

In Brief

Managing diabetes in correctional facilities brings challenges unique to the setting in addition to those encountered in community practice. Although national standards of care have been available to guide medical care of diabetes for many years, efforts to adapt these guidelines to the needs of correctional facilities are relatively new. This article focuses on the challenges of implementing clinical practice recommendations for diabetes in the corrections environment.

Managing Diabetes in Correctional Facilities

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It has been estimated that at any time, 2 million people are incarcerated in prisons and jails in the United States. Nearly 80,000 of these inmates have diabetes, a prevalence of 4.8%.¹ The prevalence of diabetes and its comorbidities continues to rise with the aging of the prison population. As with the general population, type 2 diabetes is increasing in younger people as a result of inactivity and obesity, both problems in inmate populations.

Standards of Care

People with diabetes in any setting, including corrections facilities, should receive care that meets the current national standards.^{1,2} The unique aspects of providing care in correctional institutions must be considered in order to meet these standards. Medical care in correctional facilities is guided by the National Commission on Correctional Health Care.³ Although the commission's clinical guidelines for diabetes chronic care in correctional facilities are adapted from the American Diabetes Association (ADA) clinical practice recommendations, care in correctional facilities is not yet at the level of care recommended by the ADA. In 2004, the ADA position statement on diabetes care in correctional institutions¹ was significantly revised to include far more specific recommendations for care than in the

past. The recommendations now cover:

- Intake medical assessment
- Screening for diabetes
- Management plans
- Nutrition and food services
- Urgent and emergency issues
- Medications
- Routine screening for and management of diabetes complications
- Monitoring/tests of glycemia
- Self-management education
- Staff education
- Alcohol and drugs
- Transfers and discharges
- Sharing of medical information and records
- Children and adolescents with diabetes
- Pregnancy

Whether prompted by continuous quality improvement (CQI) initiatives or as a result of litigation, some institutions are beginning to address the complexities of managing diabetes in their facilities. Security remains their primary focus. Offenders are given, by virtue of their offense and sentence, a security level: maximum, medium, or minimum. Additionally, they are given a medical level determined by the complexity of their medical needs. The combination of these factors determines their final facility placement. But while facilities within the same system (for example, a state

department of corrections) include all of the above security levels and medical levels, each facility may operate as a separate entity with its own rules of operation.

Two important aspects of improving care for inmates with diabetes are 1) the development of clear policies and procedures based on ADA clinical practice recommendations (Tables 1 and 2) addressing the security level within each facility. It is important that these policies and procedures are consistent throughout the facilities within the entire organization. Once adopted, they should be used to develop training curricula and competencies for both the corrections and medical staff that are appropriate to job classification and responsibilities.

Barriers to Diabetes Care in Correctional Institutions

The following barriers to quality diabetes care were directly observed in facilities or identified by nurse managers of all facilities in a state department of corrections during a training program.

Care Delivery Systems

Many of the barriers to care in correctional facilities are created by the systems in place to provide that care. In many clinics and infirmaries, the medical resources are aligned to accommodate acute care needs. In some cases, access to medical resources is made difficult by requiring inmates to complete a request form, which is reviewed by medical staff before they grant an appointment. This practice is the result of excessive, even frivolous misuse of the medical system by

inmates. Unfortunately, proactive care of diabetes and other chronic conditions becomes more difficult as a result.

Prison Culture

Historically, many corrections institutions have a culture of dominance over the inmate population, which sometimes extends to medical care. This may result in withholding appropriate care, denying access to medical services, or inappropriately punishing behavior that may be related to symptoms of hypoglycemia or hyperglycemia. It is sometimes difficult to balance the need for order and security with the timing needs of the diabetes treatment plan, especially when those factors are controlled by non-medical personnel.

