Management of diabetes within a secure environment

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Abstract
Many people situated in a wide variety of environments are affected by diabetes. The secure environment, of which prison is one, is an area in which the care and management of diabetes have been currently identified as being quite variable in terms of practice. This clearly needs to be investigated in order to strive for the implementation of gold standards of care for this client group. This article pinpoints the current strengths and weaknesses, as well as suggesting potential recommendations to improve current clinical practices regarding the care and management of prisoners with diabetes. The focus is primarily on the United Kingdom, but a number of the points made, as well as the potential care recommendations, could be implemented globally. Copyright © 2014 John Wiley & Sons.

Key words
prison environment; diabetes education; dietary management; knowledge; hypoglycaemia management; screening; teamwork

Introduction
Diabetes is currently one of the greatest health challenges within our society globally. It encompasses all of human society, whatever age, gender, colour or ethnic origin. A prison environment can be identified as one in which diabetes will be distinguished as a common health concern, as is the case outside this secure setting.

A number of possible factors have been highlighted regarding the management and implementation of high quality care to people within a prison setting. There are a multitude of care challenges related to this setting and health professionals based in this arena face a multitude of conundrums. Historically, it has often been deemed that health care is weaker, and that this shortcoming is related to health care amenities – specifically with reference to chronic diseases such as diabetes. An audit of care commenced in 2009, in response to what was being identified in this sector, was then reported upon in 2011 and showed that a wide range of strengths and weaknesses related to the specific care of prisoners with a diagnosis of diabetes.

It was clearly seen to be essential that the scope and multitude of care services offered to prisoners with diabetes within a secure setting needed to be assessed and evaluated. This would identify ways in which the care and management of prisoners with a diabetes diagnosis could be improved and complemented further within current practice.

There are 90 prisons in the United Kingdom with an approximate yearly population of 90,000, of which around 6% have a known diabetes diagnosis. In 1997, Reed and Lyne reported that prison health care provision was suboptimal and now, more than 15 years later, this is still the norm – specific care for prisoners with diabetes does not reach the required standard, a trait further identified by Booles and Nagi et al. However, this setting ought to be seen as a potential window for prisoners to access health care and education to improve their lives, and, for those with diabetes, this will clearly enable a positive step forward resulting in a worthwhile impact on their diabetes care and management.

It must be highlighted that the population within this environment is often very fluid and that prisoners are frequently moved/transferred between institutions. This will possibly impact on their diabetes care and management; internal communication within this arena may need to be strengthened to create an environment which is of benefit to the health of this prisoner group. It has also been seen that prison populations change in respect of age.
and fitness. Robson et al. in 2009 showed that this group were often younger and fitter, but this picture is clearly changing to an older and less healthy group, and the incidence of diabetes will therefore become of increasing concern within a secure environment.

In 2013, Diabetes UK identified that there were approximately 3 million people living with diabetes in the UK and it was expected that this figure would rise to around 5 million within the next 20 years. Prisons are full of people similar to those who are already in our society except that they have either committed a crime resulting in a period of imprisonment or are awaiting a court decision while on custodial remand. Therefore the number of people in prison who have diabetes is in proportion to the number of those with diabetes in our society. The National Service Framework for Diabetes stated that all those with a diagnosis of diabetes need to be cared for and managed on the basis of the 12 standards identified; and Standard 4 clearly identifies prison and diabetes as an area that needs attention.

Cracks in care provision

Unfortunately, in 2013, there are still cracks within both care provision and management of diabetes in this environment and these clearly need to be evaluated for the benefit of any prisoner with diabetes. Their sentence is for a crime or potential crime, and it is vital that they should not suffer a health sentence as well while in a secure setting due to poor standard diabetes care and management which could ultimately cause future long-term diabetes effects.

An audit carried out by Booles and Clawson underlined a variety of areas of weaknesses in care provision seen in a secure setting. These incorporated: lack of individual diabetes care planning and management; inadequate dietary management and support, including the absence of dietetic assessment on arrival at prison; poor handling of both hypoglycaemic or diabetic ketoacidosis events in prison with regard to prisoners’ understanding and knowledge; and the dearth of information among prison staff on ways in which to respond to these clinical episodes, when encountered, and how to safeguard against them. Another concern related to blood glucose monitoring which was often not carried out on an individual basis for individual assessment, but instead, for all prisoners with diabetes, was done before meals and at night before sleep. Specialist care very often did not underpin care, and limited services were enabled to enter this secure setting. Prisoners usually went to hospital clinics but only if there were problems. These factors resulted in very inadequate frequency of health education processes such as foot care and eye screening, thus clearly not meeting the identified government targets of annual screening in both these areas. In addition, in normal practice within this setting the significance of exercise was not identified as a health benefit. Could it be viewed that those prisoners with diabetes have been forgotten? Frequently, local diabetes services have not been informed that there were prisoners within their local prisons requiring health support – a clear communication disparity/breakdown. These pointers were also recognised by Nagi et al. within their research.

