

# Survey on the quality of diabetes care in prison settings across the UK

Keith Booles

## Article points

1. The Royal College of Nursing Diabetes Forum conducted an audit of prisons within the UK to determine the level of care available to prisoners with diabetes.
2. A questionnaire was developed and prison institutions from around the UK were invited to complete it.
3. Prisoners being seen promptly after admission for initial assessment, monthly diabetes support groups and local written protocols in reference to insulin, annual review and eye screening were areas of good practice that were identified.
4. The survey has helped gain a greater understanding and insight into the care of people with diabetes within prisons.

## Key words

- Audit
- Prison
- Quality care

Author details can be found at the end of this article.

In 2008, the Royal College of Nursing Diabetes Nursing Forum identified an issue relating to the care and management of prisoners with diabetes while in detention. It was agreed that an audit should be undertaken to examine the current care available to prisoners with diabetes. The project aimed to audit prisons in the UK to ascertain the current expertise and knowledge of clinicians within the prison sector and recognise the strengths and weaknesses of current care management strategies for people with diabetes in the prison environment. The results of this analysis were to be used to support prison governors and nurses working in prison settings to improve diabetes care and management. The audit highlighted areas of good practice throughout the prison diabetes services as well as issues within diabetes care and management that need to be addressed.

Diabetes is a lifelong, chronic condition that affects approximately 2.8 million people in the UK (Diabetes UK, 2010). Only by taking a long-term view in managing this condition can it be prevented from becoming an unmanageable problem (Diabetes UK, 2004).

Set against a background of the UK prison population increasing each year (Prison Reform Trust, 2008), the Royal College of Nursing (RCN, 2009) published the *Health and Nursing Care in the Criminal Justice Service: RCN Guidance for Nursing Staff* document, identifying that chronic conditions (including diabetes) were issues that needed to be examined.

The prison environment can provide the opportunity to address the health needs of a “hard to reach” sector of society with diabetes. For some prisoners, prison provides an opportunity to access healthcare, which, for a variety of reasons, they have not been able to access previously (Condon et al, 2007). In addition, there are opportunities to promote health within the prison environment (Department of Health [DH], 2001; 2002; DH and HM Prison Service, 2002).

## Background

In 2008, the RCN Diabetes Nursing Forum identified care and management of prisoners

with diabetes as an issue. It was agreed that a project should be undertaken to understand what care was available to these individuals. This project was undertaken jointly with the Prison Nurses Forum and all prisons and detention centres in the UK were invited to participate.

### Aims and objectives

The aims of the project were:

- To determine the expertise and knowledge of clinicians within the prison sector to help identify what level of diabetes care service currently exists within prisons in England, Scotland, Wales and Northern Ireland.
- To identify strengths and weaknesses of current care management strategies for prisoners with diabetes.

The results of the survey were to be used to support prison governors and nurses working in prison settings to improve diabetes care. Then, on completion of the survey, all information would be used to produce a comprehensive report for sharing good practice throughout the prison services and suggesting strategies to deal with areas regarding diabetes care and management that need to be addressed.

### Methodology

The questionnaire was developed by the RCN Diabetes Nursing Forum, using the National Service Framework (NSF) for diabetes (DH, 2001; 2002; 2008) as a guideline. It was hosted on the RCN Quality Improvement Hub to enable wide access to the audit.

The Quality Improvement Hub is an easily accessible, state-of-the-art, web-based data management system. Its primary purpose is to house readily accessible, relevant, easy-to-use audits, surveys and other quality improvement tools. It supports nurses in the collection of data, and its design improves levels of compliance with data gathering, and as a result, improves data quality.

An initial pilot study was undertaken to ascertain any problems with the questionnaire. This study involved members of the RCN Diabetes Nursing Forum and prison service

representatives. In light of the feedback received from the pilot study, the questionnaire was amended and the audit was launched in June 2009 and closed 2 months later to ensure enough time for prisons to respond.

### Summary of results

Of the prisons invited to take part in the survey (every prison in the UK), 19 responded, covering establishments in England, Scotland and Wales, and represented a wide range of prison types, from category A (maximum security) through to holding centres. The responses came mainly from male prisons ( $n=16$ ; 84%).

#### Availability of inpatient beds

Half of the institutions that completed the survey had inpatient beds, thus were able to provide some acute diabetes management. From the data obtained from the other institutions, it was difficult to identify whether the medical/health facilities present had the resources to manage acute diabetes issues, as there was no dedicated inpatient beds. This could indicate that prisoners with diabetes would have to leave the prison should any diabetes crisis occur in their institution.

