Fact sheet

Commission for
Rural Communities
Tackling rural disadvantage

Distance Decay

This fact sheet highlights the complexities of distance decay which can lead to late detection of ill health and poorer health outcomes for rural patients. Solutions involve tackling physical and social-cultural barriers to access for particular target groups. This includes improved transport schemes that are integrated with health services[1], specialist training[2], skilled staff with access to continual professional development [25, 26] and sensitivity in tackling stigma around accessing particular services.

Distance decay defined

Distance decay is 'where there is a decreasing rate of service use with increasing distance from the source of health care'[3]. Studies have shown that the closer the service the more likely it will be used [4]. Rural and remote populations are therefore affected by distance decay [5]. Distance decay is a reflection of utilisation rates which can not be taken as a direct proxy for health care need. Distance decay is a cause for concern since it leads to delayed intervention and treatment and hence poorer health outcomes become more likely [6 7].

The causes of distance decay

Researchers have focused on barriers to access as the main reason for distance decay. Barriers to access can be divided into physical and socio-cultural barriers. Women with young children, older people, those with a low social class, farmers[1], ethnic minorities and the disabled [8] are most likely to face barriers to access and suffer the consequences of distance decay.

The consequences of distance decay

Evidence exists to suggest that in rural areas:

- mortality rates for asthma and cancer are worse than in urban areas [9,10],
- cancer is diagnosed at a later stage [5]
- intervention rates for coronary heart disease are lower, especially for women aged over 65 years[11].
- Breast screening uptake is lower especially for those in low socioeconomic groups[12].
- Advanced diabetic retinopathy is higher[15].

Conversely distance can also have the opposite impact on utilisation of services, for example in Scotland, women found to have mild hypertension in pregnancy have been admitted unnecessarily to hospital as a precaution [13].

Physical barriers to access

Increasing centralisation and distance - Specialist treatment is being increasingly centralised[14], consequently travel times can be lengthy. In south Wales an average journey from rural areas to treatment is 71 minutes[15]. In Scotland the longest journey found in one study was 7.5 hours one-way to receive radiotherapy. [16]

Transport – In addition to distance, poor transport networks mean that those who do not have private transport are less likely to access services [3]. Public transport in rural areas can be infrequent and are often at inconvenient times for attending set appointments and making return journeys. Free social services transport is rare in rural areas because of the expense [17] and in some areas there is concern about reliance on voluntary transport schemes because they may not be sustainable [3]. Consequently the use of private transport to access healthcare services is very high in rural areas : one study found 95% of patients use private transport (either through lifts or own car) to attend and for 75% of these people, travel time is no more than 30 minutes [6].

Socio-cultural barriers to access

Stigma, self-reliance and stoicism – Distance and difficulty with access have led to a culture of self reliance, stoicism and a reluctance to consult healthcare services generally[8 10]. The fear of stigmatisation in small rural communities is also a barrier to accessing health services. This is particularly true for the elderly, young people and the farming community, and in particular with regard to mental health services. A preference to consult a particular doctor can result in further delay[18].

Awareness, knowledge and appropriateness of services - [8,10]. Distance contributes to a lack of awareness of available services of all types including screening and preventative healthcare, resulting in low levels of take-up. Poor recognition and articulation of emotional and mental health needs can also act as barriers to accessing mental healthcare and support services.[3 12].

Suggested solutions to address distance decay

Solutions to tackling distance decay focus on tackling barriers to access:

Co-location of services

Co-location means that services are able to share infrastructure costs [19] and potentially bring economies of scale to services in rural areas allowing services to be delivered more locally. 'One-stop-shops' are an approach that can also help tackle stigma associated with being seen attending a confidential appointment since there are many reasons why individuals might visit a 'one-stop-shop' for example health and social care, education, family support, benefit and financial advice [20].

Outreach clinics and community hospitals

Outreach clinics have been used to treat cancer [21] [22] and deliver renal care[23], where there is a shared approach with specialists and local practitioners. These clinics can be provided in community hospitals which also offer interim care[22]. Patients enjoy local treatment and less travel[24], and prefer community hospital treatment to larger hospitals [22] because they know the staff and there is a friendly atmosphere.

Tele-medicine and NHS direct

Technical advances have improved access. Telemedicine patients have been shown to be satisfied, appreciating early appointment times, no waiting-list or travelling[1], thus saving time and financial resources for the patient. However tele-medicine can be costly to set up and run. A study looking at delivering cancer treatment in one rural area found that once set up costs of tele-medicine had been eliminated costs were still double per person compared to a traditional clinic [20]. For NHS Direct one study found a third of rural residents used it, and preferred it to visiting a surgery when they had minor ailments, however few elderly people had engaged with the service [22].

GPs carrying out emergency work

One study reported that the more remote an area the more likely GPs are to carry out emergency work, and often arrive at road traffic accidents before ambulances[25]. The new GMS contract also creates more flexibility to commission services more locally.

Mobile clinics

Mobile clinics have been used for mothers and babies in Wales[24] and for breast screening [2] and have been shown to increase access from locations where utilisation rates have been low. However it can be costly, and if introduced needs to be done across a district [24].

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