Barriers to Accessing Multidisciplinary Team Services for Learners with Special Educational Needs and Disabilities at the One Stop Centre of Livingstone University Teaching Hospital, Southern Province of Zambia

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ABSTRACT

Children with learning and special educational needs and disabilities (LSEND) require coordinated multidisciplinary services to achieve early identification, timely intervention, and sustainable continuity of care. Although one-stop, co-located multidisciplinary models seek to reduce fragmentation and caregiver burden, evidence from low- and middle-income countries indicates that co-location alone is insufficient unless referral pathways, internal coordination, and follow-up mechanisms are functional. This qualitative descriptive study examined barriers to accessing multidisciplinary team (MDT) services at the One Stop Centre of Livingstone University Teaching Hospital (LUTH), Southern Province, Zambia. Eighteen purposively selected participants were interviewed individually, including 2 nurses, 2 special-education teachers, 2 police officers, 2 caregivers, 2 physiotherapists, 2 psychologists, an occupational therapist, 2 paediatricians, 2 social workers, a psychiatrist, and 2 learners with special educational needs were interviewed with parents present. Interviews were transcribed verbatim and analyzed manually using inductive thematic analysis with two independent coders, consensus meetings, peer debriefing, and member checking. Findings are presented mapped to an operationalized continuum of care entry, internal navigation, intervention capacity, follow-up/referral-out, and post-visit continuity and illustrate how barriers at each stage undermine access and sustained engagement. Key constraints included ineffective referral and low awareness at entry; poor internal coordination and information flow; shortages of trained specialists and equipment limiting intervention capacity; weak follow-up and outbound referral systems; and transport costs, stigma, and caregiver psychological burden that undermine post-visit continuity. The paper concludes with pragmatic, evidence-grounded recommendations to strengthen processes and supports at LUTH so the One Stop Centre can fulfil its potential as an accessible MDT hub for LSEND in Livingstone and Zambia at large.

Keywords: LSEND; multidisciplinary team; one-stop centre; access barriers; continuum of care; Zambia

BACKGROUND OF THE STUDY

Children with learning and special educational needs and disabilities (LSEND) require coordinated, timely inputs from health, rehabilitation, education, and social services to achieve optimal developmental, educational, and social outcomes. Inadequate or fragmented service delivery prolongs diagnostic delays, reduces intervention effectiveness, and imposes substantial economic and emotional burdens on families (World Health Organization (WHO), 2021). One-stop centre models, which co-locate multidisciplinary teams (MDTs) to provide assessment, therapeutic intervention, psychosocial support, and referral navigation in a single service point, are promoted to reduce fragmentation by centralizing expertise, shortening travel, and facilitating cross-sectoral decision-making (UNICEF/WHO, 2010; Adebayo & Kola, 2020). However, evidence from low- and middle-income countries (LMICs) indicates that co-location alone does not guarantee access or sustained engagement.

Studies from Kenya and Nigeria document weak referral and follow-up systems that delay entry to specialised care (Ngugi & Kariuki, 2021; Tafida & Umar, 2020), South African research highlights internal navigation and communication breakdowns within hospital MDTs that produce conflicting guidance for families (Hlongwane & Mkhize, 2019), and Zambian studies report concentrated specialist services, allied-health workforce shortages, and transport and financial barriers that constrain provincial access (Kamanga & Chirwa, 2020; Phiri & Mwape, 2023). Across these contexts, common bottlenecks map to stages of a service continuum entry (referral and awareness), internal navigation (scheduling and information flow), intervention capacity (workforce and equipment), follow-up/referral-out, and post-visit continuity (transport, cost, stigma) showing that process failures at any stage can cascade and undermine overall MDT effectiveness (Banda & Mweemba, 2021; WHO, 2021; Simui et al., 2022).

In Zambia, progressive policy frameworks such as the Persons with Disabilities Act and inclusive education commitments establish a supportive policy environment, yet practical service gaps remain. Specialist assessments and allied rehabilitation services are largely concentrated in urban referral hospitals, leaving provincial facilities under-resourced and families facing long travel distances, high out-of-pocket costs, and limited local follow-up options (Simui et al., 2022; Phiri & Mwape, 2023). Socio-cultural barriers, including stigma and low disability awareness, further delay help seeking and reduce engagement with formal services. At Livingstone University Teaching Hospital (LUTH), the special education unit operates through collaboration between special education teachers and healthcare professionals to deliver tailored educational programmes adapted to children’s medical needs (Gordon & Houghton, 2016).

As Zambia’ first hospital-based One Stop Centre in the Southern Province, Livingstone University Teaching Hospital (LUTH) offers a promising institutional response, but there is limited empirical evidence on whether the centre successfully addresses access barriers across the full continuum of care in this provincial setting. Understanding which barriers are most salient at LUTH and at which point in the continuum they operate is therefore essential for designing targeted, feasible improvements that fit local resource realities and protect children’s developmental trajectories. It is against this background there that this paper sought to bring out the Barriers to Accessing Multidisciplinary Team (MDT) Services for learners with Learning and Special Educational Needs and Disabilities (LSEND) at the One Stop Centre, Livingstone University Teaching Hospital, Southern Province, Zambia

The core objective of the study was to identify and describe the key barriers that prevent LSEND from accessing multidisciplinary team services at the one stop centre of LUTH.

The research question the study addressed was; what barriers do caregivers and health/rehabilitation professionals identify as limiting LSEND from accessing continuum services provided by the MDT at the one stop centre at LUTH?

Statement Of The Problem

Despite Zambia’s policies promoting the rights of children with disabilities, LSEND continue to face significant challenges in accessing coordinated multidisciplinary services. Evidence from sub-Saharan Africa and Zambia indicates persistent barriers. (Scherer, 2024; Mapulanga & Dlungwane, 2025; Namulwanda, 2024; M’kumbuzi et al., 2022). In Zambia, scholars have identified barriers that hinder children’s development and participation (Chiluba, 2017; Zemba & Chipindi, 2020; Munsanje & Lombard, 2021). These barriers reduce the effectiveness of multidisciplinary teams (MDTs) in delivering holistic, timely, and child-centred care.

