

Diabetes in prison: double the sentence or an opportunity for treatment?

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Among the prison population, psychological disorders and infectious diseases, such as hepatitis and HIV/AIDS, are the most widely recognized medical conditions. According to the authors of this report from France, diabetes is one of the 'forgotten diseases' in the penal system. Although in wider society diabetes is recognized as a chronic public health issue, there are very few data on people with diabetes in prison. Publications on the subject are limited mostly to opinion pieces, which

often merely reinforce preconceptions about the difficulties of diabetes control, management of insulin therapy and the risk of manipulation of syringes. But the challenges facing prisoners with diabetes and their healthcare providers are more complex and further reaching: among that largely disadvantaged population, health in general is markedly deficient, the supply and availability of medications inadequate, medical care lacking and those affected unmotivated.

A large-scale study of diabetes prevalence and care in prisons was conducted in the French Consultation and Ambulatory Care Units (CACU) in 2007. It found a population of 24,489 prisoners with diabetes in 69 prison infirmaries – 27% of whom had type 1 diabetes and 73% type 2 diabetes. The overall prevalence of diabetes was 6.7%, which is high compared to the estimated 3.5% among the general population in France. It is likely that these figures fall short of the real prevalence, especially of type 2 diabetes, which often goes undetected for long periods.

Diabetes screening had been carried out in 87% of the cases when risk factors were identified, and in 68% of the centres surveyed, injecting equipment was available to prisoners in their cell. It is worth noting that there were no reports of violent misuse of syringes or pens or other diabetes equipment, either self-harming or towards fellow detainees. Biological monitoring, including HbA_{1c} and kidney function, was performed on average about three times a year; eye and heart examinations and nutritional monitoring were carried out once a year. Overall, the quality and provision of medical care were consistent with national recommendations.

In terms of lifestyle, provision for prisoners varied: in some prisons, individual showers were available at all times; in

others, these were limited to three times per week. Opportunities for physical activity varied. Regarding nutrition, all inmates with diabetes have access to an adequate diet as prescribed by the prison administration. Prisoners also have the opportunity to buy food if they have the financial means to do so. This can either improve a person's diabetes diet or have the opposite effect. In response, educational sessions on diabetes and nutrition have been organized in some centres. Around a quarter of the centres had a specialist diabetes unit.

No data are available in the literature regarding diabetes-related hospitalizations in France, apart from a small number of articles reporting cases of ketoacidosis and hypoglycaemia. To get a clear picture of the status of people with diabetes in custody needing hospital treatment, our team looked at all the medical records of the Interregional Secure Hospital Unit (USHI) in Toulouse between 2008 and 2009. 39 people with diabetes, with an average age of 56 years, 5 of whom had type 2 diabetes and the rest type 1 diabetes, were hospitalized. The majority needed hospital treatment to stabilize and manage their diabetes (in 21 cases) or a heart condition (in 16 cases). It should be noted that use of psychotropics or other drug abuse detrimental to diabetes management was not unusually common in the diabetes population.

Healthcare in French prisons

In order to improve access to care for prisoners in France, 'penitentiary medicine' has been entrusted to the hospital public services since 1994. For this reason, every French prison established a Consultation and Ambulatory Care Unit (CACU) linked to a public hospital service, where care is given by qualified healthcare professionals (nurses, general and specialized practitioners, physiotherapists). Those in need of hospitalization are referred to the nearest hospital.

In 2000, a number of Interregional Secure Hospital Units (USHI) were created with the aim of improving living conditions among hospitalized prisoners, bringing them a quality of care similar to that provided by other medical services. This facilitated improved coordination between hospital and penitentiary institutions, while maintaining optimum surveillance and reducing the risk of escape.

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One of the key lessons from our study is that the average person with diabetes reaching the UHSI is obese and presents multiple cardiovascular risk factors; high blood pressure (46%), smoking addiction (51%), dyslipidaemia (64%) and obesity (33%) were all common. The study also revealed very poor diabetes management within prison walls, compared to the general population. A study of the French population in 2007 revealed an average HbA_{1c} of 7.9 % for type 1 diabetes and 7.1% for type 2 diabetes, compared with 9.35% and 8.33% respectively upon arrival at the UHSI. 72% of the inmates arriving at the UHSI showed diabetes complications; more than 38% presented cardiac abnormalities.

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Because medical records do not include information on sentencing, we cannot assess whether our findings are influenced by duration of incarceration or, indeed, the socio-demographic characteristics of the inmates – although we know that the majority of the general prison population is from the poorer sectors of society and consequently have reduced access to care and a healthy lifestyle. The study findings, nevertheless, highlight the importance of reinforcing care for people with diabetes in prison.

Reference manuals for diabetes care stress that long-term, sustainable improvements in blood glucose control depend primarily on provision for personalized follow-up. The UCSA health-care professionals are able to detect

problems but cannot extend care to within the prison walls. Hospitalization at the UHSI offers the possibility to perform several tests in one extraction from the prisoner. It also provides the opportunity to scan for potential complications and adapt diabetes treatment in collaboration with a specialist who would be practically impossible to reach while the person with diabetes is in detention. Importantly also, a hospital stay offers the opportunity for the person with diabetes to be encouraged to self-manage his or her condition.

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This can be achieved through sessions informing on the condition and education for self-management, including diet and self-administering injections. Coordination between UCSA and UHSI also allows close follow-up of recommendations for the treatment of diabetes and other non-communicable diseases

Prison time should be about the confiscation of liberty; prison rules should not be a double sentence for inmates with chronic diseases, like diabetes, which require strict respect of medical and behavioural guidelines to limit complications. Even if penitentiary and sanitary rules might sometimes conflict, rigorous medical care is possible in prison and can even be an opportunity to access high quality care.

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Further reading

- Remy AJ. *Enquête de prévalence et de pratiques du diabète en milieu carcéral*. Espace Info santé 2008; 18: 2-4.
- Petit JM, Guenfoundit MP, Volatiert S, Rudoni S, et al. Management of diabetes in french prisons : a cross sectional study. *Diabet med* 2001; 18: 47-50.
- Numéro thématique – Les enquêtes Entred : des outils épidémiologiques et d'évaluation pour mieux comprendre et maîtriser le diabète. *BEH* 2009; 42-3: 449-72.
- Basin C. Un diabétique privé de liberté : être diabétique à la Maison d'arrêt de Paris-La Santé. *Journées annuelles de diabétologie de l'Hôtel Dieu* 2002. <http://journees.hotel-dieu.com/page10094.asp>