

Appendix 1**Interview guide**

Key questions:

1. What is/are your role(s) in your organisation (tell us about your work as a physician leader)?
2. What are the important elements of the physician leader role? (based on LEADS framework: Lead self, Engage others, Achieve results, Develop coalitions, and Systems transformation)
3. From your experience, what are the main challenges and barriers to building physician leadership competencies in rural and remote areas?
4. What leadership behaviour and competencies do you apply in practice?
5. What knowledge, skills and attitudes are needed by a physician who leads primary care teams in rural and remote areas?

Appendix 2**Overview of themes and subthemes**

Themes	Subthemes	Codes	Participants who mentioned this
Qualities of a good physician leader commensurate with LEADS	Being culturally sensitive	Sociocultural	1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 14, 15, 16, 17, 18 (N=15)
		Communication skills	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 (N=18)
		Listening skills	2, 3, 5, 6, 7, 9, 13, 14, 15, 16, 18 (N=11)
		Community collaborative engagement	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18 (N=16)
	Having a strong character (perseverance)	Courage	3, 9, 11, 14, 15, 17, 18 (N=7)
		Determination	1, 2, 3, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 (N=14)
		Building trust	1, 2, 5, 6, 7, 8, 9, 10, 12, 13, 16, 17, 18 (N=13)
	Being creative and flexible	Geographical barriers	1, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15, 17, 18 (N=13)
		Limited material/healthcare resources	1, 3, 4, 8, 9, 11, 12, 13, 18 (N=9)
		Difficulties in expanding their knowledge and competence	18 (N=1)
		Limited health workforce	1, 3, 4, 6, 8, 9, 10, 12, 15, 16, 17, 18 (N=12)
		Social rejection	17 (N=1)
		Illiteracy problem in community	1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18 (N=15)
Ability to perform multiple tasks (versatility)	Responsibilities	Dual role	1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 (N=16)
		Multitasking	1, 4, 5, 7, 8, 9, 11, 14, 15, 17, 18 (N=11)

Appendix 3**Perceived needs (N=18)**

Domain	Subdomain – A competent leader..	Total respondents who responded this	Category
Lead self	is aware of their own assumptions, beliefs and principles	N=5	Low
	is aware of their own strengths and limitations	N=10	Moderate
	takes responsibility for their own performance	N=13	High
	takes responsibility for their own health	N=7	Moderate
	actively seeks opportunities and challenges for personal learning, character building and growth	N=10	Moderate
	models qualities such as honesty, integrity, resilience and confidence	N=15	High
	is genuine and passionate	N=10	Moderate
	gains the respect of their community members and peers	N=1	Low
	is comfortable in their own shoes	N=9	Moderate
	understands when is the right time to pass on information	N=9	Moderate
	knows who they are, where they come from and is proud of that grounding, for it is their identity	None	Low
Engage others	supports and challenges others to achieve professional goals	N=6	Moderate
	supports and challenges others to achieve personal goals	None	Low
	creates engaging environments in which others have meaningful opportunities to contribute	N=14	High
	ensures that resources are available to fulfil expected responsibilities	N=5	Low
	listens well and encourages an open exchange of information and ideas using appropriate communication media	N=13	High
	facilitates environments of collaboration and cooperation to achieve results	N=15	High
	Leadership is fostered across the community	N=8	Moderate
	wants to hear the information first-hand	N=1	Low
	takes time to digest what they are hearing	N=2	Low
	listens more, talks less and asks questions	N=3	Low
	represents active listening	N=8	Moderate
	encourages the community to take the lead	N=2	Low
	wants to understand the commitment being made and to be assured it will have a positive effect on their community	N=12	High
Achieve results	inspires vision by identifying, establishing and communicating clear and meaningful expectations and outcomes	N=12	High
	integrates organisational missions and values with reliable, valid evidence to make decisions	N=9	Moderate
	acts in a manner consistent with organisational values to provide effective and efficient public-centred service	N=11	High
	assesses and evaluates outcomes	N=13	High
	compares the results against established benchmarks	N=3	Low
	corrects the course as appropriate	N=4	Low
	invites the community to set the direction	N=11	High
	creates a space where everyone has an opportunity to speak and learn from each other regardless of who they are	N=9	Moderate
	understands that cultural safety is more than a history lesson (it is about opening dialogue with many different people about wellness; in this sense, the leader creates the appropriate conditions for this dialogue and joint learning to take place)	N=13	High
	must be in an environment that supports ownership and self-governance	N=1	Low

Develop coalitions	creates connections, trust and shared meanings with individuals and groups	N=13	High
	facilitates collaboration, cooperation and coalitions among diverse groups and perspectives with the aim to improve service	N=11	High
	employs methods to gather intelligence	N=10	Moderate
	encourages an open exchange of information	N=4	Low
	uses quality evidence to influence action across the system	N=2	Low
	shows a political astuteness (adeptly uses skills, knowledge and judgements to shape an environment that will influence the organisation's decision-making process)	N=7	Moderate
	can negotiate through conflict	N=9	Moderate
	can mobilise people	N=1	Low
	can develop community trust (i.e. the community trusts that what they say is true)	N=3	Low
	invests in getting to know the people in the community so that they learn more about how the community operates	N=7	Moderate
	nurtures relationships over time; rather than visiting the community once, the competent leader is dedicated to long-term relationships	N=6	Moderate
	passes forward information and knowledge	N=7	Moderate
	protects the wisdom of the past and uses it to educate the future	N=2	Low
	recognises that knowledge can come from many different sources	N=5	Low
	acknowledges that historic agreements have a key place in indigenous history and are therefore foundational to many conversations	N=2	Low
Systems transformation	thinks analytically and conceptually	N=7	Moderate
	questions and challenges the status quo (thereby effecting positive change and fostering innovation)	N=15	High
	can identify issues, solve problems and design and implement effective processes across systems and stakeholders	N=8	Moderate
	creates a climate of continuous improvement and creativity aimed at systemic change	N=14	High
	scans the environment for ideas, best practices, and emerging trends (and, in doing so, makes maximum use of the resources available)	N=9	Moderate
	actively contributes to change processes that improve health service delivery	N=7	Moderate
	recognises that communities and nations need to be able to control their systems and make their own decisions	N=1	Low
	aims to include all healthcare providers and indigenous people (is able to organise and manage a heterogeneous group, whilst respecting their uniqueness in an empathetic, unbiased way)	N=3	Low
	allows the community to set the agenda and priorities	N=5	Low
	recognises that each community is unique, and that each community therefore requires a tailored approach; there is no one size fits all	N=9	Moderate
	realises that today's decisions impact the leaders of tomorrow as well as their future quality of life	N=5	Low
	acknowledges that health transformation pushes limits to promote required changes	N=5	Low
	accounts for and modifies timelines, so as not to rush community decision-making	N=1	Low