However, there is limited empirical evidence documenting the nature and impact of these barriers specifically at the One-Stop Centre of Livingstone University Teaching Hospital (LUTH). This gap constrains locally relevant interventions and policy adaptations to improve continuum services in Southern Province. Therefore, this study sought to fill this gap by exploring the barriers to accessing MDT continuum services for LSEND at LUTH.

LITERATURE REVIEW

The rationale for MDT approaches and co-located one stop service hubs stems from an extensive literature showing that children with complex developmental and educational needs benefit from timely, coordinated inputs across health, education and social sectors (WHO, 2021). Systematic and narrative reviews in the last decade indicate that MDTs can improve diagnostic accuracy, streamline initial care pathways, and enhance family centred planning when teams share information, adopt joint decision making processes, and maintain explicit care plans (Braun & Clarke, 2021; UNICEF/WHO, 2010). One stop or hub models—originally promoted for child protection and post abuse response have been adapted to broader paediatric and rehabilitation needs because co location reduces repeated travel, shortens waiting times for initial cross sector assessment, and provides a visible point of contact for families navigating fragmented systems (UNICEF/WHO, 2010; Adebayo & Kola, 2020)

However, global evidence stresses that co-location is a necessary but not a sufficient condition for sustained service access. Studies from high, middle and low-income countries point to the importance of process elements that operationalize co location into functional continuity: standardized intake and referral forms. Others are, shared clinical records or summary sheets, routine brief MDT case conferences, triage protocols to manage specialist caseloads, and active follow up mechanisms (appointment reminders, scheduled review slots, and written care plans for families) (Braun & Clarke, 2021; WHO, 2021). Where these process elements are absent, co-located teams may still function in siloed ways providing episodic assessments without reliable handover, with limited follow up or community reintegration (WHO, 2021). Importantly, the literature finds that deficits in any one stage of the continuum can propagate: for example, poor referral intake increases congestion at the specialist assessment stage, which then raises waiting times and undermines family engagement with follow up plans (Adebayo & Kola, 2020).

Workforce, tools and equity issues are recurrent global themes. Reviews emphasize shortages in allied health professions (speech and language therapists, occupational therapists, child psychologists) as a central barrier to delivering multidisciplinary care at scale (WHO, 2021). Where specialist capacity is constrained, task sharing approaches, explicit triage criteria, and strengthened community rehabilitation linkages have shown promise in maintaining service continuity without immediate large-scale hiring (Adebayo & Kola, 2020; Braun & Clarke, 2021). Equity analyses from multiple settings also highlight how geographical distance, transport costs, and user fees produce systematic exclusion for rural and low-income families' effects that MDT models must explicitly address to avoid widening disparities (UNICEF, 2021).

Evidence from sub Saharan Africa and comparable LMIC settings Regional literature from sub Saharan Africa over the last decade echoes global findings but adds contextually specific insights about system constraints and culturally mediated help seeking. Country studies demonstrate recurring patterns mapped to the continuum stages. In East Africa, research from Kenya indicates that unclear referral pathways and low referral literacy in schools and primary care facilities delay initial presentation to specialist assessment centres (Ngugi & Kariuki, 2021). Nigerian studies similarly document weak referral and follow up mechanisms, where children are referred late and families lack support to complete complex diagnostic pathways (Tafida & Umar, 2020). South African research focusing on hospital based MDTs has documented internal navigation problems poor communication across departments, absent shared records, and inconsistent MDT meeting rhythms that produce conflicting guidance and frustrate caregivers (Hlongwane & Mkhize, 2019). Studies in Uganda and Tanzania reinforce these findings, showing that when one element such as scheduling or interprofessional communication is weak, the overall MDT effect on continuity is substantially reduced (Abuya et al., 2021; McKenzie et al., 2020).

Workforce shortages and resource constraints are particularly salient in regional studies. Several papers highlight the very low ratios of allied health professionals per population across sub Saharan Africa, which lead to long waiting lists and large caseloads that compromise quality and timeliness of services (Banks et al., 2021; Banda & Mweemba, 2021). Equipment and infrastructure gaps lack of standardized assessment tools validated for local languages or contexts, insufficient therapy materials, and inaccessible clinic environments further constrain intervention capacity (Moyo & Mpofu, 2018). These structural constraints have prompted regional research to explore task sharing, community led early intervention, and school based support as pragmatic complements to hospital based MDTs (Adebayo & Kola, 2020; Chanda & Mutombo, 2022).

Socio cultural and economic barriers are pronounced in sub Saharan studies. Qualitative work documents pervasive stigma, explanatory models that favour spiritual or traditional accounts of disability, and reluctance to disclose developmental concerns factors that delay help seeking and reduce adherence to clinical recommendations (Ametepee & Chitiyo, 2019; Phiri & Mwape, 2023). Economic analyses underline transport and user cost burdens: families frequently travel long distances to reach referral centres and then face repeated visits for multidisciplinary appointments, imposing substantial direct and indirect costs that lead to inconsistent attendance (Kamanga & Chirwa, 2020).

Lessons on one-stop centres in LMICs point to process level fixes that are both feasible and impactful. Studies evaluating integrated hubs show that standardized referral templates, short regular MDT huddles (15–30 minutes), patient summary cards carried between services, and simple SMS reminder systems can materially improve navigation and follow up even in resource constrained environments (Ngugi & Kariuki, 2021; Adebayo & Kola, 2020). Critically, these process innovations need to be paired with local stakeholder engagement and culturally adapted communication strategies to address stigma and increase caregiver trust in formal services (Kusi & Opong, 2019).

Zambia’s policy environment formally affirms the state’s responsibility to promote inclusion and coordinated support for learners with special educational needs and disabilities: the Persons with Disabilities Act establishes legal protections and non-discrimination obligations for persons with disabilities (Republic of Zambia, 2012). In addition, the Ministry of Education’s Inclusive Education policy explicitly mandates early identification, school-based supports, teacher capacity building, and stronger linkages between schools and health and rehabilitation services so that LSEND can participate on an equal basis (Ministry of Education, 2018).

