



New online learning opportunity

Visit diabetesonthenet.com/cpd to gain a certificate of continuing professional development for participating in this module.

See page 211

Citation: Gilani A (2014) The challenges of managing diabetes in hard-to-reach groups. *Diabetes & Primary Care* 16: 206–11

Learning objectives

After reading this article, the participant should be able to:

1. Give examples of a range of hard-to-reach groups, in which diabetes care may be sub-optimal.
2. Describe barriers to healthcare faced by different hard-to-reach groups.
3. Explain potential links between the inequalities faced and diabetes outcomes.

Key words

- Hard-to-reach groups
- Inequalities
- Quality of care

Authors

Alia Gilani is a Health Inequalities Pharmacist, Glasgow.

The challenges of managing diabetes in hard-to-reach groups

Alia Gilani

We are in the midst of a global diabetes epidemic that is multi-faceted in its impact. This includes effects on population health, the economy and healthcare services. The management of diabetes is becoming increasingly challenging. The numbers of people to treat is rising and there are many pressures in primary care to achieve targets, not least because annual reviews are expected to be delivered in the same format for all. Population trends indicate that diversity is increasing, and this may mean that there will be widening gaps in the health needs for different groups, leading to further challenges for healthcare providers. Meeting the challenges of managing diabetes in hard-to-reach groups is a significant part of this, and this article explores a range of groups, highlighting the difficulties in engagement and the different needs that exist in each.

Hard-to-reach groups can be defined as those who are underserved, service resistant or “slipping through the net” (Doherty et al, 2004). Marginalised groups tend to experience more significant inequalities than the general population, and it is thus of great importance for the NHS and Government to have strategies to tackle this. Often, such groups receive the least healthcare. This was eloquently described by Julian Tudor Hart as the inverse care law: “The availability of good medical care tends to vary inversely with the need for the population served.” Targeting inequalities may require the adoption of novel ways of working and thinking “outside the box”.

Engagement with hard-to-reach groups is essential as one of the determinants of population health is access to healthcare (Bambra et al, 2010). Hard-to-reach groups include: minority ethnic groups (South Asians are presented as an example in this article), those with mental illness, travelling communities, people in

prisons and young-offender institutions, and the homeless. It is difficult to get an accurate estimation of the number of individuals who are in hard-to-reach groups, not least because of poor engagement with services.

South Asians in the UK

The driving force behind migration is multi-factorial, with elements including conflicts, political changes and the desire to seek a better life. The post-World War II economic boom led to a significant influx of migrants into the UK, and in other European countries, with people from former colonies recruited for labour. One of the most important groups for the UK were people from South Asia – Bangladesh, India, Pakistan and Sri Lanka – many of whom arrived between the early 1960s and the late 1970s (Nazroo and Williams, 2006). Many family members followed. In addition, there have been at least two generations of South Asians born in the UK in the last 50 years.

Supported by a grant from Boehringer Ingelheim and Eli Lilly and Company. These modules were conceived and are delivered by the Primary Care Diabetes Society in association with Diabetes & Primary Care. Boehringer Ingelheim and Eli Lilly and Company had no input into the modules and are not responsible for their content.

With regard to diabetes, there are known to be ethnic inequalities in individuals from South Asia, a relationship that was established back in the 1980s. The Southall study highlighted the higher prevalence of diabetes among people of South Asian origin in an area of west London, compared with those with a European background (Mather and Keen, 1985). This pattern has continued. Recent research has emerged showing current prevalence rates of type 2 diabetes in the UK of South Asians compared with the indigenous population, with the excess rate of diabetes being up to five-fold (Gholap et al, 2011).

Within South Asian sub-groups, the risk of developing type 2 diabetes varies. Bangladeshis constitute a higher-risk sub-group than Indian people, who in turn are at higher risk than the Pakistani population (Hippisley-Cox et al, 2008).