Budget Constraints

The slow national economy in recent years has had an enormous impact on state revenues. Many states are facing severe budget deficits requiring major program and personnel reductions. Departments of correction are affected as significantly as other areas of state governments. Some of the effects include hiring and salary freezes for nursing and other medical personnel, closure of some medical clinics during the night shift, and reduction in other provided services. Facilities are also being asked to reduce the number of medication lines (literally lines inmates form at certain times of the day to receive their prescribed medication doses) from three or four per day to two. This creates new problems in providing appropriate intervention for medical emergencies.

Nursing Staff Recruitment and Retention

At a time of widespread nursing shortages, corrections management must compete for qualified and competent nurses with other health care organizations, many of which can offer large hire-on bonuses, higher salaries, and other financial incentives. The work environment in correctional medicine can also be more challenging and less personally rewarding than in other work settings. These situations can make both recruitment and retention of nurses difficult.

Nutrition

Medical nutrition therapy is a cornerstone of diabetes management.⁴ In the corrections environment, this aspect of care can be difficult for many reasons. Ideally, offenders with diabetes would be taught the nutrient content of food in the cafeteria and canteen in order to choose reasonably appropriate foods for their meals and snacks. In some organizations, however, they are assigned a special "diet" based on caloric level. Offenders are then labeled "noncompliant" if they do not follow their prescribed diet, even if the regular food line would meet the individual nutritional needs better.

Food is generally purchased in bulk and prepared and served by inmates. Many organizations are now focusing more on heart healthy selections. This may, however, affect the cost of food services as well. It is important that all individuals involved with food preparation and service be taught the principles of good nutrition and communication and how to help monitor the food intake of the inmates, thus supporting

Table 1. Policies and Procedures Recommended to Support Quality Diabetes Care and Consistent Practice

Topic	Accountability	Focus
Each standard of care included in the ADA recommendations for correctional facilities	Physician, mid-level provider, RN, RD, corrections officers: appropriate to job description and role responsibility	How each of the recommendations will be implemented and who is accountable
Training requirements	Training staff	Performance expectations
Curriculum development	Diabetes consultants	Initial training and periodic review
Nursing competencies	All nursing staff	<ul style="list-style-type: none"> • Safety skills • Blood glucose monitoring • Medication administration • Insulin injection • Sharps security

inmates learning about their own nutritional needs.⁵

Individual nutrition assessment and meal plan design by a registered dietitian (RD) who is experienced in working with people who have diabetes is the accepted standard of care.¹ Many organizations do not employ an RD with these skills. In fact, there may be only one dietitian for the entire corrections system. In such a situation, individual counseling regarding healthy eating is less likely to occur.

Medication Lines

In most facilities, inmates who require medications must go to the infirmary or clinic for “med line,” or medication line, where they receive their medications. The times for these medication lines are established to maximize efficiency and security and to maintain order. The times are usually not flexible, and inmates are expected to be present regardless of other circumstances. Inmates with diabetes get their blood glucose tested and their diabetes medications and/or insulin injections at these times, usually immediately preceding meals.

One of the difficulties observed is that when inmates with diabetes, type 1 or type 2, require an evening dose of insulin, the injection time can be as early as 4:30 p.m. The timing of this evening dose may be problematic for many, contributing to hypoglycemia during the night and hyperglycemia by the next morning. It is important that the medical staff understand the action times of the diabetes medications and insulins in order to plan for optimal dose timing.

Exercise

There is a great deal of evidence to promote daily physical activity as another cornerstone of diabetes management. In many correctional facilities, however, physical activity is not a routine part of prison life. Historically, prison managers have felt that overweight, inactive inmates pose less of a security risk for corrections staff. Implementing a planned exercise period for inmates with diabetes can be difficult to schedule and even more difficult to monitor.

Appropriate Security and Disposal of Sharps

Sharps, insulin needles, and lancets are secured and counted in a manner similar to the way hospitals monitor narcotics. Insulin needles are a highly

valued commodity among inmate populations. Inmates can be very skilled at creating diversions, even faking seizures, when sharps are in reach. Special policies must be strictly followed in both sharps security and disposal.

