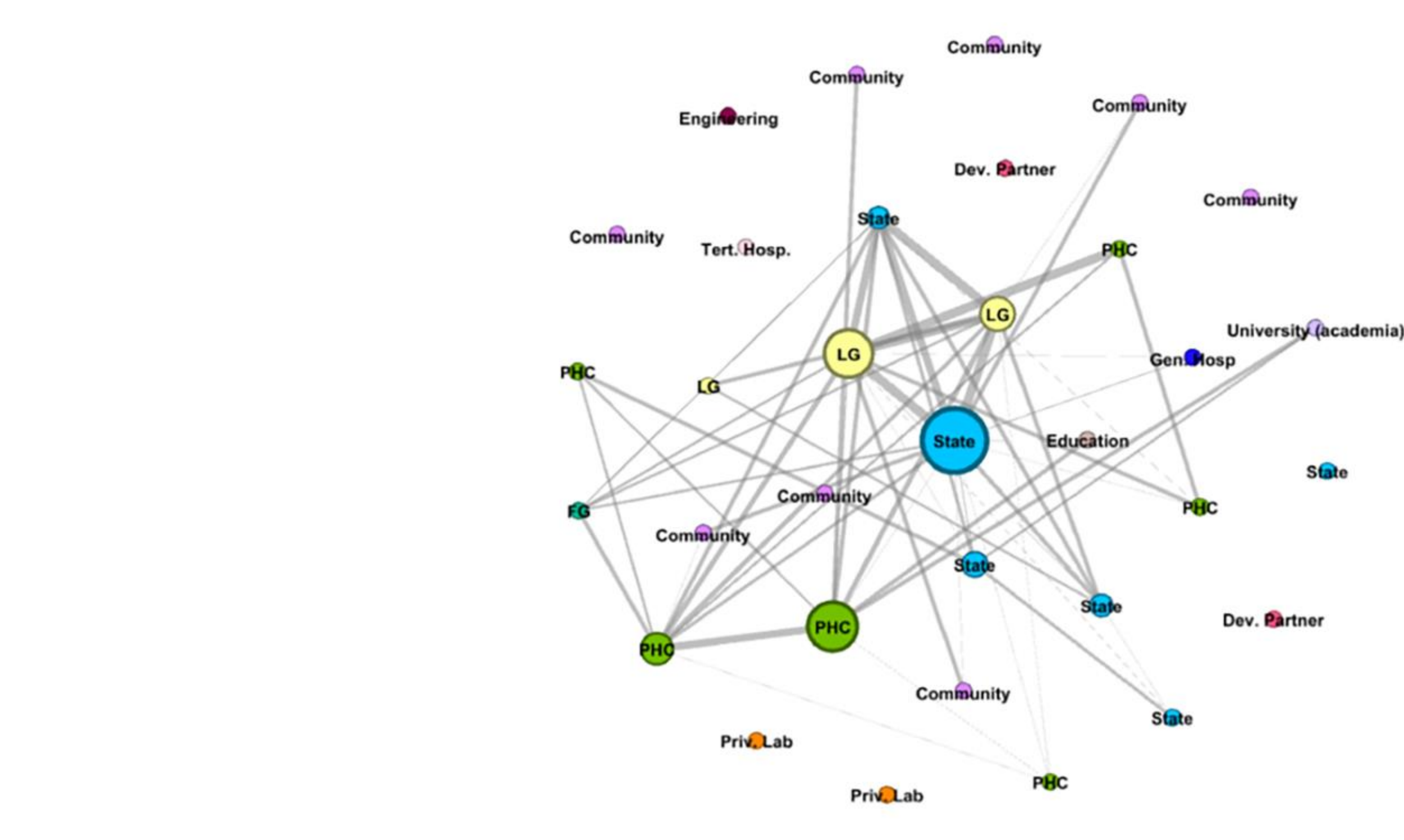


Figure 1: Betweenness centrality output (collaboration network)

Key: LG: local government, FG: Federal Government, State: state government, PHC: Primary Health care centre, Priv. hosp: private hospital, Priv lab: private lab, Dev Partner: Developmental partner, Tert. Hosp: Tertiary hospital, Gen Hosp: General hospital (secondary care).