Call for a care provision redesign

So, clearly, in the UK it was evident that the care required by this vulnerable group needed to be evaluated and appraised, with proposed care recommendations implemented. Both Nagi et al. and Mills have illustrated that care process redesign within this setting will have a positive impact for these prisoners physically, psychologically and emotionally. If prisoners feel that their health is well managed, they could perceive this as beneficial to them – and, in the case of some prisoners with diabetes, this could result in a reduction in future returns to prison. The process highlighted by Nagi et al. could also have a positive effect on the health care team, including health care workers, social workers and prison staff.

This potential positive tool could enable the prisoner with diabetes to become more attuned to their individual diabetes needs. This could have a beneficial effect upon their long-term health – i.e. fewer diabetic incidents and a reduction in long-term complications such as nephropathy, retinopathy, neuropathy and cardiac/cerebral vascular conditions, resulting in both a healthier and a longer life span.

The suggested redesign could incorporate activities such as specific diabetes education programmes – e.g. DAFNE courses for those with type 1 diabetes and DESMOND courses for those with type 2 diabetes. These would explore areas such as: dietary education including carb-counting; blood glucose monitoring; the importance of exercise, foot care, and eye screening; and specialist practice appointments/review – all of which could potentially reduce the incidence of long-term complications, hypoglycaemia and diabetic ketoacidosis events.

While these courses may need to be adapted slightly due to the fluid nature of the prison population, such diabetes education programmes could nevertheless result in a healthier and better quality of life for prisoners with diabetes. Clearly, these programmes will provide prisoners with long-term benefits. They could not only have a direct impact on prisoners, but may also have an indirect or actual impact on their partners and families, and society as well.

Booles and Clawson’s audit in 2010 identified strengths and weaknesses relating to the clinical care management of prisoners with diabetes, and highlighted limitations within secure settings – that is, a reluctance to share good practice and recognise that support, guidance and further knowledge in managing prisoners with diabetes are needed. It could be suggested that this, sadly, is not unique to organisations within the prison sector as it is has been identified that good practice is not necessarily followed in the general health care sector either. This could be because it is not encouraged. Additionally, people could be reluctant to share their experience, skills and understanding, fearing these may not work for others – or perhaps some people are selfish and do not want to share what they do well at the risk of being criticised for their practice methods?
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Good practice attributes
Positive care activities are shown by Nagi et al.,10 Mills,16 and police custody practice in Lothian and the Borders.17 These activities included: support groups for diabetic prisoners; the creation of a diabetes register to be held in the appropriate prison(s); and the availability of blood glucose meters for all prisoners with diabetes. However, as has been highlighted previously, there appears to be an unwillingness to pass on or disclose facts/data to other secure settings, even within a given locality.6,7

Challenges encountered
There are particular diabetes care challenges within a prison environment. These include the following.

- Prisoners with diabetes are not being managed by their usual diabetes care team and GP, and there may be difficulty in accessing specific diabetes information relating to the individual prisoner.
- Lack of care continuity and variation of health care provision between prisons result in care failures in diabetes management.
- Prisoners with a diabetes diagnosis often do not have a key worker for support and guidance.
- Poor relationships and communication between local diabetes services and GPs could result in the specific care and management of prisoners with diabetes being not up to the standards identified in the Diabetes National Service Framework.15
- Poor communication within the prison setting between health care staff and prison officers results in poor knowledge sharing as well as poor staff training on specific care issues, such as the care and management of prisoners with diabetes – including important areas (e.g., hypoglycaemia, blood glucose monitoring, dietary management, exercise and treatment strategies used).
- Prisoner movements are frequent (such as to court and between prisons), and these can result in both missed treatment and dietary needs, causing poor diabetes consequences for the individual prisoner. (This observation also links with the previous four points immediately above.)
- Poor hypoglycaemia recognition which is linked to seclusion and segregation for bad behaviour of the prisoner with diabetes. This is an acute diabetes emergency which can result in uncharacteristic behaviour due to confusion related to low blood glucose levels causing potentially violent episodes which – if not treated and managed correctly – could result in prisoner death.
- The impact of other drugs used for the management of diabetes, such as antipsychotics and steroids which can cause blood glucose levels to increase or decrease with resultant care consequences for the prisoner with diabetes.
- Prisoner use of insulin to manipulate prison and health care staff within this setting, such as overdose or refusal to take treatment.

