ADAPTING YOUR PRACTICE:

TREATMENT AND RECOMMENDATIONS

FOR HOMELESS PATIENTS

WITH DIABETES MELLITUS

HCH CLINICIANS' NETWORK

JUNE 2007

DISCLAIMER

The information and opinions expressed in this document are those of the Advisory Committee on Adapting Clinical Guidelines for Homeless Individuals with Diabetes Mellitus, not necessarily the views of the U. S. Department of Health and Human Services, Health Resources and Services Administration, nor the National Health Care for the Homeless Council, Inc.

Brehove, T., Joslyn, M., Morrison, S., Strehlow, A. J., and Wismer, B. (2007). *Adapting Your Practice: Treatment and Recommendations for Homeless People with Diabetes Mellitus.* [inclusive page numbers]. Nashville: Health Care for the Homeless Clinicians' Network.

PREFACE

Diabetes has emerged as one of the largest health issues in the United States today. Persons who are experiencing homelessness bear additional difficulties when trying to manage diabetes within the constraints of living in a shelter or on the streets. Clinicians who provide care to homeless people living with diabetes face complex challenges to adapt their practices to address the rigors of diabetes treatment while accommodating for the realities of their patients' lives.

In 2002, the Health Care for the Homeless Clinicians' Network assembled an advisory committee of primary care providers working in Health Care for the Homeless programs to provide specific recommendations for the clinical practice of working with homeless persons with diabetes. This year, the new committee comprised of a mix of members from the 2002 team along with new members, reviewed the guidelines to assure the recommendations reflect updated ADA guidelines. Additions were made to reflect changes within the homeless healthcare field as well.

We offer these recommendations to help health care providers to continue to improve the quality of care for their patients.

Sincerely,

Sharon Morrison
HCH Clinicians' Network

Health care for the homeless projects are health centers that are funded by the Bureau of Primary Health Care in the Health Resources and Services Administration of the U. S. Department of Health and Human Services under Section 330(h) of the Health Centers Consolidation Act.

AUTHORS

ADVISORY COMMITTEE ON ADAPTING CLINICAL GUIDELINES FOR HOMELESS INDIVIDUALS WITH DIABETES MELLITUS

Theresa M. Brehove, M.D.
Venice Family Clinic
Venice, California

Matthew Joslyn, M.D.
Boston Health Care for the Homeless Program
Boston, Massachusetts

Sharon Morrison, R.N., MAT
Health Care for the Homeless Clinicians' Network
Nashville, Tennessee

Aaron J. Strehlow, R.N., Ph.D., F.N.P.-C.
UCLA School of Nursing Health Center at the Union Rescue Mission
Los Angeles, California

Barbara Wismer, M.D., M.P.H.
Tom Waddell Health Center
San Francisco, California

ACKNOWLEDGMENTS

Editor: Brenda J. Proffitt, M.H.A.

The Advisory Committee appreciates the invaluable suggestions made by Jean Slutsky, Project Officer, National Guideline Clearinghouse, Agency for Healthcare Research and Quality, and Bellinda Schoof, Scientific Affairs Manager, American Academy of Family Physicians, who helped facilitate the background work for this project.

The Advisory Committee extends a special thank you to the clinicians who reviewed and contributed to the draft recommendations prior to publication: Edward Bonin, M.N., F.N.P.-C., R.N.; Mary Ann Kopydlowski, B.S.N., R.N.; Matias J. Vega, M.D.; and Mayer B. Davidson, M.D.

As well, the committee would like to thank the clinician's who wrote this document in its 2002 publication. They are: Theresa M. Brehove, M.D., Mary Jo Bloominger, P.A.-C., Laura M. Gillis, M.S., R.N., Darcie A. Meierbachtol, M.S., A.N.P., F.N.P., Veronica J. Richardson, M.S.N., R.N. and Aaron J. Strehlow, R.N., Ph.D., F.N.P.-C.

Adapting Your Practice: Treatment and Recommendations for Homeless Patients with Diabetes Mellitus was supported through a grant from the Health Resources and Services Administration, U. S. Department of Health and Human Services.

INTRODUCTION

Clinical practice guidelines for people who have diabetes mellitus and are homeless are the same as for the general population. Primary care providers who routinely care for homeless people, however, recognize the need to take the patient's living situation and co-occurring disorders into consideration when developing a plan of care. These simple adaptations of established guidelines might improve treatment adherence and patient outcomes. The treatment recommendations in this guide were compiled in order to assist providers who care for homeless adults with diabetes. The American Diabetes Association's *Standards of medical care for patients with diabetes mellitus* is the source document for these adaptations (ADA, 2007). Recommendations found in the ADA diabetes guidelines are not restated in this document except to clarify a particular adaptation.