Another key piece of evidence is that there is a higher prevalence of type 2 diabetes among South Asian migrants compared with levels in their country of origin (Garduno-Diaz and Khokhar, 2012). A propensity to adopt a Western diet and urbanisation are likely to account for this. This is similar to the causative factors that are leading to the diabetes epidemic among the global population. However, presentation of diabetes is seen around a decade earlier among South Asians, compared with other groups (Varma Chittari et al, 2007). And because South Asians tend to develop type 2 diabetes at an earlier age, they have a resultant greater risk of complications (Tremblay and Hamet, 2008).

Hanif and Karamat (2009) describe culture as “a complex interaction of multitudes of factors that give people an ethnic belonging” that “has an impact on their lifestyle and predisposition to chronic disease.” They describe factors that are influenced by culture and that in turn impact on the management of diabetes. Culture can have a significant influence on chronic disease management, including through perception of disease, reduced access to services, lifestyle choices, concordance with medication, and language barrier and thus communication with healthcare professionals. There is conflicting evidence as to whether the current healthcare service is providing adequate ease of access

to services for minority ethnic groups. Some evidence suggests that those whose first language is not English find it harder to access care and that services are not necessarily as suitable for ethnic minorities as they are for the majority population (Naish, 1994). In one study, no ethnic inequalities were identified for use of GP services by South Asians (Nazroo et al, 2009). However, this study showed that among the Pakistani population, there were worse outcomes of care for diabetes and reduced hospital access. South Asians are, of course, a heterogeneous group, and there are variations of religious practice, culture, diet, lifestyle choices and beliefs, even among those coming from a single country. This should be considered when engaging with this population.

Mental health

Even historically, people have drawn connections between diabetes and depression. In the 17th century, the physician Thomas Willis proposed that diabetes was caused by “long sorrow and other depression” (Balhara, 2011). There remains some truth to this hypothesis in modern healthcare. In a review of the evidence, the odds of depression across 20 controlled studies in people with diabetes was found to be double that of the comparison group without the condition (Anderson et al, 2001).

The strong relationship between diabetes and mental illness is in fact a bidirectional one, and the link between the two can manifest in many ways (Balhara [2011] explores this in detail):

- The two conditions can develop independently of one another.
- During the course of diabetes, the condition can have a role in the pathogenesis of psychiatric disorders.
- Conversely, psychiatric disorders are independent risk factors for diabetes, and medications used to treat mental illness can have side effects resulting in diabetes or impaired glucose tolerance, particularly with antipsychotic polypharmacy (Gallego et al, 2012).
- It is also important to note that there may be an overlap between the clinical presentation of hypoglycaemia and psychiatric disorders.

Page points

1. Within South Asian sub-groups, the risk of developing type 2 diabetes varies. Bangladeshis constitute a higher-risk sub-group than Indian people, who in turn are at higher risk than the Pakistani population.
2. There is conflicting evidence as to whether the current healthcare service is providing adequate ease of access to services for minority ethnic groups.
3. The strong relationship between diabetes and mental illness is a bidirectional one, and the link between the two can manifest in many ways.

Page points

1. There is evidence of increased healthcare use and associated costs in people with diabetes who have depression compared with those who do not, but this does not necessarily lead to better outcomes.
2. As homeless individuals may not have stability in their lives and their lifestyle behaviours may be sporadic, it can be very challenging for healthcare professionals to engage with this population.
3. The lifestyle in prisons and young-offender institutions may be vastly different from that of the general population.

Engagement with individuals who have a mental condition and diabetes can be challenging, and this may be made more difficult if the mental condition is undiagnosed. Indeed, there may be up to 45% of individuals with diabetes in whom such a condition remains undiagnosed (Li et al, 2010). Other potential implications for healthcare beyond engagement in a clinical setting are poor treatment adherence (Gonzalez et al, 2007), poor glycaemic control (Lustman et al, 2000) and an increased risk of hospitalisation (Das-Munshi et al, 2007). Overall, there is strong evidence of poor self-care behaviour in people with diabetes and a mental condition (Gonzalez et al, 2007).