Health sector frameworks likewise recognize the need for rehabilitation, allied-health services and community outreach to support functional participation, as set out in national health planning and disability strategy documents (Ministry of Health, National Health Strategic Plan; Ministry of Health, National Disability Strategic Plan). Social protection and child-welfare policies also highlight integrated referral pathways and support for vulnerable children (Ministry of Community Development and Social Services, relevant policy).

Despite these cross-sectoral commitments, empirical studies reveal a persistent implementation gap: specialist services remain scarce in provincial districts, allied-health workforces. In addition, assessment resources are inadequate, referral pathways from schools and primary clinics are weak or poorly understood, and transport costs, user fees, and stigma prevent many families from realizing the benefits of policy intent in practice (Phiri & Mwape, 2023; Simui et al., 2022; Banda & Mweemba, 2021; Kamanga & Chirwa, 2020).

Zambian qualitative studies reveal common bottlenecks: unclear referral pathways from schools and district clinics, long waiting times for specialist appointments, lack of culturally adapted assessment tools, and limited follow up once families return to their home districts (Kamanga & Chirwa, 2020; Phiri & Mwape, 2023). Research also documents socio cultural drivers’ stigma, low community awareness, and reliance on traditional healers that influence initial help seeking and persistence with formal care pathways (Mwape et al., 2021). Cost analyses underscore transport and accommodation burdens for families traveling to tertiary centres; often forcing tradeoffs between care and other household needs (Chitiyo & Munsanje, 2020).

Emerging Zambian work on integrated hubs and task sharing provides useful precedents for the LUTH One Stop Centre. Pilot projects have trialed simplified intake forms, written care plans for families, and outreach training for district staff to support follow up interventions that yielded modest increases in appointment adherence and better coordination with schools when combined with community sensitization campaigns (Lumbwe & Mwansa, 2023; Kasonde & Chileshe, 2023). However, these pilots are small and unevenly implemented; rigorous evaluation at scale is limited. This gap reinforces the need for focused empirical documentation of how an operational one stop MDT hub functions in a provincial Zambian setting and which processes are necessary to transform co location into consistent, equitable continuity of care.

Co-location and MDT composition are necessary foundations, but functional continuity depends on concrete process elements referral protocols, shared records, scheduling systems, triage and task sharing arrangements, and explicit follow up mechanisms alongside efforts to reduce economic and socio cultural barriers. While LMIC and sub Saharan research describe feasible process innovations (standardized referral templates, brief MDT huddles, SMS reminders, task sharing), rigorous documentation of these interventions' implementation and outcomes within Zambian provincial one stop hubs is sparse. In particular, there is limited empirical evidence mapping where, along the continuum of care, barriers are most acute at the level of a hospital based one stop centre in Zambia. By focusing on the LUTH One Stop Centre and explicitly mapping barriers to defined continuum stages (entry, internal navigation, intervention capacity, follow up/referral out, and post visit continuity), the present study addresses this gap in provincial Zambian settings.

METHODOLOGY

This study employed a qualitative descriptive design to examine barriers learners with special educational needs and disabilities (LSEND) face in accessing multidisciplinary team (MDT) services at the One Stop Centre of Livingstone University Teaching Hospital, Southern Province, Zambia. Qualitative description was selected because it yields rich, pragmatic, and context-bound accounts of participants' experiences and is well suited to informing service improvement in applied health and education settings (Villamin, Lopez, Thapa & Cleary, 2024; Colorafi & Evans, 2016). The study population comprised MDT members and caregivers directly involved in LSEND care at LUTH: physicians, nurses, special-education teachers, physiotherapists, occupational therapists, psychologists, a psychiatrist, paediatricians, social workers, police officers, and caregivers of children with special needs. Two learners (children) were also included and were interviewed only in the presence of their parent/guardian. Participants were purposively selected for direct involvement in assessment, treatment, rehabilitation, referral or follow-up, enabling the study to capture diverse professional and caregiver perspectives across the service pathway (Villamin et al., 2024).

Table 1- Participants Demographic table n 18

ID/group	Role	Gender	age(yrs)	Highest qualification	Years of work experience
SW-1	Social worker	Male	53	MSc Social Work	>25
SW-2	Social worker	Female	45	BA Social Work	>10
NUR-1	Nurse	Female	35	Diploma RN + Cert. in Mental Health	8
NUR-2	Nurse	male	44	Diploma RN plus cert. psychiatry nursing	>15
POL-1	Police officer	Male	38	Diploma in Guidance & Counselling	>10
POL-2	Police officer	Female	48	MSc Conflict Resolution	>20
PT-1	Physiotherapist	Female	27	Diploma Physiotherapy	4
PT-2	Physiotherapist	Male	39	Diploma Physiotherapy	>15
OT-1	Occupational therapist	female	57	Diploma Occupational Therapy	>30
PSY-1	Psychiatrist	Female	44	Degree in Clinical Health	>10
SET-1	Special education	Female	48	MA Special Education	22

	teacher				
SET-2	Special education teacher	Female	46	BA Special Education	24
DOC-1	Doctor	Female	32	Degree in medicine	10
DOC-2	Doctor	male	49	Degree in medicine	14
CG-1	Caregiver	Male	55	Grade 12	—
CG-2	Caregiver	Female	49	Diploma in teaching	>20

Data were collected through semi-structured, individual interviews that encouraged participants to describe their lived experiences of accessing or delivering MDT services, barriers encountered across the continuum of care, and practical suggestions for improvement. Interviews were audio-recorded with permission, transcribed verbatim, and supplemented with field notes documenting contextual observations. Interpretive thematic analysis was used to identify major patterns and themes related to access barriers; this approach is consistent with qualitative descriptive methodology and supports transparent theme development from participant narratives (Doyle et al., 2020; Braun & Clarke, 2021).

To ensure trustworthiness (credibility, dependability, confirmability, and transferability), the study employed multiple, complementary measures. Credibility was strengthened through investigator triangulation (two independent researchers manually coded transcripts and compared codes in regular consensus meetings), member-checking (a summary of preliminary themes was shared with a subset of participants for validation), and purposive sampling to include varied stakeholder viewpoints. Dependability was supported by maintaining an audit trail of research decisions, coding memos, and iterative codebook development; peer debriefing with a senior researcher further reviewed coding and theme refinement. Confirmability was addressed through reflexive memoing (researchers documented assumptions and decisions) and preservation of raw data and analysis records so interpretations can be audited. Transferability was supported by providing thick description of context, sampling criteria, participant roles, and illustrative verbatim quotations so readers can assess applicability to other settings. No qualitative analysis software was used; coding and thematic development were conducted manually to retain close engagement with the data.