#### Register of prisoners with diabetes

The majority ( $n=18$ ; 95%) of the institutions had a register of people with diabetes. The registers were either computer-based ( $n=14$ ; 78%) or paper-based ( $n=4$ ; 22%).

#### Health screening

Of the 19 prisons that responded, 14 (74%) reported that health screening was carried out for all their prisoners with diabetes. The screening measures used were most notable as HbA<sub>1c</sub> level, urinalysis, weight and blood pressure.

#### Care responsibility for prisoners with diabetes

Fourteen prisons (76%) in the survey had a lead person responsible for diabetes care services. Twelve (63%) had written guidelines or policies/procedures relating to local diabetes care needs and responsibilities; these had been developed locally in the prison. Where local policies/

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1. The majority ( $n=12$ ; 63%) of respondents had  $\leq 10$  prisoners with type 1 diabetes in their institutions in the previous 12 months.
2. The number of prisoners with type 2 diabetes identified from the survey was much higher than that of those with type 1 diabetes, with 18 prisons (95%) having up to 50 in the previous 12 months and the remaining one (5%) having  $>100$ .
3. There were only 12 submissions for the question regarding DSN and other diabetes team involvement; of these, 67% ( $n=8$ ) had an attending DSN.

guidelines had been developed, 11 prisons (92%) referred to local NHS Trust guidelines and the NSF for diabetes (Department of Health, 2001; 2002) documents were also referred to within the policy. Many of the positive responses clearly identified that a wide range of policy and procedure documents are both available and used in diabetes care and management in UK prisons.

### Prisoners with diabetes

The majority ( $n=12$ ; 63%) of respondents had  $\leq 10$  prisoners with type 1 diabetes in their institutions in the previous 12 months. A further 26% ( $n=5$ ) reported having between 11 and 20 prisoners with type 1 diabetes and 5% ( $n=1$ ) had encountered a relatively high number (51–100). The remaining 5% ( $n=1$ ) had no prisoners with type 1 diabetes in the previous 12 months. These data indicate that type 1 diabetes is relatively uncommon within the prison environment.

The number of prisoners with type 2 diabetes identified from the survey was much higher than that of those with type 1 diabetes, with 18 prisons (95%) having up to 50 in the previous 12 months and the remaining one (5%) having  $>100$ . All respondents stated that they have managed 10–20 prisoners with diabetes in the last 12 months.

### Clinical lead role in diabetes care and clinics

Fourteen respondents (74%) reported that they had a clinical lead person responsible for diabetes care; this could be anyone, ranging from a chronic disease nurse manager through to a prison staff nurse.

Twelve (63%) of the respondents had a specific diabetes clinic. Of these, seven (58%) were organised to run weekly or monthly, the rest were held at other frequencies, or only when they had prisoners with diabetes. These results showed that less than two-thirds of the prisons surveyed identified specific diabetes care as being important despite the fact that the NSF for diabetes (DH, 2001; 2002) identified that all people with diabetes, wherever they are based, should have their diabetes managed effectively.

### DSN and other diabetes team involvement

There were only 12 submissions for the question regarding DSN and other diabetes team involvement; of these, 67% ( $n=8$ ) had an attending DSN. These establishments did identify that other members of the diabetes team were involved in the care of detainees with diabetes. These included GPs local to the institution and local hospital podiatrists most commonly, whereas the hospital diabetes consultant and dietitian were much less frequent visitors. One respondent stated that no members of the multidisciplinary team visited prisoners with diabetes. Further additional comments included that if any prisoners with diabetes needed specialist attention, special arrangements were made to transfer them out from the prison. This raises security issues regarding both the detainee and the health facility involved.

Only seven respondents (37%) had been visited by the mobile eye screening team while in prison, despite the fact that the NSF for diabetes (DH, 2001; 2002) states that this should be offered to all individuals with diabetes annually. It is difficult to draw conclusions from this result as respondents were not asked why the mobile health screening did not visit their organisation.

Regular care and treatment review was undertaken at 3- or 6-monthly intervals in 89% ( $n=17$ ) of cases, with 11% ( $n=2$ ) doing only an annual review. The survey did not identify who undertook the review, but in light of earlier questions, it seems likely that it would have been the clinical lead for diabetes care in the majority of cases. However, as was identified earlier, the person whom had this role varied, as would have their knowledge base of diabetes subsequently.