DIAGNOSIS AND EVALUATION

History

- Assess where the patient is living; e.g., shelter, on the street, doubled up*.
- Ask when the patient last had a permanent or regular place to live, and if they have ever had their own apartment or home.
- Ask the patient about eating habits and patterns including nutrition status, weight history, and food sources, e.g., soup kitchens. Many food sources supply only one meal a day so that the homeless person must visit multiple places for food.
- Ask the patient if they have access to food and water when they want or need it, e.g., snacks.
- Assess and often reassess how much walking the patient is doing as well as the condition and fit of footwear.
- Ask patient if they have ever had foot sores or ulcers or any problems with their feet.
- Obtain a sexual history including contraception and reproductive history.
- Ascertain the patient's current medications and how they are obtained.
- Explore the use of tobacco, alcohol and illicit drugs, and the frequency and route of use. Assess the patient's readiness to change behavior.
- Assess patient's literacy level.

* "Doubled up" is a term that refers to a situation where individuals are unable to maintain their housing situation and are forced to stay with a series of friends and/or extended family members.

Diagnostic Tests

- Perform dipstick urinalysis to test for ketones, glucose, protein and sediment.
- The use of portable HbA1c test kits is a valuable tool for point of care information. The results, available in fewer than ten minutes can be used to enhance follow-up and patient education.
- To assess kidney status, the best test for homeless patients is the albumin-to-creatinine ratio (urine for microalbumin) in an early morning collection. If the test is elevated, repeat. Twenty four-hour urine testing is no longer recommended for screening and is not practical for many homeless patients.
- Since homeless patients can be transient, consider using a diabetic monitoring card to record labs and exams (Ridolfo and Proffitt, 2000). Patients can use this card to share information with their next health care provider and it is also useful as a self-management tool. Designed specifically for homeless individuals with diabetes, the monitoring card is available through the HCH Clinicians' Network (cards come 100 to a pack; for a sample or to order call 615 226-2292).

PLAN AND MANAGEMENT

At each visit the clinician should:

∗ Tip:
Patients receiving food stamps or other public entitlements may exhaust their resources by the end of the month.

- Assess the patient's current living situation including where they live, how long they have lived there, who lives with them and their relationship to that person.
- Assess the psychological, sociological and economic factors that may affect the management plan. Refer the patient to community resources, as needed, e.g., Department of Social Services.
- Assess food sources.
- Obtain an emergency contact with a phone number.
- Obtain a phone number for the patient if possible. Some patients have cell phones, voice mail numbers or can receive messages at shelters or programs.

Patient Education and Self-Management

- Patients who are dependent on tobacco, alcohol or illicit drugs may not be ready or able to abstain from these substances. Helping the patient move in that direction may be the final goal. Many therapeutic interventions help decrease health risks until they are ready to change their behavior. Motivational interviewing, for example, is a successful technique to reduce risk of complications (Miller and Rollnick, 2002).
- Self management goal setting can be a useful method to involve patients in their health care. Allow the patient to decide what is important for them in their contribution to their health, even if the goal is not directly related to a diagnosis of diabetes. This first step can provide the patient with confidence to make further changes as needed.
- Providing culturally suitable education that involves the patient in the learning process is critical. Successful approaches to teaching homeless persons include peer interaction and support groups.

Diet and Nutrition

Homeless persons are usually dependent on soup kitchens or shelters for meals, and it may be difficult to plan meals to coincide with insulin administration. Clinicians should work with shelters and soup kitchens to promote healthy food choices and to provide supplemental snacks to those with diabetes.

The clinician should:

- Assess where and when the patient is eating, and the frequency and healthfulness of meals.
- Recognize that patients may choose to eat at local fast food restaurants and provide them with a list of healthier food choices available within these locations.
- Provide suitable documentation for the patient with diabetes to use at food pantries, soup kitchens and shelters to obtain healthful snacks and foods.
- Encourage the patient to make the best choices that they can from what is available, for example, taking a smaller portion of macaroni and cheese and a larger portion of vegetables.

* Tip:
Tight glycemic control may be dangerous for patients on insulin or sulfonylureas who cannot reliably predict the number or timing of meals that they will eat that day.