Ethical clearance was obtained from the University of Zambia. All adult participants provided written informed consent. Children were not interviewed alone; parental/guardian consent and age-appropriate assent were obtained for child participation. Participant confidentiality, anonymity, secure data storage, and the right to withdraw at any time were upheld throughout the study.

Presentation Of Findings

The following findings summarize themes that emerged from in-depth interviews with the multidisciplinary team members at the One Stop Centre of LUTH, presented using an explicit continuum-of-care framing. We organized results to show where barriers primarily operate—entry (referral and awareness), internal navigation (team coordination and information flow), intervention capacity (workforce, tools and assessment), follow-up/referral-out, and post-visit continuity (economic, geographic and socio-cultural constraints) and to highlight how problems at one stage cascade into others. Each theme is defined briefly, followed by verbatim quotations that illustrate variation, contradictions, and the lived realities behind summary statements. Where themes overlap conceptually (for example, coordination, referral and communication), we distinguish them by scope: referral refers to pathways into the Centre, coordination to internal team processes once families arrive, and communication to interpersonal and culturally sensitive exchanges that shape caregiver engagement.

Coordination Challenges

Poor coordination among multidisciplinary team (MDT) members was identified by multiple participants as a principal barrier to timely, coherent care for learners with special educational needs and disabilities (LSEND). For the purposes of this analysis, “coordination” is defined narrowly as the One Stop Centre’s internal processes for joint case management specifically shared documentation, routine multidisciplinary case discussion, consistent information exchange, and coordinated scheduling and follow-up once families enter the Centre. Four respondents explicitly described coordination failures that produced fragmented handovers, duplicated or contradictory advice, and missed opportunities for integrated planning. The verbatim excerpts that follow illustrate these internal process breakdowns; issues that primarily concern referral pathways, communication with caregivers, or resource shortages are treated in their respective sections.

As SW-1 explained that:

“Lack of collaboration negatively affects children’s development. The lack of integration among professionals results in fragmented service delivery. Limited collaboration among multidisciplinary team members leads to duplication of efforts and gaps in service provision, negatively affecting a child's development”.

SPT-2 added that:

“Inadequate information sharing prevents teachers from tailoring educational interventions due to missing medical or therapy reports. There is often a lack of proper documentation and information sharing among professionals. As teachers, we sometimes do not have access to the medical or therapy reports that would help us tailor our teaching methods to a child's specific needs”

PED-1 further highlighted that:

“Follow-ups are poorly coordinated, with no structured progress-tracking system across specialists, resulting in gaps in treatment and educational planning”.

N-1 remarked that:

“One major challenge is the delayed referral process. Some children with special educational needs and disabilities (SEND) do not receive timely medical attention because of poor coordination between health facilities and schools. This delay affects early interventions, which are critical for their progress”.

Poor Referral Systems

Ineffective referral systems emerged as a distinct and consequential barrier to timely access and continuity of multidisciplinary care at the One Stop Centre of LUTH. For this analysis, “referral systems” refers specifically to the formal and informal pathways, documentation and procedures that direct children from homes, schools and primary clinics into the Centre and that support their onward referral to district services. Participants described systemic delays both within LUTH and between institutions unclear intake procedures, lengthy or duplicative paperwork, and inconsistent handovers that defer assessment, postpone intervention, and increase the financial and logistical burden on families. The excerpts below, drawn from caregiver and professional interviews, illustrate how these referral failures operate in practice and impair early identification and sustained care for learners with special educational needs and disabilities.

N 1 reported that:

“ Untimely referrals were often caused by poor coordination between schools and health facilities, explaining that "schools sometimes delay or misdirect referrals because they lack clear protocols or contacts, so children arrive late for assessment" — a pattern that delays diagnosis and early intervention for LSEND”

PSC-1 noted that:

"Lengthy and unclear referral processes lead to parents being moved between departments without guidance, incurring additional costs and time burdens"

OT-1 added that:

"Extensive paperwork and rigid diagnostic thresholds discourage families and exclude some children who require support but do not meet strict criteria.

Resource Constraints

Resource limitations constituted a central and recurring barrier to effective multidisciplinary care at the One Stop Centre of LUTH. These constraints operated at multiple levels insufficient financial investment for service delivery, acute shortages of trained specialists, limited therapy materials and diagnostic tools, and inadequate infrastructure which together reduced service capacity, extended waiting times, and constrained the scope and quality of interventions available to children. Participants described how funding shortfalls and workforce gaps created bottlenecks in assessment and treatment, forced frequent rescheduling, and compelled clinicians to improvise or prioritize cases in ways that left many families underserved. The verbatim excerpts that follow illustrate how these interconnected resource challenges shape both the provision of MDT services and caregivers' practical ability to access ongoing care:

PSY-1 and PSY-2 highlighted that:

"*Low financial investment, long waiting lists, and long travel distances mean many families some travelling from Western Province are unable to attend regularly; as a result, appointments are missed, follow-up is inconsistent, and children's progress is interrupted."*

PED-1 reported that:

"Shortages of trained professionals cause delays when specialists are unavailable on certain days, forcing families to return multiple times and prolonging the time to diagnosis and intervention."

PSY-1 added that:

"Only two child psychiatric specialists are available on a part-time basis, leading to long waiting times, reduced appointment availability, and limited capacity to manage urgent or complex cases promptly."

OT-1 noted that:

"A lack of occupational therapy equipment limits effective intervention, forcing therapists to improvise with improvised materials and reducing the intensity, consistency and expected outcomes of therapy."

While SPT-2 stated that:

Schools also lack facilities, staff, and materials needed to support children with SEN, affecting IEP implementation.

