# Barriers and Facilitators to Accessing Healthcare Among Rural Areas in Saudi Arabia from Rural Women and Healthcare Providers Perspectives: A Scoping Review

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Background: Global evidence highlighted 50% of rural population worldwide have limited access healthcare due to barriers they faced in access healthcare services.Despite the Saudi health ministry's efforts to reduce health disparities, rural regions in Saudi Arabia (SA) still faced challenges to access healthcare and being a woman living in a rural area increased these barriers.

Methods: Scoping reviews (SR) are used to map health access disparities among rural women dwellers and identify healthcare provider (HCP) experience. This SR was conducted using the 6-stage Arksey and O'Malley framework. The scoping review include published peer-reviewed articles retrieved from electronic databases: (e.gMEDLINE/CINAHL..).The review included studies of rural women aged 18 years or more and health care providers working in rural areas. CINAHL/PubMed Mesh subject headings feature used to determine the accurate meaning of research terms. PRISMA flow diagram shows the study selection process.
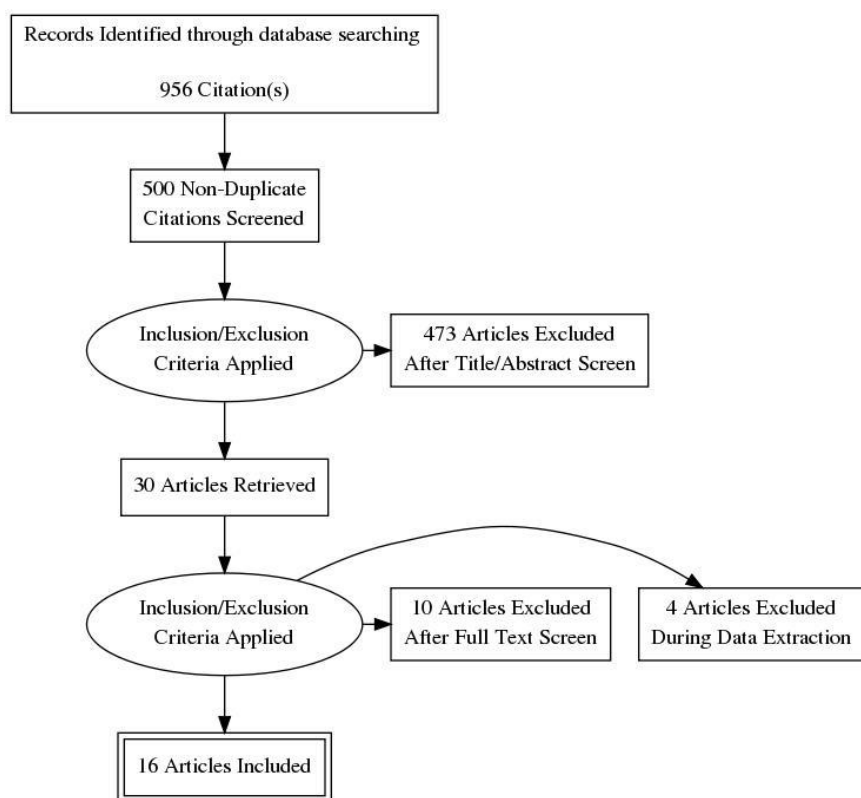
Results: 956 articles retrieved and after removing duplicates 500 were screened. 473 articles were excluded and three studies added from reference list. 30 articles thoroughly screened and 10 were excluded. After charting 20 studies ,4 excluded. All excluded studies did not meet the inclusion criteria. 16 articles are selected.Barriers divided into themes categorized based on Levesque framework of access to healthcare including: demographic location, personal characteristics, culture and social values, physician workforce, patient-provider communication, and limited specialist services. HCP found education level of rural residents and the limitation of resources for their continuous education as barriers.

Implications: The findings of this SR identified what remains neglected. Studies do not entirely capture the health access barriers and facilitators. A Study needed to contribute to this growing area of research with current social transformation and female lives in SA and how this complex shifting shapes women's health in the future.

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Designing A National Approach to Phone First Emergency Care in Wales (The Welsh Access Model)

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Background: Operational responses to Covid-19 are multiple, but among the most striking is the shift towards phone first emergency departments and the emphasis placed on pre-hospital streaming. Wales, like the rest of the UK and beyond, has seen a proliferation of Phone First services. Most Welsh health boards use 111, but this service is not yet available across the whole of Wales and, while these quickly initiated changes were necessary, there are concerns that they may lead to further fracturing of health care services in Wales.