Work Groups

Inmates in medium- and minimum-security facilities frequently have work-release jobs where they can earn money and good conduct points. Care must be taken to ensure that work-release inmates with diabetes have their meals, medications, and snacks at proper times to maintain their blood glucose control. If the corrections staff is uninformed about these issues, inmates may be placed in situations that could be dangerous. Conversely, because of their diabetes and its treatment requirements, some inmates are limited in their ability to have jobs or in the type of work that they do compared to those without diabetes.

Canteen Purchases

The canteen is a store at which inmates can buy products with the money (credits on paper) that they have earned. These include snacks that are most likely to have a high sugar and fat content. Canteen purchases are also frequently used to barter for other items, or even status, within the inmate population. Canteen purchases are seen as a major problem for blood glucose control by the medical staff.

Lock-Downs

A lock-down is a situation in which an entire facility or a section of a facility is completely locked for the security of the staff and the community. It usually results from an act of severe violence in which order is seriously disrupted and safety risks are extremely high for all concerned. Lock-downs enable prison staff to contain disruptions and regain control over inmate behavior.

When a lock-down occurs, those within the locked area do not go to meals, medication lines, or any other activity that may be scheduled during that time. This obviously creates problems for those with diabetes.

“Head counts” are a routine occurrence during which all inmates must be in their cells and counted. These usually occur a certain number of times each day and take precedence over the timing of medication lines and meals.

Transfers

Transfers from facility to facility present the potential for lapses in care. Transfers may be temporary or permanent moves to another facility. For permanent transfers, clear policies and procedures must be followed, especially during and immediately after the transfer, so that the meals, medications, and timing of the treatment plan are followed as closely as possible. Communication between the two facilities is critical. If medical records are in the form of a paper chart, it is important that the records be transferred with the inmate and that current treatment plans, progress, and health status be discussed to minimize the chance of lapses in care.

Temporary transfers may be more difficult. For example, if an offender is temporarily held in a county jail while appearing in court, medical resources may not be as available as in a permanent facility. This situation also presents challenges in communicating the medical needs of the individual inmate to the jail authorities.

Offender Issues

Literacy levels are perceived by staff to be lower in the prison population than in the community. Regardless of whether this is true, low literacy is often cited as a reason for not providing diabetes self-management education (DSME) to inmates. Patients with low literacy will benefit from education; however, materials and teaching approaches may need to be adapted to the appropriate level.

The inmate culture has long been one of competing for power and status. Theft of coveted personal items is common. For instance, athletic shoes can be purchased in the canteen but are frequently stolen as a sort of status symbol. Even if athletic shoes are ordered for inmates with diabetes who also have neuropathy, they are subject to theft.

The staff cites many instances in which inmates have become adept at manipulating the system and the staff in order to gain an advantage over staff or other inmates. Because of recent successes of inmates or groups of inmates bringing lawsuits against corrections organizations for a variety of civil rights issues, it has become common for inmates to threaten staff with litigation. Threats of litigation by inmates can perpetuate a hostile or confrontational atmosphere for both parties.

Staff Perceptions

When health care improvements are ordered by the court as a result of litigation, the medical staff may, at least initially, regard expert diabetes intervention with suspicion or even hostility. It is important to establish common ground and mutual respect in order to make progress toward the goal of improving health care.

One frequently heard comment is that “their diabetes is in much better control now than when they arrived.” This may indeed be true, and at the same time, it is important to acknowledge that as health care professionals, it is our responsibility to provide care that meets recognized standards, regardless of the setting in which we work.

Many of the challenges experienced by health professionals in managing diabetes are attributed to patient “noncompliance.” This is not unique to the corrections environment. Assuming noncompliance becomes a barrier to good care when it limits the assessment of causes of the behavior in question. Any one or a combination of the above barriers could give the appearance and the same result as willful disobedience.