- Ask the patient to save part of the meal for later when only one or two meals are available per day.
- Provide multivitamins with minerals.
- Acknowledge the patient's limitations given food choices and work to adjust medications to address glucose control.

Oral Health

Access to preventive dental services is often difficult for patients experiencing homelessness. The clinician can:

- Provide toothbrushes, toothpaste and dental floss.
- Teach basic oral health care, e.g., demonstrating proper brushing and flossing.
- Advise patient to rinse mouth with water after eating when brushing is not possible.
- Teach patient the importance of an annual oral examination even if they do not have teeth.
- Refer patients for an annual oral exam when possible.

Exercise

For people who are homeless, walking is their typical exercise and they usually carry their belongings, which increases the exercise effort. Patients with peripheral neuropathy or foot problems should take precautionary measures such as proper footwear. The clinician should:

- Chart how far the client walks daily.
- When appropriate, suggest that the patient take steps instead of elevators.
- Assess the condition of the patient's shoes and socks at every visit.
- Research possibilities for exercise monitors such as pedometers and options such as the YMCA or other local fitness centers that can offer membership at reduced rates.

Foot care

Foot problems often result from prolonged standing and walking. When combined with diabetes, the patient is at high-risk for foot ulcers. The clinician should:

- Encourage patient to keep feet dry and take shoes and socks off at night.
- Instruct patient to wash socks nightly, if possible, and dry thoroughly.

- Teach patients how to examine their feet. If they cannot see the bottom of their feet, teach the patient how to use a mirror. Urge patients to visit the clinic immediately if they have open foot sores or areas of redness.
- Identify community resources for free shoes and socks, and refer patients as needed. Maintain a supply of clean socks to give to patients as needed.
- Consider having foot care products for patients e.g., skin care lotions, corn cushions, mole skin and lambs wool.
- Instruct patient to elevate legs to a level at or above their heart whenever possible to prevent/alleviate fluid stasis in lower extremities. This is especially important for patients who are sleeping in chairs.
- Refer patient to Respite care if available for relief of diabetic foot conditions.
- Secure a podiatrist for referrals and consultation.

Insulin therapy

Tight glycemic control can increase the risk of hypoglycemic episodes in homeless individuals due to a variety of physiological and adherence factors including excessive caloric expenditures, e.g., extensive walking; uncertain caloric intake, e.g., availability, content and timing of meals; and behavioral factors that may negatively effect adherence e.g., mental illness and substance abuse.

- Consider using a basal insulin such as insulin glargine with insulin lispro, insulin aspart, or regular insulin before meals to accommodate erratic eating patterns.
- Consider decreasing insulin dosage when food is unavailable.
- Use premixed insulin when possible.
- Consider teaching the patient to adjust his or her insulin dose based on food availability and blood sugar readings
- The use of insulin pens has proven convenient and successful to reduce the risk of theft for patients who might otherwise need to carry syringes. Providers should inquire in their area on how to access pens for patient use.
- If they are walking a great deal, encourage patient to inject insulin into the abdomen to avoid erratic absorption.
- Remind the patient to rotate injection sites to avoid lipodystrophy.

Insulin storage
Since patients have little or no access to refrigeration, consider these options:

- Assess if the patient can use a shelter's refrigerator and if the insulin will be accessible when needed.
- Store the patient's insulin at the clinic and dispense one vial at a time.
- Suggest that the patient store insulin in an insulated lunch bag.
- Provide insulated lunch bags for insulin storage.
- Avoid pre-filling syringes and storing them in a communal refrigerator, e.g., in a shelter, where the medication integrity cannot be monitored safely.
- If refrigeration is unavailable, insulin can be safely stored at temperatures between 36 and 86 degrees Fahrenheit for up to one month.
- Therefore, recommend that patients avoid carrying insulin inside pants or shirt pockets. An alternative such as outer clothing or tote bag may be suggested.

Syringe storage/disposal
- Advise patients against cleaning needles with alcohol for reuse. If alcohol is not properly rinsed, remains on the needle and is injected it can cause a sterile abscess.
- Caution patients to store syringes securely since they can be stolen for illicit drug use.
- Advise patients that a pharmacy may provide one or two syringes if needed. The patient will need to show the pharmacist their insulin supply.
- Instruct patient on proper syringe disposal emphasizing safety and offer options available in their area.