Methods: The Emergency Department Quality and Delivery Framework is a national, clinically-led programme that aims towards a unified approach, with room for local variation. Building upon their work to date and engagement with front-line staff across Wales, the EDQDF programme have produced a blueprint for phone first care and streaming, known as the Welsh Access Model. The model is in continued development and is a work-in-progress based upon evaluation of the various emerging phone first services in Wales – the Welsh Access Model is adapted according to what is found to work well in Wales, front-line staff perspectives, and research and guidance produced outside of the Welsh context.

Results and Implications: This five-minute presentation describes the origins of the model, its primary features, continuing development, and the impact it's had across Wales.

Phone First Emergency Care: Identifying Phone First Services in Wales And Exploring Variation

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Background: Across Wales there is considerable variation in terms of emergency care access and services – for example, 111 is available in five of seven health boards areas. While these differences are known, there has been little work to explore and tease out these differences to truly understand the idiosyncrasies with regard to these accessing emergency services in Wales.

Methods: As part of an ongoing project to design an Emergency Department Quality and Delivery Framework, a questionnaire was completed by representatives from emergency care across Wales to identify what services are available where.

Results/ Implications: This twelve-minute presentation shares the results of exploratory activities designed to identify and understand these differences. The presentation not only highlights the variation, it also addresses some of the implicit challenges to linking services, geographical integration, and delivering equality of care. This work was used to inform the continuing development of a national model of care, the description of which is proposed as a separate five-minute presentation.

Patient Journey from Symptom To Diagnosis Of Chronic Obstructive Pulmonary Disease (COPD): A Descriptive Study

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Background: Chronic obstructive pulmonary disease (COPD) affects nearly 400 million worldwide and is the fourth leading cause of death. Affecting over a million people in the UK, it accounts for 30,000 deaths each year and puts the UK among the top 20 countries for COPD mortality worldwide. Numbers of people living with the disease are rising every year. However, there is limited understanding of what prompts a diagnosis, how long this takes from symptom onset, and the different approaches to clinical management taken by primary care professionals. Our aim was to describe the patient journey from their first symptom presentation to diagnosis.

Methods: We used the Clinical Practice Research Datalink (CPRD) which contains patient-level records from a sample of general practices across the UK. Only records from English practices with linkage to secondary care datasets (including A&E attendances, outpatient appointments and inpatient stays) and national death registry were used. We included patients who had COPD, defining their diagnosis date as their first ever recorded COPD code in primary or secondary care, within two periods: Apr 2005 – Mar 2007 (Cohort 1) and Apr 2015 – Mar 2017 (Cohort 2). A descriptive analysis was carried out of patient characteristics and clinical investigations/referrals patients received before their diagnosis of COPD.

Results: We identified 37,483 patients with incident COPD; 57.6% of these patients were from Cohort 2. For 12,445 (33.2%) patients, the diagnosis was first recorded in primary care (58.5% in Cohort 1 vs 14.8% in Cohort 2). Before their first COPD record, 69.0% of patients had a primary care consultation with at least one NICE-listed symptoms recorded (76.9% in Cohort 1 vs 63.1% in Cohort 2). Almost 52% were male, nearly half aged 70 or older, and 8 in 10 had at least one comorbidity. This was similar in both study periods. Over two-thirds of patients in Cohort 1 were smokers or ex-smokers (67.2%). In Cohort 2 this accounted only for 27.1% though two-thirds of patients did not have any smoking status record within two-year period prior their COPD diagnosis. A lower proportion of patients in Cohort 2 compared with Cohort 1 received spirometry (16.2% vs 20.2%), chest radiography (35.1% vs 38.5%), full blood count (41.9% vs 53.0%) and peak flow (24.4% vs 36.0%). However, additional investigations related to heart failure (HF) and referrals to respiratory/COPD team were higher in Cohort 2: echocardiogram was performed for 9.7% of patients in Cohort 2 compared with 7.9% in Cohort 1, serum B-type natriuretic peptide (BNP) 5.2% vs 0.8%, HF referrals 16.8% vs 1.0% and respiratory/COPD specialist referrals 3.5% vs 0.8%. Patients who received their diagnosis in primary care (GP-diagnosed) were more likely to receive spirometry (31.0% vs 11.3%), chest radiography (44.8% vs 32.4%) and peak flow (41.8% vs 23.0%) than patients who received it in secondary care (hospital-diagnosed). However, hospital-diagnosed patients more often received referrals for HF (14.9% vs 11.6%). Other clinical investigations and referrals were similar between groups.