Medical professionals may or may not have current knowledge of the clinical practice recommendations for diabetes. The science of diabetes management, including the pharmaceutical and technical tools, changes continuously. Additionally, new evidence for the efficacy of various behavior change interventions can teach us how to augment the effects of diabetes management plans. Ongoing education in both areas is important to maintain competence as well as facilitate solutions to the barriers to appropriate care that may be identified in the process of delivering care to patients. Diabetes experts, including physicians, registered nurses (RNs), and RDs, preferably those who are certified diabetes educators, if available, are used as consultants or outside referrals for diabetes-related patient problems.

Other Health Issues

Many people with diabetes have multiple health problems, including complications of diabetes, cardiac disease, and other serious chronic conditions. HIV and hepatitis C are more common in inmate populations than in the general population. Dealing with multiple health issues may result in triag-

ing the diagnoses to place priority on the issues that are most urgent at the time.⁵

Opportunities for Improving Quality of Care in Corrections Facilities

CQI Programs

The standards provided by the National Commission for Correctional Health Care include quality monitors. While many organizations address these monitors with policies and procedures, others are beginning to address quality outcomes measures with methods being used by managed care organizations in the community. Diabetes quality-of-care initiatives can and should be included in the overall CQI program.⁶ This can take many forms, depending on the processes used by the organization. Generally, the steps involved are:

1. Assess the current situation, preferably in quantifiable terms.
2. Clearly define the problems or gaps in care.
3. Discuss likely causes of these problems.
4. Identify viable solutions.
5. Choose the most practical or effective solution.
6. Plan the intervention, including resources needed.
7. Implement the plan.
8. Measure progress toward the goal at regular intervals.
9. Adjust the plan as indicated by the outcome measures.

Suppose, for example, that there is concern about the number of hospitalizations within the past year. This concern may be prompted by the costs incurred by these hospitalizations, which can account for nearly 50% of the total cost of diabetes care in some health maintenance organization populations.⁷ A summary report of the hospital utilization data should include admitting diagnoses, lengths of stay, discharge diagnoses, complications encountered, emergency department visits, ambulance costs, and other information. Evaluating such a report is likely to raise a number of important questions. How many of the admissions were related to serious episodes in the prison? How many admissions and emergency visits were avoidable? What was the most frequent cause of admission? Chart review may be needed to find answers to one or more of these questions. Addressing

avoidable hospital admissions can be an effort well spent to reduce costs significantly while improving quality of care.

Population Management

There is emerging evidence to suggest that organized disease management or population management programs can improve quality, manage costs, and reduce the morbidity and mortality associated with diabetes. Population management is a systematic approach to proactively managing the care of a whole population of people with a high-volume, high-risk, and high cost diagnosis. Population management strategies also address cost-effective use of the resources available.

Components of successful diabetes disease management programs include:

- Evidence-based standards of care
- Professional education regarding the standards of care
- Data management systems that include a registry and the ability to capture critical laboratory, pharmacy, visit, and other quality monitors in order to stratify risk of the members of the population
- High-risk care management
- DSME for individuals with diabetes
- Cost management through effective contracting for hospital and emergency services, formulary management, and specialty services in the community

Population management is more common in managed care organizations because the members of the population are identifiable. Correctional medicine is a managed care system of health care, with a network of contracted providers and hospitals. The population is “enclosed,” literally. Proactive health management, however, is a relatively new concept. The potential to improve quality while reducing costs to the payer (usually the taxpayer) is a strong argument for exploring population management as a means of meeting ADA clinical practice recommendations for diabetes.⁷

In population management efforts, registries are used to identify the status of current care for the population. For example, process measures include the percentage of patients who have hemoglobin A_{1c} measurements, lipid panels, serum creatinine measurement, urine microalbumin tests, dilated eye exams, and other key assessments performed within the

past year. Outcome measures aggregate the results of those measures and ideally reflect the percentage of those in and out of target ranges for each measure. Once this information is known, the quality improvement team can begin to identify the gaps in care, establish goals, identify possible causes and solutions, and measure results.