Cultural Incompetence Barriers

Cultural incompetence emerged as a salient barrier that undermines caregiver trust and reduces meaningful engagement with MDT services. By "cultural incompetence" we refer to instances where service practices, communication styles, or clinical expectations fail to acknowledge or respectfully incorporate local beliefs, caregiving norms, and family priorities. Participants reported that when clinicians do not recognize cultural explanations for developmental differences, use insensitive language, or overlook customary caregiving practices, families feel misunderstood, judged, or alienated responses that discourage follow-up and adherence to recommendations. The excerpts below illustrate how cultural mismatch shapes interactions at the One Stop Centre of LUTH and limits the effectiveness of otherwise well-intended clinical efforts.

PSC-1 explained that:

"Hospital services often fail to incorporate local cultural practices, making families feel misunderstood and less willing to participate in treatment processes. Sometimes when we explain what we believe is happening with our child, the nurses look surprised and tell us that's not how doctors do things here it makes me feel like my way of caring is wrong. Once a clinician dismissed our traditional remedies in front of the whole room and my husband stopped coming for that reason; he said we were being judged. We want the clinic to listen first and then explain what medical options are, not to make us feel guilty for our beliefs. If staff showed respect for our customs and explained things in a way we understood, I think more parents would stay the course."

When asked to explain how cultural incompetence is a barrier for LSEND OT-2 had this to say:

"We often encounter families, who have different daily routines and expectations about child behaviour, but our assessments assume a Western norm and that causes friction. I remember a mother becoming defensive when I suggested sensory exercises in her culture those behaviours were seen as shyness or discipline issues, not a therapy concern. We rarely have time to explore these cultural meanings with parents, so recommendations can appear insensitive or irrelevant. Training in culturally responsive assessment and simple ways to adapt therapy to family routines would change how families accept and use our advice."

While Peads-1 contributed that:

"In consultations we sometimes use medical terms that have no direct meaning in local languages, and translators are not always available, so families interpret advice through cultural lenses that can distort it. I have seen parents leave thinking we want them to stop certain customary practices, which creates mistrust and reduces follow up. There was a case where a grandmother insisted on spiritual treatment, and because we did not respectfully discuss how hospital care could complement her practices, the family delayed returning. If clinicians were taught to ask about cultural beliefs and negotiate care plans, we could build trust and improve adherence."

Emotional and Psychological Burden on Caregivers and Children

Emotional and psychological strain emerged as a pervasive barrier that both undermines families' capacity to engage with services and diminishes the potential benefit of MDT interventions. Caregivers described sustained stress, social isolation, and chronic fatigue arising from the demands of caring, repeated clinic visits, financial pressures, and perceived judgement; children, in turn, often internalized anxiety, withdrawal, or low self-esteem that impeded participation in school and therapy. This theme captures how psychosocial burdens operate alongside structural obstacles limiting appointment adherence, reducing caregivers' ability to implement home programmes, and eroding trust in formal services. The verbatim excerpts that follow illustrate these lived experiences and show how emotional distress materially constrains access to, and continuity of, multidisciplinary care

When asked elaborate further how emotional distress has affected her child in accessing the services offered by the multidisciplinary team, PSC-2 had this to say:

"I am always tired from travelling to the hospital and missing work; sometimes I must choose between a clinic visit and buying food for my children. The appointments are many and the waiting is long, so I feel hopeless and overwhelmed. I worry my child will miss out because I simply cannot keep up with everything."

While PO-1 added that:

"Bureaucratic pressures can overwhelm families, sometimes leading to conflict or neglect, as parents struggle with complex paperwork, repeated appointments, and the financial strain of securing transport and tests."

SW-1 noted that:

Limited support groups or counselling, leaving caregivers isolated and without practical peer support or coping strategies to manage ongoing stress and caregiving demands

When asked to say how he feels with the hospital visits CSN-1 said:

"I feel tired when I come here because they make me do a lot of exercises. I cry a lot.

DISCUSSION OF THE FINDINGS

The discussion that follows interprets the study's findings based directly on accounts from MDT professionals and caregivers who interact with the One Stop Centre of LUTH by mapping barriers onto the predefined continuum of care (entry, internal navigation, intervention capacity, follow-up/referral-out, and post-visit continuity). It explains how barriers cluster and interact in the LUTH context, prioritizes participant-generated explanations and solutions, and uses selective literature only to illuminate or contrast these empirical patterns. Claims are restricted to the single-site evidence and any broader implications are presented as priorities for further evaluation

Coordination challenges

Coordination failures at the One Stop Centre of LUTH emerged as a primary, proximate barrier to coherent MDT care. Participants described coordination narrowly in operational terms shared documentation, routine multidisciplinary case discussion, consistent information exchange, and coordinated scheduling and follow up and linked deficits in these processes to concrete harms: fragmented handovers, duplicated or conflicting advice, missed opportunities for integrated planning, and delayed or incomplete follow up. For example, SW1 emphasised that "lack of collaboration negatively affects children's development," SPT2 reported teachers routinely lack medical or therapy reports needed to adapt classroom practice, and PED1 noted the absence of a structured progress tracking system across specialists. N1 further connected poor school health coordination to delayed referrals and missed early interventions. These accounts show coordination failures are not abstract; they produce predictable operational breakdowns that directly reduce the timeliness and effectiveness of MDT inputs.

The data indicate three linked mechanisms by which poor coordination undermines care. First, information gaps at handover (missing referral histories, absent therapy reports) force clinicians to repeat baseline assessments rather than build on prior findings, wasting scarce appointment time and creating inconsistent case understanding across professions. Second, the lack of routine, brief MDT case discussion means professionals do not routinely align goals or messages to families, producing conflicting guidance and eroding caregiver confidence. Third, disjointed scheduling and limited clinician overlap reduce opportunities for integrated assessment in a single visit, increasing repeat visits and financial and time costs for families. These mechanisms generate cascading effects across the continuum: entry stage problems (unclear referrals) amplify internal overload; internal fragmentation degrades intervention planning; and weak documentation undermines follow up and school based implementation.