Implications: The proportion of patients receiving their first COPD diagnosis in hospital doubled over the time. We observed differences in the proportions of patients receiving clinical investigations/referral not only between the two study periods, but also between where their diagnosis was made. Specifically, more of those who had appropriate initial investigations in primary care had their diagnosis made in this setting. Further work is needed to identify the best ways to support primary care clinicians in appropriate identification and early management of individuals with COPD.

Are The Most Vulnerable Mothers in England Being Targeted for Additional Support During Pregnancy? An Analysis Using Linked Administrative Data

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Background. Proportionate universalism ensures the provision of a universal service, as well as more intensive services to those with higher need. The Family Nurse Partnership (FNP) is an intensive home visiting programme for first-time teenage mothers in England, but resources are insufficient to offer support to all those eligible. We evaluated variation in the percentage of eligible mothers enrolled across local authorities (LAs), and in the characteristics of young mothers enrolled in FNP compared to those not enrolled. Sharing of information across the service on whether first-time teenage mothers with highest levels of vulnerability – as recorded in hospital records – were most likely to receive FNP support, could be used to improve targeting to those most in need .

Methods. Data from the FNP Information System were linked to Hospital Episode Statistics (HES), to construct a cohort of first-time teenage mothers giving birth between April 2010 and March 2017, aged 13-19 at last menstrual period. We calculated the percentage of FNP participants among eligible mothers in LAs implementing the FNP, and examined predictors of enrolment routinely captured in hospital inpatient data (including age, ethnicity, area-level deprivation quintile, and history of mental health and adversity-related hospital admissions) using multi-level logistic regression models of women nested within FNP sites. We repeated the analysis stratified by high- and low-enrolment sites, and by region, to identify variation in enrolment across England and according to capacity.

Results. Across 122 FNP sites active between 2010 and 2017, 23% of 115,925 eligible teenage mothers were enrolled in the FNP. One quarter of sites (n=29) had enrolment rates up to 21% (low-enrolment sites), and one quarter (n=31) had enrolment rates above 36% (high-enrolment sites). Similar proportions of mothers were white (85% of FNP mothers vs. 84% of all eligible mothers) and living in the most deprived quintile (50% of FNP mothers vs. 49% of all eligible mothers), while FNP mothers were slightly younger than all eligible mothers (50% of FNP mothers were aged 18-19 vs. 55% of all eligible mothers).

Younger mothers aged 13-15 were successfully targeted for enrolment in the FNP, with 51% of eligible mothers enrolled and 4.4 times higher odds of enrolment than those aged 18-19 (95% CI: 4.0-4.8). However, teenage mothers living in the most deprived quintile had only slightly higher odds of enrolment (OR=1.3 [95% CI: 1.2-1.3]) compared to least deprived quintile; enrolment rates were around 21%-23% in all quintiles of deprivation. Only 38% of teenage mothers with recent mental health or adversity-related admissions were enrolled. Higher enrolment of younger and more deprived mothers was more pronounced in FNP sites with low enrolment rates (≤21%). London showed different patterns of enrolment, with higher odds of enrolment in the least deprived quintile and among Black mothers.

Implications. Our results suggest that although the FNP has successfully been targeted at younger pregnant teenagers, the characteristics of those enrolled vary across England, and many mothers with other markers of vulnerability are being missed. This may be partly explained by strict caseload limits per site, or midwives and GPs referring based on vulnerability criteria not recorded in administrative inpatient data. Improved data sharing between services could help improve targeting of scarce resources to those most in need.

Factors Explaining Variation in Recommended Care Pathways Following Hospital-Presenting Self-Harm: A Multilevel National Registry Study

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Background: Patients who present to hospital as a result of self-harm are one of the groups at highest risk of suicide. National clinical guidelines and quality standards for the management of self-harm in adults outline standard aspects of short-term care, including the provision of a comprehensive assessment of an individual's psychosocial needs and mental health status. Despite this, there are considerable variations in the management of this group across hospitals and the factors influencing such variations are not well understood. The aim of this study was to identify the specific hospital and individual factors associated with care pathways following hospital-presenting self-harm.

Method: Data on presentations to general hospital emergency departments those aged 18 years and over were obtained from the National Self-Harm Registry Ireland, for 2017 and 2018. Factors associated with four common outcomes following self-harm (self-discharge, medical and psychiatric admission and psychosocial assessment before discharge) were examined using multilevel Poisson regression models. Individual-level factors examined included sociodemographic factors and clinical factors related to the self-harm presentation. Hospital factors included resources, structure of service provision and availability of specialist mental health staff.