In terms of accessing healthcare, there is evidence of increased healthcare use and associated costs in people with diabetes who have depression compared with those who do not (Egede et al, 2002). But this does not necessarily lead to better outcomes; rather, the evidence shows worse outcomes, in part owing to the difficulties in communicating with clinicians (Piette et al, 2004). Models of care may have to be adapted to improve engagement and enhance diabetes outcomes (Kahn et al, 2009).

Homelessness

The legal definition of homelessness is when people lack a secure place in which they are entitled to live or are not reasonably able to stay in their current accommodation (Crisis, 2014). In 2012–13, 81 000 “households” in England approaching local authorities were found to be homeless or threatened with homelessness (Shelter, 2014). Even though local authorities have a duty under the 1996 Housing Act to provide for some of those who are homeless, the number of such individuals has increased over the last few years, probably owing to benefits cuts and shortages in housing (*The Guardian*, 2013). It should be noted that it is difficult to get an accurate figure for total numbers of homeless individuals as different areas record data differently and some cases do not appear in official statistics.

Implications for healthcare

The homeless population is more prone to chronic medical conditions and experiences barriers to accessing healthcare (Hwang and Bugeja, 2000).

Of particular relevance, there is evidence of poor glycaemic control and difficulties in managing diabetes (Hwang and Bugeja, 2000). In addition to this, there is evidence of poor nutritional status and mental health problems (Langnäse and Müller, 2001). The prevalence of diabetes in the homeless population in some studies was found to be higher too (Arnaud et al, 2010). The increased risks associated with diabetes that are experienced by the homeless population include hypoglycaemia, foot problems, non-adherence and insulin misuse. These may seem like obvious risks, and similar to those in a non-homeless person with diabetes, but a lack of easy access to healthcare services is liable to augment each of them.

While average healthcare costs can be higher in the homeless population, it is important to observe that often the care that these individuals receive is in emergency departments (Padgett et al, 1990; Salit et al, 1998). Indeed, a homeless individual is up to five times more likely to be admitted to hospital than someone in the general population (Martell et al, 1992). Effective management of a long-term condition may not be at the top of the individual's, or the healthcare provider's, list of priorities. Rather, it may be that an acute condition takes priority.

Finally, as homeless individuals may not have stability in their lives and their lifestyle behaviours may be sporadic, it can be very challenging for healthcare professionals to engage with this population.

Prisons and young-offender institutions

There are currently 85 414 individuals in prisons and young-offender institutions in England (Ministry of Justice et al, 2014). Bayle et al (2011) report that the prevalence rate of diabetes is around 6.7%, which is higher than in the general population. However, some studies report a lower prevalence of diabetes compared with the general population, attributing this to the younger age of people in correctional institutions (American Diabetes Association, 2008). The lifestyle in prisons and young-offender institutions may be vastly different from that of the general population; however, the care of people with diabetes should be on a

par, and in line with national guidelines. There are guidelines available for diabetes management in people in correctional institutions (American Diabetes Association, 2012). Things to consider for those providing diabetes care in such settings are:

- Difficulties accessing individuals in high-security settings.
- Barriers to promoting an active lifestyle.
- Limited access to food choices.
- Use of drugs and alcohol.
- Mental health problems.
- Limited follow-up for those who are transferred or released.

Diabetes management is challenging in many respects (see *Box 1*), and it is typically unstructured from the perspective of both the healthcare professional and the person receiving care. Nevertheless, there is evidence that if the appropriate care is given then this can lead to favourable diabetes outcomes (MacFarlane et al, 1992).

Travelling communities

Roma, Gypsies and travellers of Irish heritage have different origins and cultural practices but have commonalities in the way they live their lives (Ryder, 2011).