Care Management

Care managers, usually trained RNs, have been effective in facilitating outreach to individuals who are identified in a registry as being at high risk. Careful assessment and care planning, in close communication with the physician, can improve health outcomes and reduce risks. Innovative approaches, such as group or cluster visits, can demonstrate similar outcomes. A group visit of people in similar circumstances, with a multidisciplinary team present, provides the opportunity to obtain or schedule laboratory tests, foot exams, eye exams, blood glucose evaluation, medication management, nutrition planning, and focused "bullet-point" education, all in one visit.⁸

Care managers also typically provide outreach to those who have avoided or dropped out of care to assure that the standards of care are met.

Training for Corrections and Medical Staff

The ADA recommends specific training for all staff, both corrections officers and medical personnel.¹

All staff should receive general education about diabetes provided in lay language. The curriculum should focus on:

- What diabetes is, including signs and symptoms
- Risk factors
- Recognition and intervention for emergency situations: hypo- and hyperglycemia
- Overview of exercise and medications
- Blood glucose monitoring
- Importance of timing, especially meals and medication lines
- Access to snacks

This education should be provided with orientation and reviewed annually thereafter.

Provider education, as previously discussed, should focus on the standards of care. Use of flow sheets, paper or electronic, are especially helpful in prompting identification of

gaps in meeting the standards of care. Additional training in medication management of diabetes, specific to both type 1 and type 2 diabetes, is also valuable. This may be accomplished through real case discussion with an expert diabetes consultant.

Nursing education can contribute significantly to improved quality and continuity of care. Education specific to the nurse's role and responsibilities should begin with demonstration of basic diabetes competencies, validated on a regular basis. Additional training in case management, behavior change strategies, nursing assessment of diabetes control, basic nutrition goals, and problem-solving promotes effective communications and continuity of care.⁹

DSME for Inmates

DSME is critical to managing diabetes appropriately. As stated earlier, many correctional institutions do not employ nurse or dietitian diabetes educators who are qualified to provide this service. To the extent that is possible in the corrections environment, curricula should be developed and provided based on the National Standards for Diabetes Self-Management Education.¹⁰ Appropriate community resources can be utilized to support this effort and train the professional staff.

Prevention

Ultimately, implementation of prevention strategies may prove to have the greatest impact on improving care in correctional facilities. The increasing age and prevalence of obesity in the prison population punctuates the need for and value of addressing these issues. Population management strategies can also be useful in identifying those at risk and planning interventions to reduce the risk of developing diabetes and thereby its health consequences.¹¹ Fortunately, the diabetes community has begun to address diabetes prevention programs and measure their efficacy. Unfortunately, these programs appear to be rare in the corrections environment.

Conclusions

At best, diabetes is a complex chronic disease that is challenging to manage well even in communities offering many health care resources to support quality care. In correctional facilities, additional challenges and barriers exist that stretch the medical resources

and invite collaboration with the diabetes community.

It is encouraging to work with competent, dedicated professionals who are experienced in correctional medicine. Diabetes consultants should listen to these professionals carefully to fully understand the environment in which they function. They should also focus on the standards of care and implications of various treatment plan requirements, help identify barriers to effective care, and facilitate internal discussions that seek to overcome the barriers. Diabetes consultants who are also knowledgeable about health care system design can be especially valuable in supporting the development of a care delivery infrastructure that reduces barriers and optimizes available resources.

Although litigation is frequently the precipitating event that prompts efforts to improve quality of care for people with diabetes in correctional facilities, mandated solutions are not likely to promote effective and lasting change. Mutual respect of both corrections and diabetes expertise is much more likely to develop solutions to the problems that are as unique as the setting itself.

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