Results: Between January 2017 and December 2018, a total of 14,555 hospital presentations were recorded, the majority involving an intentional drug overdose (56.8%). In total, 12.1% of presentations resulted in the patient leaving the emergency department before a next care recommendation could be made (self-discharge). Of the remaining presentations, more than one-third (36.0%) were admitted into the presenting hospital. For more than a quarter (27.6%), the individual was admitted to a medical ward, while 8.4% were admitted to a psychiatric ward. The majority of presentations not resulting in self-discharge were subsequently discharged from the emergency department following treatment (64.0%), with 82.9% of these receiving a psychosocial assessment prior to discharge. Care pathways following self-harm varied across hospitals and were influenced by both hospital and individual factors. Individual factors were primarily associated with self-discharge (including male gender, younger age and alcohol involvement), medical admission (older age, drug overdose as a sole method and ambulance presentations) and psychiatric admission (male gender, methods associated with greater lethality and older age). The hospital admission rate for self-harm was the only factor associated with all outcomes examined. The availability of psychiatric inpatient facilities and specialist mental health staff contributed to variation in psychiatric admissions and psychosocial assessments prior to discharge. Hospital factors explained the majority of observed variation in the provision of psychosocial assessments.

Implications: Characteristics of the presenting hospital and hospital admission rates influence the recommended care pathways following self-harm and provision of onsite mental health facilities and specialist mental health staff impact strongly on psychiatric care of these patients. Mental health-related presentations represent a small but high-risk proportion of all hospital presentations, and should be considered in the allocation of hospital resources. Appropriate management of self-harm presentations to hospital requires a co-ordinated response, to both the psychological and physical needs of the individuals. Our findings demonstrate that the variation of care pathways following self-harm across hospitals is largely driven by the resources and policies existing in the individual hospitals. The integration of mental health services in acute settings – including onsite psychiatric facilities and dedicated mental health staff – improves psychiatric care, indicating that the further integration of acute mental health protocols and resources is warranted.

Enabling Older People with Mental Health Problems to Engage with Community Social Care: A Scoping Review

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Background: Despite apparent need, many older people with mental health problems and/or cognitive impairment do not fully engage with social care. This can manifest in different ways, including passive or aggressive attempts to avoid or repel care workers. However, little is known about how to support such individuals in their own homes and deliver effective care.

Method: Against this background, we undertook a scoping review with a view to developing a preliminary theory of change suggesting how care might be modified to engage this client group. The review was conducted in 2019/20. Papers were included if they i) focused on older people (65+) with social care needs; and ii) described difficulties/problems with the provision/receipt of social care associated with individuals' mental health problems.

Results: Eighteen citations were identified through electronic database searches and reference screening and the results were charted according to key theory of change concepts (Long- term outcomes, assumptions, interventions, preconditions & rationale). All the included papers related to people with dementia. Four subgroups of papers were identified. The first highlight those external conditions that make it more likely an intervention will be successful; the second describe specific interventions to engage older people who by virtue of their mental health problems have not engaged with social care; the third explore what services can do to increase service uptake by older people with mental health problems and their caregivers more generally; and the fourth details theoretical approaches to explaining the behaviour of people with dementia.

Implications: This study identified aspects of support for individuals that can be utilised to encourage the effective delivery of care to individuals with mental health needs who are not engaging well with available services. These aspects could be used to inform service delivery and the development of interventions to improve engagement with health and social care for these individuals.

999 Emergency Ambulance Response During COVID 19 Pandemic First Wave: What Triage Models Were Used?

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Background: During the current pandemic in the UK ambulance services have been the frontline responders to many callers with symptoms that may have indicated COVID-19 infection. Callers needed to be sorted or triaged to allocate scarce resources (vehicles and clinical staff) to respond to their needs, and again on scene, to decide whether patients should be conveyed to hospital or left at home. Undertriage could result in leaving patients unattended, or left at home in a serious or life threatening condition; overtriage could result in putting Emergency Departments under undue pressure and exposing patients to unnecessary risk of infection. As COVID-19 is a new virus, without an existing evidence base to guide decision making, ambulance services have needed to implement protocols and processes to manage patients individually and at a population level.

Objective: To describe triage models used by emergency ambulance services during the first wave of the COVID-19 pandemic in the UK ("TRIM" phase 1).

Methods: Survey of ambulance services (n = 13); semi-structured questionnaires emailed to Chief Executives, copied to research leads with follow up by telephone. Ambulance services are coded 1 - 12 in results.

Results: We received completed questionnaires from 12 services.