It is estimated that there are between 200 000 and 300 000 members of travelling communities within the UK (Commission for Racial Equality, 2006). Obtaining accurate data on the population can be difficult as they are not only a transient population, but also among the most socially excluded minority groups (Cemlyn et al, 2009).

One study found only slightly higher prevalence of diabetes in travelling communities compared with the general population (Parry et al, 2004). The figures for diabetes prevalence may not be accurate, but it is known that, within this group, those who have diabetes will face barriers to good diabetes care resulting from inequalities.

Overall, the health status of members of travelling communities is worse than that of other minority communities (Parry et al, 2004). There is a higher prevalence of some

Box 1. Case example (from Bellary, 2011).

Narrative

SJ, a 52-year-old man with type 2 diabetes, was recently moved to a high-security prison. Prior to his move, he initiated insulin with support from a hospital specialist team. Following his move, SJ had lost contact with his specialist diabetes team and encountered difficulties in managing his diabetes. The prison mealtimes did not coincide with his insulin regimen and his glycaemic control worsened as he took his insulin several hours after his evening meal and started to experience frequent hypoglycaemic episodes. His request for the prison staff to allow him to have a snack late in the evening was turned down. After repeated requests he was referred to the hospital diabetes team and was seen by a consultant physician and a dietitian. His diabetes treatment was reviewed and his insulin regimen was changed. Prison staff were involved in his diabetes care plan and an agreement was made to allow him to have a bedtime snack. His diabetes control improved and he continued to receive regular input from the hospital diabetes team.

Discussion

Failure of continuity of care is a significant problem among offenders with diabetes and can have a major effect on their diabetes control. Prison staff may not be aware of the specific needs of people with diabetes. Adherence to the prison timetable and usual restrictions on diet may not be suitable for people with diabetes, especially if they are on complex insulin regimens. Occasionally, issues such as manipulation of their diabetes by the prisoners to gain attention (such as missing insulin doses to precipitate hyperglycaemic crises) may lead to further loss of trust between the prison staff and the prisoners. Some of these problems could be avoided by educating the prison staff and ensuring access to specialist diabetes teams on a regular basis.

chronic conditions, higher mortality rates, more poverty, lower literacy levels and poorer access to healthcare services. And, as in the general population, there is an ongoing shift towards unhealthy behaviours of an increasingly sedentary lifestyle and reliance on convenience foods (Matthews, 2008). There is a general reticence towards accessing healthcare services (the factors contributing to this are multi-factorial). Poor health is associated with premature mortality (Matthews, 2008). The statistics on this are stark: in this group the life expectancy of women and men is 10 and 12 years, respectively, less than it is in other populations (Crawley, 2004).

Diabetes UK has been spearheading work to improve diabetes care in this population (Diabetes UK, 2009). Approaches to this will require adapting services to meet the distinct

“Overall, there is no one solution to improving diabetes care in groups where there are inequalities. Recognising the inequalities is the first step, which then allows us to confront the challenge of taking effective action.”

needs and, this may require alternatives to traditional healthcare provision.

Conclusion

It can be easy for us as healthcare professionals to get so caught up in the management of diabetes in the general population (which often is the majority of the population we serve) that we become tempted to apply a standard template of healthcare provision for all. Minority groups often are hard to reach and have greater inequalities, compared with the general population, and can often get neglected. Successful approaches in diabetes management for the hard-to-reach population should be championed and learnings disseminated widely to promote replication in other areas with other groups. Although this module has focused on certain groups, it has applicability to other hard-to-reach groups, including people with learning disabilities and children and young people with diabetes. Overall, there is no one solution to improving diabetes care in groups where there are inequalities. Recognising the inequalities is the first step, which then allows us to confront the challenge of taking effective action. ■