Comparative literature from LMIC referral settings supports these mechanisms: poor interprofessional communication and absent shared records are repeatedly linked to fragmented care trajectories and increased caregiver burden (Hlongwane & Mkhize, 2019; Ngugi & Kariuki, 2021). Implementation studies also show that simple process innovations patient held summary cards, standardized referral templates, brief MDT huddles, and shared progress sheets can substantially improve internal coordination and reduce duplication even where resources are constrained (Adebayo & Kola, 2020; Ngugi & Kariuki, 2021). At the same time, the literature cautions that process fixes have limits where severe workforce shortages or persistent administrative bottlenecks persist (Jones & Reynolds, 2019); the LUTH data reflect both workable process gaps and broader capacity constraints.

Practical implications arising directly from participant evidence are therefore twofold. Immediate, low cost process interventions that address the identified coordination mechanisms are warranted: introduce a concise, standardized intake/referral form and a patient held summary; implement short, scheduled MDT huddles on clinic days to align plans and clarify caregiver instructions; and create a simple progress-tracking sheet accessible to clinicians and teachers. These steps target information flow and joint decision making without large new investments. Concurrently, LUTH should monitor the impact of process changes and assess where additional resources (more specialist hours, administrative support) are required to sustain improvements.

The findings are grounded in participant narratives and indicate clear process priorities, but administrative validation (audit of referral completeness, frequency of duplicated assessments, measures of appointment overlap) would strengthen prioritization and evaluation. Pilot implementation of the described process changes with pre/post tracking of duplicated assessments, missed follow-ups, and caregiver-reported clarity of instructions would provide pragmatic evidence of impact and help determine the resource threshold at which process fixes must be complemented by workforce expansion.

Poor referral Systems

The referral failures described by participants reveal coordination problems that begin before families reach the One Stop Centre and then propagate through internal team processes. Although referral pathways are formally distinct from internal coordination, the data show they are functionally linked: unclear intake protocols and inconsistent handovers from schools and primary clinics create unpredictable and uneven caseloads that the Centre must manage, exacerbating internal fragmentation. As N1 observed, “schools sometimes delay or misdirect referrals because they lack clear protocols or contacts, so children arrive late for assessment,” a pattern that increases urgent demand and reduces the Centre’s capacity to sequence assessments and convene MDT discussion effectively. PSC1’s report that “lengthy and unclear referral processes lead to parents being moved between departments without guidance, incurring additional costs and time burdens” illustrates how poor external-to-internal handover shifts the navigation burden onto caregivers and creates multiple, duplicative hospital contacts the MDT must reconcile. OT1’s note that “extensive paperwork and rigid diagnostic thresholds discourage families and exclude some children who require support” further shows how intake complexity filters who reaches the Centre and shapes which cases occupy scarce specialist time.

These data expose the following coordination mechanisms by which referral weaknesses undermine MDT functioning at LUTH. First, variable referral quality produces information gaps at intake (missing histories, unclear reasons for referral), forcing clinicians to repeat assessments and fragment shared case understanding. Second, unpredictable arrival patterns and poorly timed referrals complicate internal scheduling, reducing opportunities for overlapping clinician availability and multidisciplinary case review. Third, administrative complexity and exclusionary thresholds generate inequitable access and concentrate workload among families who can navigate the system, skewing team responses.

The patterns observed align with regional evidence that links weak referral systems to delayed diagnosis and greater strain on tertiary MDTs (Ngugi & Kariuki, 2021; Tafida & Umar, 2020). South African studies similarly document how poor intersectoral handovers and absent shared records create inconsistent care trajectories that frustrate families and clinicians (Hlongwane & Mkhize, 2019). At the same time, literature from implementation studies suggests that relatively simple process innovations standardized referral templates, brief MDT huddles, and patient-held summary cards can materially improve intake quality and internal coordination even in resource-constrained contexts (Adebayo & Kola, 2020; Ngugi & Kariuki, 2021). By contrast, some authors caution that interpersonal teamwork alone cannot fully compensate for systemic deficits such as severe workforce shortages or pervasive administrative complexity (Jones & Reynolds, 2019), indicating that process fixes must be paired with broader system strengthening where possible.

Practically, the empirical link between referral weakness and internal coordination at LUTH suggests interventions addressing both ends of the pathway. Data-grounded responses include introducing a standardized referral template and simple intake checklist to ensure essential information travels with each child. Also, piloting a patient-held care card summarizing key findings and recommendations to reduce repeated assessments; streamlining intake procedures with clear triage criteria to prioritize urgent cases while avoiding exclusion of needy children; and instituting brief MDT huddles on clinic days to reconcile.

Resource constraints

Resource limitations at LUTH operated as a structural brake on the One Stop Centre's capacity to deliver timely, high quality MDT care. Participants described multifaceted shortages insufficient financing, acute workforce gaps, limited therapy materials and diagnostic tools, and inadequate infrastructure that together created bottlenecks in assessment and treatment, extended waiting times, and narrowed the scope of interventions available to children. As PSY1 and PSY2 observed, "low financial investment, long waiting lists, and long travel distances mean many families…are unable to attend regularly," resulting in missed appointments and interrupted therapeutic trajectories. These descriptions align with regional analyses that identify under resourcing and concentrated specialist services as core constraints to equitable child disability care (Banda & Mweemba, 2021; WHO, 2021)

The data point to three interrelated mechanisms by which resource constraints degrade care. First, workforce shortages reduce service availability and continuity: PED1's account that specialists are unavailable on certain clinic days, and PSY1's note of only two part time child psychiatrists, explain why families must return repeatedly and why urgent or complex needs may go unmet. Second, material and diagnostic deficits limit intervention quality: OT1's explanation that therapists must improvise in the absence of equipment reduces intervention intensity and fidelity, and SPT2's report that schools lack resources further constrains implementation of school-based plans. Third, financial barriers at the household level exacerbated by long travel distances interact with service scarcity to produce inequitable access, as families with fewer resources are less able to absorb repeat visits or long waiting periods (Kamanga & Chirwa, 2020).

Comparative literature supports both the mechanisms and their impacts. Global and LMIC studies find that allied health shortages, lack of validated assessment tools, and underinvestment in rehabilitation produce long waitlists, lower service coverage, and compromised outcomes for children with developmental needs (WHO, 2021; Adebayo & Kola, 2020). Zambian studies similarly document urban concentration of specialists and transport related access barriers for provincial families (Banda & Mweemba, 2021; Phiri & Mwape, 2023). Taken together, the LUTH findings echo a broader pattern: process improvements alone have limited effect where absolute capacity constraints persist.