Triage models varied between services and over time although there were some commonalities: two primary call triage systems were used across the UK (AMPDS and NHS Pathways) and all services offered clinical support for decision making (paramedics, nurses, advanced/specialist paramedics, GPs/other medical staff) in the call centre and/or on scene. Several products were used for secondary triage of lower acuity calls, including Lowcode, NHS Pathways, Manchester Triage System; Telephone Advice System Odyssey.

Although all services used nationally agreed protocols e.g. AMPDS "Card 36", several made local changes:

- AS1 upgraded some call categories e.g. 'ineffective breathing' to a higher urgency response
- AS3 added questions about travel and symptoms to identify COVID-19 risk
- AS5 offered a higher response priority to STEMI patients
- AS6 introduced new all call surveillance question: "have you or the patient had a high temperature or new continuous cough in the last 14 days?"

Ambulance services and telephone advice helplines such as NHS 111/24 worked together and passed calls between services in order to try to meet demand and respond appropriately.

During the study period frequent changes to the triage process took place, in response to external guidance or local preferences.

Conclusions: During a period of unprecedented call volumes, triage models varied widely between UK emergency ambulance services and over time. We urgently need to understand safety and effectiveness of triage models in order to inform care during further waves of this and future pandemics. Phase two of the TRIM study will anonymously link patients at individual level to track processes and outcomes for patients coded and diagnosed with COVID-19.

Development And Evaluation of a Novel Caregiver-Report Tool For Assessing Barriers To Care For People On The Autism Spectrum

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Background: People on the autism spectrum often experience poorer health outcomes and higher mortality rates than the general population despite higher engagement with the health services. This suggests a disparity in the accessibility of appropriate healthcare for autistic* individuals. To improve access, barriers the autism community experience in healthcare first need to be identified. As caregivers are often asked to report on behalf of autistic individuals due to factors such as age, or reduced ability to self-report, it is essential that caregiver report-tools are designed to assess barriers that are important to autistic individuals. This paper aimed to: 1) develop and evaluate a novel caregiver-report tool; 2) identify barriers to physical healthcare for autistic individuals; and 3) identify factors which may be associated with those barriers.

Methods: A previously established taxonomy of barriers to healthcare for autistic individuals, which was informed by extant research involving autistic individual, caregivers and healthcare providers (HCPs), guided the development of the tool; this was then distributed to caregivers of autistic adults and children. Participants were asked to rate the frequency and the severity with which they experienced the individual barriers. Exploratory factor analysis (EFA) assessed construct validity and internal consistency of the tool. Multiple Regressions were performed to assess whether the autistic individual's age, gender, health status, autism severity, unmet healthcare needs, frequency of contact with the health services, and co-occurring psychopathology (i.e., Depression, Anxiety, Obsessive Compulsive Disorder, general adjustment problems) were associated with the frequency and/or severity of barriers.

Results: In total, 194 caregivers participated in the study, 145 of whom were mothers of the autistic individual. The EFA produced four factors: 1) patient-related barriers (Cronbach's alpha =0.89); 2) healthcare provider-related (HCP) barriers (Cronbach's alpha=0.88); 3) healthcare system-related barriers (Cronbach's alpha = 0.87); and 4) barriers related to managing healthcare (Cronbach's alpha =0.75). This four factor solution explained 50.82% of the variance. The greatest barriers included difficulties with identifying/reporting symptoms (endorsed by 62.4% of participants); difficulties handling the waiting area (60.3% of participants); and a lack of HCP knowledge regarding autism (52.1% of participants). Autism severity, general adjustment problems, anxiety, age and having unmet healthcare needs were associated with the frequency and/or severity of barriers.

Implications: A measurement tool that allows assessment of patient-, HCP-, and system-related barriers to healthcare, was developed and evaluated. Although further validation work is required, this tool has a number of implications for future research and practice. It is hoped that the tool may facilitate conversations between HCPs and families regarding barriers experienced in specific healthcare settings and accommodations required to improve access and experiences in healthcare. The tool may also provide a useful means of assessing differences in barriers experienced by different subgroups of the autism community; for example, to assess whether individuals who have co-occurring conditions experience different barriers to individuals who do not; or whether barriers are experienced differently depending on levels of daily living abilities. Future research should examine whether adaptations are required to better represent the various subgroups. Finally, it is hoped that this tool will help to identify areas most in need of intervention with regards to improving access to care, and support intervention evaluation.

*Use of identity-first language: Many autistic individuals and their supporters have indicated a preference for the use of identity-first language (i.e., autistic person) as opposed to person first language (i.e., person with autism).