So, can the care and management of prisoners with diabetes be improved and strengthened for their direct benefit? Booles and Clasow1 in their audit highlighted that there are a number of achievable strategies that can be employed in this goal. These recommendations are already being implemented in some specific secure environments in the UK, such as HMP Wakefield10 and HMP Risley.16

These examples should now be shared throughout this sector. They can clearly become beacons lighting a route through the care darkness.6,7 A direct and positive impact would then result on the life of a prisoner with diabetes, changing not only their life in prison but also in society after their subsequent release.

Suggested recommendations
Following the audit by Booles and Clasow,3 a number of recommendations were identified that could be potentially implemented in all prison and detention environments. These recommendations also drew from current good practices within UK prisons.10,16 It is clear that the following practice changes/recommendations are to be encouraged and shared throughout UK custodial settings.
- Policies and procedures should be present within all custodial premises in relation to care strategies for prisoners with diabetes; these guidelines must follow those of NICE.18
- There should be a prison register of all patients with diabetes to increase staff awareness and enable prisoners to receive quality care. A register will also strengthen the process of information transfer as many prisoners often move prisons and delayed information sharing can have serious health consequences for the diabetic prisoner. This has been addressed by Nagi et al.10
- There needs to be a standardised approach to screening all prisoners with diabetes on arrival at any prison. This should include treatment pathway, diet taken, the blood glucose monitoring process, and hypoglycaemia recognition and management. The process should always be carried out by a knowledgeable practitioner within the prison.
- Dietary assessment should be done on arrival at prison so that this aspect of diabetes care can be initiated immediately to ensure glycaemic control is maintained. If undertaken, it will potentially reduce the incidence of hypoglycaemia and diabetic ketoacidosis/hyperglycaemia events for the individual prisoner. This assessment must be done by a knowledgeable practitioner at the prison. A review of the times of prison meals as well as access to appropriate snacks would be beneficial, and this may also require access to blood glucose self-monitoring provision under the direct supervision of trained prison health staff.
- There needs to be a review of prisoners in terms of their diabetes, which should be in line with that of general practice and acute hospital care. At a minimum, prisoners should be seen and reviewed every 6–12 months. This could be done by setting up clinics within the prison so that prisoners with diabetes have access to a multidisciplinary team – diabetologist, specialist nurse, dietitian, retinopathy nurse assessor, podiatrist and a diabetes educationist – over a morning or afternoon. This could also enable implementation of a diabetic education programme. These measures will result in both economic and staffing time savings within a prison setting, as well as reducing possible security risks. This programme has been initiated successfully by Nagi et al.10 and Mills.16
- Blood glucose monitoring must be client focused to ensure that the
data collected can be used to improve the diabetes management and care of each individual prisoner. Each prisoner should have access to their own meter and relevant equipment at all times. This requires direct supervision from trained prison health staff in respect of self-monitoring of blood glucose levels.

- Retinal screening must be carried out annually, as set out in government health guidelines, and can be part of the clinical days identified in the preceding point (see bulleted item immediately above). This practice is currently happening within prisons in both South Wales and South West England. Manufacturers are now looking into creating a more easy-to-use and secure retinal screening process.
- The management of hypoglycaemic events must be standardised nationally. There must be communication with all diabetic prisoners about their hypoglycaemic events, what happens, and whether they have any warning signs. This information needs to be recorded and shared, and accessible to all relevant personnel. It can be strengthened by education sessions on hypoglycaemia and how it should be managed. Accessibility to specific tools such as standardised ‘hypo boxes’ within all clinical areas of prisons is essential, and these tools must be checked daily by appropriately trained prison health staff. It must also be mandatory that all prisoners with diabetes have access to hypo treatment and snacks within their cells when they are there, especially in locked-down scenarios and at night.
- The roles and responsibilities of both clinical lead for diabetes and diabetes specialist nurse must be identified within the custodial arena.
- Staff training for prison personnel must be evaluated and revised, especially with regard to the management of hypoglycaemic events.
- All prisoners with a diabetes diagnosis must be given adequate time to exercise each day.
- Education of prisoners with diabetes needs to be strengthened in areas such as care independence and the recognition of hypoglycaemic events.
- All staff working in this environment should be educated about the dangers of insulin in terms of overdose and treatment refusal, as well as the effects that other drugs may have on blood glucose levels.
- All staff should undertake the safe insulin and hypoglycaemia e-modules available on the NHS Diabetes website.
- The development of specific local university degree-based diabetes courses for prison health care staff will strengthen knowledge and care. This has happened within a number of UK areas, Shropshire and Staffordshire among them.
- All prisoners who are going to court or are being transferred to another prison should have dietary and treatment assessment prior to leaving. Both their treatment and diet needs require specific management before any event.
- Create a support and knowledge network throughout prison settings nationally for those health care professionals providing diabetes care to prisoners in secure environments. The development of a national forum linked to groups such as the RCN Diabetes Forum and Diabetics UK would strengthen this process.
- Create diabetes care champions within this environment who would share their knowledge and experience throughout this area of practice.