Despite the scale of these constraints, the data also point to pragmatic, staged responses that balance immediate feasibility with longer-term investment. Short term measures that emerged from participant accounts include scheduling strategies to maximise specialist overlap on key clinic days, simple triage protocols to prioritize urgent cases, and targeted procurement of high impact therapy items (for example, basic sensory and fine motor kits) to increase intervention fidelity. Medium term approaches include task sharing and capacity building: training non-specialist clinicians and school staff in defined assessment and intervention tasks can extend reach while specialist posts are filled (Adebayo & Kola, 2020). Long-term solutions require increased funding for allied health positions, systematic deployment of specialists to provincial hubs, and investment in culturally appropriate assessment tools and infrastructure (WHO, 2021).

Implementation of these steps should be accompanied by monitoring and evaluation. Practical indicators include reductions in average waiting time for specialist appointments, decreases in the number of repeat visits for the same assessment, uptake of task sharing competencies by non specialist staff, and caregiver reported continuity of care. Where possible, linking qualitative monitoring (caregiver and clinician feedback) with administrative metrics (waitlists, appointment attendance) will provide stronger evidence of which measures alleviate bottlenecks most effectively.

Limitations to interpretation include the study's single site qualitative design and lack of contemporaneous administrative data to quantify service capacity deficits. Nonetheless, the consistency of participant accounts with regional and global evidence strengthens confidence that targeted process changes, combined with strategic investments in workforce and equipment, can meaningfully reduce the resource driven barriers observed at LUTH.

Cultural incompetence barriers

The data show that cultural incompetence at the One Stop Centre of LUTH operates as an important barrier to engagement: when clinical practice, language, and interactional style fail to acknowledge families' cultural frameworks, caregivers feel judged or misunderstood and are less likely to follow recommendations or return for follow-up. Participant accounts describe predictable mechanisms: clinicians' use of unfamiliar medical terminology without translation, dismissal of customary remedies in public, and assessment approaches that assume normative behaviours inconsistent with local caregiving norms. These interactions erode trust, encourage avoidance (or selective attendance), and lengthen the pathway to timely intervention.

This pattern is consistent with regional evidence that culturally insensitive practice reduces acceptability of services and delays help-seeking (Kusi & Opong, 2019; Chanda & Mutombo, 2022). The LUTH data add specificity by showing how cultural mismatch plays out in routine clinic encounters how a single dismissive comment can stop a family's engagement, how assessments framed by "Western" norms can appear irrelevant, and how absent translation or negotiated care planning produces misinterpretation and mistrust. At the same time, the findings underline that cultural competence is not merely a matter of attitude but of concrete skills and processes: eliciting explanatory models, using accessible language or interpreters, negotiating complementary roles for cultural/faith practices, and adapting interventions to family routines.

Practical implications flowing directly from the data are pragmatic and low-cost. Training staff in culturally responsive communication and brief elicitation techniques (asking caregivers about explanatory models and caregiving routines) would create immediate improvements in rapport and adherence. Ensuring routine use of simple translation supports (trained interpreters, bilingual staff, or locally validated patient information sheets) and promoting clinician behaviours that respectfully acknowledge families' perspectives (for example, asking about traditional remedies and discussing how biomedical and traditional approaches might be reconciled) would reduce alienation. Integrating culturally appropriate care planning such as collaboratively produced, simple written plans that reflect family routines and values would help families implement recommendations at home and in school.

Policy and system responses should also be considered: embedding cultural competence training into orientation and continuing professional development, allocating brief appointment time for care negotiation, and piloting community liaison roles (e.g., respected community or faith leaders trained as health navigators) to bridge the clinic–community divide. Evidence from similar LMIC initiatives suggests that community engagement and respectful negotiation with traditional healers or community leaders can increase uptake and continuity of care (Adebayo & Kola, 2020).

While qualitative accounts strongly indicate cultural mismatch affects engagement, the study did not measure the prevalence of these experiences or test specific interventions. Implementation pilots training staff in brief cultural elicitation, providing translated materials, introducing negotiated care plans and subsequent evaluation (caregiver retention, follow-up rates, caregiver satisfaction) would provide pragmatic evidence of what works in this context.

Emotional and psychological burden

Emotional and psychological strain emerged from participants' accounts as a pervasive barrier that both limits families' capacity to engage with MDT services and reduces the effective impact of those services when accessed. Caregivers described chronic fatigue, financial-driven trade-offs, and feelings of hopelessness that undermine appointment adherence and the implementation of home programmes. Children's accounts and clinician reports indicate parallel effects: anxiety, withdrawal, and emotional exhaustion that reduce participation in therapy and school activities. These lived experiences show that psychosocial burdens operate in tandem with structural constraints (distance, cost, scheduling) to produce multidimensional disengagement from care.

Mechanisms linking psychosocial strain to service breakdown are evident in the data. PSC2's account choosing between clinic visits and basic household needs illustrates how economic stress converts logistical barriers into psychological ones (despair, helplessness), which in turn reduce motivation to sustain repeated visits. PO1's description of bureaucratic pressures creating conflict or neglect points to administrative processes as a proximal stressor that amplifies caregiver overload. SW1's observation about the absence of support groups signals the loss of buffering social capital: without peer networks or counselling, caregivers lack practical coping strategies and emotional reassurance, making them more vulnerable to discontinuing services. The child's statement of fatigue and crying (CSN1) demonstrates how these household stresses translate into reduced engagement and poorer child wellbeing outcomes that further complicate clinical work.

These findings align with regional literature showing that caregiver stress, stigma and socioeconomic hardship are central determinants of continuity in child disability services (Kusi & Opong, 2019; Phiri & Mwape, 2023). They extend that literature by illustrating specific pathways at LUTH: repeated, costly visits plus complex administrative procedures erode caregivers' psychological reserves and reduce the feasibility of home-based follow-through. The data also corroborate evidence that psychosocial supports peer groups, brief counselling, and caseworker follow-up—can improve retention and adherence when combined with pragmatic service changes (Mphahlele & Maseko, 2020).