Thirteen respondents (68%) reported that prisoners with diabetes were seen by the podiatrist at least annually, as recommended in the NSF for diabetes (DH, 2001; 2002) guidelines, and the remaining six (32%) were seen only as necessary.

No dietary assessment was conducted on arrival at any of the prisons, but all had dietary regimens agreed within the first week after

arrival. The majority ( $n=17$ ; 89%) reported that prisoners with diabetes were able to access food outside regular meal times as required, and all prisons reported that prisoners with diabetes had access to a supply of glucose tablets or biscuits for emergencies such as hypoglycaemic events.

Fifteen prisons (79%) had aerobic exercise classes available daily, but the length of time was not specified. The majority ( $n=18$ ; 95%) of institutions reported that prisoners with diabetes had control of their insulin/diet and activity needs and thus were encouraged to be empowered in terms of their diabetes self-management.

#### **Blood glucose monitoring**

Respondents indicated that a high proportion of prisoners regardless of diabetes type and treatment had their blood glucose levels monitored daily at breakfast. This shows that prisoners are not being individually assessed and are not having their blood glucose levels monitored as recommended by NICE (NHS Diabetes, 2009b). This is clearly an area that needs to be addressed and reviewed.

#### ***Prisoners with type 1 diabetes***

Eighteen prison respondents (95%) stated that prisoners with type 1 diabetes were equipped with a personal blood glucose meter and the majority of prisoners tested, or were tested, to ascertain blood glucose levels at pre-meal times, but in only 37% ( $n=7$ ) of prisons did detainees test at bed time. There was a range of different meters being used, but it was unclear if this equipment was standard to the prison setting or whether the prisoner with diabetes brought their own equipment with them to the prison. The survey did not ask about the testing and maintenance of the blood glucose equipment. It was also unclear who performed the blood glucose tests, whether it was the prisoner or prison staff. Blood glucose monitoring frequency also varied, ranging from daily to alternate days or twice per week. Only 5% ( $n=1$ ) reported that no testing was carried out at all.

#### ***Prisoners with type 2 diabetes on insulin therapy***

In the majority ( $n=15$ ; 79%) of prison establishments, prisoners with type 2 diabetes who were on insulin therapy had blood glucose tests carried out at pre-meal times. In 37% ( $n=7$ ), prisoners also tested at bed time. It is unclear if access to testing related to the times at which it was carried out (e.g. whether those who tested at bed time had their own equipment).

Again, it was unclear who performed the blood glucose tests. In 21% ( $n=4$ ) of institutions, among prisoners with type 2 diabetes on insulin, no testing was carried out at all, and most of the blood glucose testing that occurred was only carried out in the morning of each day.

### Page points

1. Blood glucose testing was performed daily at breakfast in prisoners with type 2 diabetes who were only treated with diet in 42% ( $n=8$ ) of prison establishments, but in 53% ( $n=10$ ) no testing was carried out at all.
2. Many of the respondents used a variety of strategies for managing detainees considered at risk of hypoglycaemic attacks, but there was no standard approach.
3. Only 26% ( $n=5$ ) of prison staff were offered any form of training for working with detainees with diabetes.
4. Twelve respondents (63%) said that education was available and implemented for all prisoners with diabetes. Most training was carried out by prison nurses themselves, either on an individual or group basis.

### *Prisoners with type 2 diabetes on oral antidiabetes drugs*

The proportion of prison establishments in which prisoners with type 2 diabetes who were on oral antidiabetes drugs underwent testing was similar to that in which prisoners with type 1 and 2 diabetes on insulin underwent testing, with 32% ( $n=6$ ) not testing at all.

### *Prisoners with type 2 diabetes on diet only*

Blood glucose testing was performed daily at breakfast in prisoners with type 2 diabetes who were only treated with diet in 42% ( $n=8$ ) of prison establishments, but in 53% ( $n=10$ ) no testing was carried out at all.

The results with regard to blood glucose monitoring for the various types of diabetes are not in keeping with recommendations by NICE (NHS Diabetes, 2009b) and Diabetes UK (2009). This is an area that should be reviewed by all prison organisations.

### *Hypoglycaemia and prisoners*

The respondents were asked what provision was made for detainees considered at risk of hypoglycaemic attacks. Many of the respondents used a variety of strategies, but there was no standard approach to managing "at-risk patients". This clearly raises concerns about the safety aspects of prisoners with diabetes in terms of the prevention and management of a hypoglycaemic episode within the prison environment.