Governmental considerations

In reflecting on governmental changes related to the Health and Social Care Act 2012,\textsuperscript{11} a number of specific points can be identified. Diabetes care in prisons is variable within the UK and requires review to reduce its fragmentation by incorporating improved communication within and outside secure environments. This would be enhanced by the sharing of good practices as identified by Nagi \textit{et al.}\textsuperscript{10} and Mills.\textsuperscript{14} The 2012 Act clearly identifies that the NHS must respond to the needs of all patients with diabetes in whatever environment they are in, including prison. The Care Quality Commission must respond to the care inequalities encountered within prisons, and communication must be strengthened between all organisations. By undertaking these actions, variability in care for prisoners with a diagnosis of diabetes will be reduced.\textsuperscript{2,4,5,7,14,15,20}

Services need to evaluate the care needs required and become more innovative in meeting the needs of prisoners with diabetes. Prisoners must have a voice regarding their care. Being in prison or remand for any reason does not mean that a prisoner’s health should suffer as a result of care not being of the highest standards. By reflecting on and challenging current practices, care will strive towards meeting the guidelines suggested within the Health and Social Care Act of 2012.\textsuperscript{12}

Conclusion

Prison environments are small and unique communities but, similar to society outside these areas, they contain individuals with type 1 or type 2 diabetes who require support in the management and care of their condition. This view is supported by both Nagi \textit{et al.}\textsuperscript{10} and Mills\textsuperscript{14} who provide examples of care changes needed within the UK. Prisoners require extensive supervision and advocacy with regard to their diabetes needs during their time within detention. Care in this domain has many challenges which are exclusive to health care workers managing prisoners with diabetes.

Prison officer dependability is key; even though their specialist knowledge base is limited, they will have a prominent role in the care of prisoners with diabetes. It is essential that they are supported so that they can undertake this role more effectively – through improved communication, relationships and knowledge exchange with those groups in society outside the prison environment who care for and manage people with diabetes. This can only occur if all groups talk together, thus breaking down those walls which still exist – as was highlighted by Booles and Clawson.\textsuperscript{4} Current evidence\textsuperscript{10,14} draws attention to the significance of excellent cooperation as well as first-rate dissemination of information between detainees, health care professional and prison staff. It is a great tribute to all staff that this process is now happening in practice, but further expansion is required so that it encapsulates all prison environments within the UK to enable a gold standard of care to be reached for the prisoner with diabetes. This could also be enhanced.
by organising networks within this environment to share knowledge, skills and experiences countrywide.

The original audit\(^6\) highlighted an extensive scope for the advancement of the diabetes service within the detention services, whatever the setting; a recent NHS Diabetes report\(^2,3\) has implied that all diabetic people in our society deserve gold standard care wherever they happen to be based. Care must have no walls and those barriers encountered must be overcome in order that this goal will be clinically overcome.\(^4\)

As Boole and Clawson\(^1\) identified, diabetes care should never be surrounded by walls and hidden from view, wherever it is based and given; all barriers must be broken down so that everyone with diabetes receives gold standard care, as identified back in 2001.\(^3,5\)

The suggested recommendations within this review article, as well as what is currently happening in practice within prisons, must be disseminated throughout the UK and beyond, to ensure the care and management of any prisoner with diabetes are of a gold standard.

Clearly, greater prisoner empowerment in respect of diabetes management is essential, this being linked with greater education both of prisoners with diabetes and of the prison staff who are playing a role in that person’s time within detention. Improved communication between diabetes services outside prison and those within the prison setting needs to be established; this process continues post prisoner release, and could be enhanced by greater use of technology between detention centres and health services in the wider setting than is currently seen.

By undertaking such actions, these walls will be broken down so that diabetes care is equally available for all wherever people happen to be at any stage of their life. However, a more in-depth and wider research project is needed to examine all diabetes services at all levels within this sector – to develop specific guidance and to share existing current guidance and best practice.

Declaration of interests
There are no conflicts of interest declared.

References