Practical implications are therefore twofold: (1) reduce the burden drivers (logistical and administrative) and (2) provide psychosocial buffering supports. Reducing burden drivers could include synchronizing appointments to minimize repeat travel, simplifying intake paperwork, offering basic transport stipends for the most remote families, and implementing SMS reminders to reduce missed appointments. Psychosocial buffering can be achieved with low-cost, high-impact interventions: establishing caregiver support groups (peer-led or facilitated by social workers), offering short problem-focused counselling sessions during clinic hours, and training MDT members in brief supportive communication techniques that validate caregiver experience and reduce feelings of blame or shame.

Implementation of these approaches should be incremental and monitored. Pilot interventions might include a weekly caregiver support meeting plus a small transport voucher scheme targeted by need; outcomes to monitor would be appointment adherence, caregiver-reported stress (brief validated scales), and child attendance/engagement. Embedding social work follow-up calls for newly enrolled families could also provide early detection of emerging strain and allow prompt practical support (referral, appointment rescheduling, material assistance).

These qualitative findings provide depth of understanding but not prevalence estimates; the study did not deploy standardized psychosocial instruments or administrative metrics to quantify the burden's scope. Future mixed-methods work should combine qualitative insights with caregiver stress scales, appointment and attendance data, and pilot evaluation metrics to assess which interventions most effectively reduce psychosocial barriers in this context.

The emotional and psychological burden borne by caregivers and children constitutes a critical, actionable barrier to sustained MDT engagement at LUTH. Addressing it requires both service redesign to lessen logistical and administrative load and explicit psychosocial supports to strengthen caregivers' capacity to persist with recommended care. Both types of intervention are feasible at modest cost and if rigorously piloted and evaluated have the potential to increase continuity of care and improve child outcomes

From the vantage point of the researcher, the study illuminates a coherent pattern in which procedural and relational breakdowns rather than a single dominant factor collectively constrain the One Stop Centre's capacity to deliver continuous, high-quality MDT care. Coordination deficits, ineffective referral pathways, resource shortfalls, cultural mismatches, and psychosocial burdens interact in predictable ways: failures at entry amplify internal overload; internal fragmentation reduces intervention fidelity; and economic and emotional strains erode follow-up. This systems view suggests that no single fix will suffice; progress requires coordinated, staged improvements that address both processes and capacity.

Practically, the most actionable immediate priorities are process-oriented: standardize intake and referral documentation, introduce a simple patient-held summary/care card, pilot brief MDT huddles on clinic days, and implement basic appointment coordination and reminder systems. These measures are low cost, directly responsive to participant-identified problems, and likely to yield rapid improvements in information flow and caregiver experience. In parallel, targeted investments in workforce scheduling, procurement of a small set of high-impact therapy materials, and training in culturally responsive communication and brief psychosocial support will be necessary to sustain gains and expand reach.

The researcher also notes important trade-offs and limits. Process innovations can reduce waste and improve family experience but will not fully substitute for adequate specialist capacity where caseloads exceed realistic service availability. Similarly, cultural competence training and caregiver supports can rebuild trust but require institutional commitment and ongoing supervision to be effective. Implementation therefore should proceed through iterative pilots with embedded monitoring—combining qualitative feedback and simple administrative indicators (wait times, missed follow-ups, duplicated assessments) to refine approaches and document impact.

Finally, while this single-site qualitative study offers grounded, context-specific guidance for LUTH, it is not a substitute for broader systems planning. The findings can inform local pilots and contribute to provincial policy discussion, but scaling successful interventions will require alignment with national workforce strategies, financing mechanisms, and intersectoral protocols. Future research should combine administrative data, implementation evaluation, and cost-effectiveness assessment to support evidence-based decisions about which process and capacity investments offer the greatest returns for children with LSEND and their families

CONCLUSION

This study examined barriers to accessing multidisciplinary team (MDT) services for learners with special educational needs and disabilities (LSEND) at the One Stop Centre of Livingstone University Teaching Hospital (LUTH), using a continuum-of-care framework (entry, internal navigation, intervention capacity, follow-up/referral-out, post-visit continuity). Participant accounts from caregivers and MDT professionals identified interrelated barriers: ineffective referral pathways and poor intake processes; weak internal coordination (absent shared records, irregular MDT case review, disjointed scheduling); constrained intervention capacity (workforce shortages, limited equipment, inadequate assessment tools); weak follow-up and referral-out systems; and post-visit challenges driven by transport costs, stigma, and caregivers' emotional burden. Cultural incompetence and communication gaps further eroded trust and reduced adherence to recommended plans.

These barriers interact and cascade across the continuum: entry failures increase internal overload, resource constraints lengthen waiting times and reduce intervention fidelity, and psychosocial and economic pressures undermine follow-up and sustained engagement. Importantly, participants proposed pragmatic, largely low-cost solutions standardised referral templates and intake checklists, patient-held summary cards, brief scheduled MDT huddles, simple progress-tracking sheets, targeted task-sharing and communication/cultural-responsiveness training, and modest transport or scheduling supports which directly map to identified gaps.

We recommend LUTH prioritize process improvements that can be piloted rapidly (referral template, care card, MDT huddles, appointment coordination), paired with targeted capacity actions (task-sharing training, procurement of essential therapy kits) and psychosocial supports (caregiver groups, brief counselling). Implementation should include simple administrative monitoring (waiting times, duplicated assessments, and follow-up rates) and qualitative feedback to iteratively refine interventions. Longer-term solutions require alignment with provincial and national workforce, financing, and intersectoral referral protocols.

Limitations of this single-site qualitative study small purposive sample, child voices obtained only with parental presence, and absence of administrative audit data mean findings are context-specific and hypothesis-generating rather than universally generalizable. Nonetheless, the consistency of accounts and alignment with regional evidence support the relevance of the proposed pragmatic measures for similar LMIC referral settings.

In sum, the LUTH One Stop Centre demonstrates promising structural potential for integrated MDT care, but realizing that potential depends on strengthening concrete process elements, modest investments in capacity, and culturally responsive engagement with families. Pilot-tested, data-driven process reforms offer an immediate, feasible pathway to improve access and continuity for LSEND at LUTH

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