American Diabetes Association (2008) *Diabetes Care* **31**: S87–S93

American Diabetes Association (2012) *Diabetes Care* **35**: S87–S93

Anderson RJ et al (2001) *Diabetes Care* **24**: 1069–78

Arnaud A et al (2010) *Eur J Public Health* **20**: 601–3

Balhara YP (2011) *Indian J Endocrinol Metab* **15**: 274–83

Bambra C et al (2010) *J Epidemiol Community Health* **64**: 284–91

Bayle P et al (2011) *Diabetes Voice* **56**: 44–6

Bellary S (2011) *Diabetes & Primary Care* **13**: 358–66

Cemlyn S et al (2009) *Inequalities Experienced by Gypsy and Traveller Communities: A Review*. Research Report 12. Equality and Human Rights Commission, London

Commission for Racial Equality (2006) *Common Ground: Equality, good relations and sites for Gypsies and Irish Travellers*. Commission for Racial Equality, London

Crawley H (2004) *Moving Forward: The provision of accommodation for travellers and gypsies*. Institute for Public Policy Research, London

Crisis (2014) *Definition and numbers*. Crisis, London. Available at: <http://bit.ly/1pLN0t2> (accessed 10.07.14)

Das-Munshi J et al (2007) *Psychosom Med* **69**: 543–50

Diabetes UK (2009) *Don't leave it too late: Diabetes – A guide for Gypsies, Roma and Travellers*. Diabetes UK, London

Doherty P et al (2004) *Delivering services to hard to reach families in On Track areas: definition, consultation and needs assessment*. Development and Practice Report 15. Home Office, London. Available at: <http://bit.ly/1qZs8CM> (accessed 10.07.14)

Egede L et al (2002) *Diabetes Care* **25**: 464–70

Gallego JA et al (2012) *Expert Opin Drug Saf* **11**: 527–42

Garduno-Diaz SD, Khokhar S (2012) *Diabetes Metab Res Rev* **28**: 6–24

Gholap N et al (2011) *Prim Care Diabetes* **5**: 45–56

Gonzalez JS et al (2007) *Diabetes Care* **30**: 2222–7

The Guardian (2013) *Number of homeless in England has risen for 3 years in a row, report says*. Available at: <http://bit.ly/18LtGWR> (accessed 10.07.14)

Hanif W, Karamat MA (2009) Cultural aspects. In: Khunti K et al (eds). *Diabetes UK and South Asian Health Foundation recommendations on diabetes research priorities for British South Asians* (first edition). Diabetes UK, London, 27–35

Hippisley-Cox J et al (2008) *BMJ* **338**: a332

Hwang SW, Bugeja AL (2000) *CMAJ* **163**: 161–5

Kahn LS et al (2009) *Chronic Illn* **5**: 257–67

Langnäse K, Müller MJ (2001) *Public Health Nutr* **4**: 805–11

Li C et al (2010) *Diabetes Care* **33**: 1061–4

Lustman PJ et al (2000) *Diabetes Care* **23**: 934–42

MacFarlane IA et al (1992) *BMJ* **304**: 152–5

Martell JV et al (1992) *Ann Intern Med* **116**: 299–303

Mather H, Keen H (1985) *BMJ* **291**: 1081–4

Matthews Z (2008) *The health of Gypsies and Travellers in the UK*. Race Equality Foundation, London

Ministry of Justice et al (2014) *Prison population figures: 2014*. HM Prison Service, London. Available at: <http://bit.ly/1w62DgN> (accessed 10.07.14)

Naish J (1994) *BMJ* **309**: 1126–9

Nazroo J et al (2009) *J Epidemiol Community Health* **63**: 1022–7

Nazroo J, Williams D (2006) The social determinants of ethnic/racial inequalities in health. In: Marmot M, Wilkinson R (eds). *Social Determinants of Health* (second edition). Oxford University Press, Oxford, 238–66

Padgett D et al (1990) *Med Care* **28**: 805–21

Parry G et al (2004) *The Health Status of Gypsies & Travellers in England*. University of Sheffield School of Health and Related Research, Sheffield