### **Staff training and diabetes care/management in prisons**

Only 26% ( $n=5$ ) of prison staff were offered any form of training for working with detainees with diabetes. Most of the training given related to an overview of diabetes, managing type 1 and 2 diabetes and the treatment of hyperglycaemia. Only 20% ( $n=1$ ) of this group responded that they had received any training in dealing with a hypoglycaemic event in terms of management within the prison environment.

This lack of a consistent approach to training presents a risk to the prisoner with diabetes, prison staff and the prisons' service

if the individual with diabetes is not being managed effectively.

### **Staff management of hypoglycaemic events in prisons**

Respondents were asked whether the prison officers had effectively identified and managed hypoglycaemic events when they occurred. Ten respondents (53%) stated that the prison officers had been able to identify and treat. Only two respondents (11%) stated that they felt the prison officer did not know how to effectively manage the situation.

### **Prisoner education on diabetes**

Twelve respondents (63%) said that education was available and implemented for all prisoners with diabetes. There was a variety of strategies pertaining to who delivered the training, how it was delivered and the frequency of the training. Although it would seem to be an ad hoc approach, it could reflect the relatively small numbers of prisoners with diabetes. Most training was carried out by prison nurses themselves, either on an individual or group basis. However, the level of "knowledge updates" on diabetes was poor and most training given was on diet, exercise and monitoring, whereas there was no training on hypoglycaemic events.

### **Discussion**

The results of this survey identified a number of examples of good practice; the full list can be found on the RCN Diabetes Nursing Forum website ([www.rcn.org.uk](http://www.rcn.org.uk)). Some examples include:

- Prisoners being seen promptly after admission for initial assessment.
- Monthly diabetes support groups.
- Local written protocols in reference to insulin, annual review, eye screening.

Unfortunately, the number of positive examples were limited and the author feels that these good examples from the audit need to be shared to all areas in the prison environment. In addition, overall diabetes care needs to be reviewed as a total package within this area using the knowledge and skills of both those

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who work with persons with diabetes and those who work within the prison care environment.

The author makes the following recommendations for strategies to improve diabetes care in prisons:

- Policies and procedures should be in place within every prisoner care setting regarding the diagnosis, management and ongoing care of prisoners with diabetes.
- A register of all prisoners with diabetes is required.
- There should be a standardised approach to screening.
- Dietary assessment should occur for all prisoners with diabetes.
- There should be a review of prisoners, in line with that of general practice and acute hospital care.
- Blood glucose monitoring should be used and managed on an individual basis rather than standardised for all individuals with diabetes.
- Retinal screening should be available.
- The management of hypoglycaemic events needs to be standardised.
- The roles and responsibilities of both clinical lead for diabetes and DSNs need to be defined within the realm of prison settings. These roles are not necessarily the same and may be best served by different people.
- Staff training – in particular that of prison officers – needs to be reviewed, especially with regard to the management of hypoglycaemic events.
- Prisoner education should be reviewed, especially with regard to self-management and the recognition of hypoglycaemic events.

### Conclusion

The results of the survey have identified that prison establishments are like small communities that contain people with type 1 diabetes and people with type 2 diabetes within their prisons. These people need to be managed and supported in all their diabetes needs during their period of detention.

Unfortunately, the response to the audit was not as good as was hoped and thus the author feels that a more comprehensive study

should be carried out with greater support and cooperation from the prison institutional sector. From such a study it would be possible for a comprehensive nationwide set of care and management protocols to be implemented for the positive benefit of both the prisoner with diabetes as well as prison staff who are involved with prisoners with diabetes in any aspect of their care and management.

On a positive note, the survey has helped gain a greater understanding and insight into the care of people with diabetes within prisons and there is much to commend the practice of managing people with diabetes in a prison setting, which presents unique challenges to healthcare staff when caring for and managing such individuals.

Much responsibility lies with the skill and professionalism of prison officers who do not have specialist healthcare knowledge. There is clear evidence of the importance of good teamwork and also good communication between detainee, healthcare professional and prison staff. It is a testament to all prison staff that this survey has identified many examples of good practice.

The survey highlighted some areas of great opportunities for improving care further, taking into account the differing settings within the prison environment and the expectations of the *Commissioning Diabetes Without Walls* (NHS Diabetes, 2009a) report, which recommends that diabetes care should never be out of reach for any person with diabetes in whatever environment. Diabetes care must be without walls and barriers need to be broken down to achieve this goal (Booles and Clawson, 2009). ■

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