Piette J et al (2004) *Am J Mang Care* **10**: 152–62

Ryder A (2011) *UK Gypsies and Travellers and the Third Sector*. Working Paper 63. Third Sector Research Centre, Birmingham

Salit SA et al (1998) *N Engl J Med* **338**: 1734–40

Shelter (2014) *Homeless households*. Shelter, London. Available at: <http://bit.ly/1q1NX51> (accessed 10.07.14)

Tremblay J, Hamet P (2008) *Metab Clin Exp* **57**: S27–S31

Varma Chittari M et al (2007) *Practical Diabetes International* **24**: 328–32

Online CPD activity

Visit www.diabetesonthenet.com/cpd to record your answers and gain a certificate of participation

Participants should read the preceding article before answering the multiple choice questions below. There is ONE correct answer to each question. After submitting your answers online, you will be immediately notified of your score. A pass mark of 70% is required to obtain a certificate of successful participation; however, it is possible to take the test a maximum of three times. A short explanation of the correct answer is provided. Before accessing your certificate, you will be given the opportunity to evaluate the activity and reflect on the module, stating how you will use what you have learnt in practice. The new CPD centre keeps a record of your CPD activities and provides the option to add items to an action plan, which will help you to collate evidence for your annual appraisal.

1. Which of the following is the MOST appropriate statement concerning the availability of good healthcare? Select ONE option only.
 - A. Good care is equivalent across different population groups
 - B. Good care is inversely proportional to local population needs
 - C. Good care is proportional to local population needs
 - D. There is no statistically significant evidence concerning the availability of good care in different population groups
2. What is the approximate INCREASED prevalence of diabetes in South Asians in the UK compared with the indigenous population, if any? Select ONE option only.
 - A. Twice as high
 - B. Five times as high
 - C. Ten times as high
 - D. Twenty times as high
 - E. No different
3. Which of the following ethnic groups in the UK is MOST likely to have the HIGHEST prevalence of type 2 diabetes in males? Select ONE option only.
 - A. Bangladeshi
 - B. Chinese
 - C. Indian
 - D. Nigerian
 - E. Pakistani
4. What is the LIKELY prevalence of diabetes in South Asian migrants compared with the prevalence in their country of origin? Select ONE option only.
 - A. Evidence is unclear
 - B. Higher
 - C. Lower
 - D. The same
5. Which is the MOST appropriate statement about the increased use of healthcare by people with depression compared with people without depression? Choose ONE option only.
 - A. Better clinical outcomes
 - B. No difference in clinical outcomes
 - C. No evidence regarding differing outcomes
 - D. Worse clinical outcomes
6. Approximately what PERCENTAGE of people with diabetes have an undiagnosed mental health illness? Select ONE option only.
 - A. 10%
 - B. 25%
 - C. 50%
 - D. 66%
 - E. 75%
7. Which is the LEAST appropriate statement about the link between diabetes and depression? Choose ONE option only.
 - A. Depression can develop independently of diabetes
 - B. Depression can cause diabetes
 - C. Diabetes can develop independently of depression
 - D. Diabetes can cause depression
 - E. Diabetes control can be worse in people with depression
8. Approximately how many UK families were classed as homeless in 2012–13? Select ONE option only.
 - A. 10 000
 - B. 25 000
 - C. 75 000
 - D. 100 000
 - E. 150 000
9. Which is the SINGLE MOST appropriate statement about the prevalence of diabetes in the prison population? Choose ONE option only.
 - A. Decreased prevalence
 - B. Increased prevalence
 - C. Similar prevalence
 - D. The evidence is conflicting
10. What is the ESTIMATED life expectancy of the travelling community compared with the average UK population? Select ONE option only.
 - A. Ten years less
 - B. Five years less
 - C. No different
 - D. Five years more
 - E. Ten years more