Oral anti-diabetic agents

People experiencing homelessness have high rates of hepatitis and a high incidence of substance use disorders (50 percent nationally, Koegel, Burnam, and Baumohl, 1996) with associated liver dysfunction. The clinician should:

- Assess liver function on a regular basis.
- Screen carefully for alcohol abuse before starting metformin due to an increased risk of lactic acidosis.

For the patient taking sulfonylureas, the clinician should:
- Recommend that the patient hold or decrease the dosage when food is unavailable to avoid hypoglycemic episodes.

Self-monitoring of blood glucose

Although self-monitoring of blood glucose has replaced urine testing to measure glucose control, patients who are homeless often have difficulty obtaining glucometers or strips. If self-monitoring is not possible, the clinician should**:**

- Teach patient to use urine strips to check glucose.
- Recommend frequent clinic visits to monitor blood glucose and complications.

Contingency plan for managing hypoglycemic episodes

People who are homeless often do not have family members or friends available to help in an emergency. Clinicians should teach shelter staff the signs and symptoms of hypoglycemia. This is critical since hypoglycemia may be mistaken for intoxication. If the patient is conscious and able to swallow, the shelter staff can give oral glucose, e.g., an orange drink. If the patient is unresponsive or unable to swallow, the shelter staff should immediately call 911 for help.

Work with shelter staff to provide before bedtime diabetic appropriate snacks for patients.

If the patient has family members or friends available, they should be taught to recognize the signs and symptoms of hypoglycemia and how to administer a subcutaneous or intramuscular injection of glucagon should the patient ever be unresponsive or unable to swallow.

Assist patients to obtain a medic alert bracelet and to keep a written plan and a form of glucose that is easy to carry.

MANAGEMENT OF ASSOCIATED PROBLEMS AND COMPLICATIONS

Diabetic foot ulcers
Sufficient bed rest may not be possible for the homeless person since many shelters are not open during the day. Clinicians need to work with shelter staff and other homeless service providers to ensure that convalescent care is

available. Convalescent care may include access to a motel room or 24-hour shelter beds for those needing bed rest.

Diabetic foot ulcers can be slow-healing wounds that respond well to basic clean wound care and off-loading of weight. Off-loading of weight can be achieved either through obtaining convalescent care (bed rest) or if available, by out-patient, specialty medical (Podiatric or Orthopedic) care which can provide boots or casting. It is rare that ulcers alone can qualify for hospital-level care, although medical respite or medical rehabilitation facilities can be utilized where available.

However, diabetic foot ulcers may also lead to serious and rapidly progressive infections requiring hospital level care. Because of the difficulty of monitoring infections in the homeless context, as well as the short amount of time in which infection can progress in the diabetic patient, referral to a higher level a care should be considered and attempted early.

When referring patients for hospital level care, it may be helpful to emphasize not only key clinical data, but also helping the evaluating hospital clinicians appreciate the context and confounders to what might otherwise be appropriate out-patient care.

- Presence of redness and warmth around the wound, especially if the patient is already getting good daily wound care or taking an antibiotic (expect little improvement in the first 24 hours, but tolerate no progression)
- Fever (temperature > 100.5 degrees Fahrenheit)
- Diagnosis of Diabetes and a recent blood glucose level; also, a general statement about the patient's usual control (e.g. "poorly controlled"), and the need for insulin ("insulin dependent") for daily management
- Context of Homelessness is an important consideration in judging the success of out-patient monitoring and the patient's ability to self care and self-refer upon worsening
- Ongoing substance abuse is *very high risk* for poor attention to progression of infection and the person's ability to self-refer for care upon worsening
- Some symptoms of mental illness (e.g. paranoia, apathy, delusion) also can be barriers to self-care and a person's ability to self-refer upon worsening
- Offering post-hospital care and follow-up can help alleviate non-clinical barriers to homeless patients being admitted to hospital level care

Diabetic retinopathy
Access to eye exams may be difficult for homeless patients due to a lack of insurance. Networking with local ophthalmologists to obtain free exams has been successful in several communities.

Hypertension
When considering using a diuretic for blood pressure control, the clinician should:

- Assess the patient's access to bathroom facilities.
- Assess the patient's access to water and other fluids if the patient is living outside in a hot climate.

Lipid management
Consider screening liver functioning more frequently for patients using statins for hyperlipidemia if the patient is abusing alcohol and other drugs.

Consider using direct LDL testing, which does not require the patient to fast before having the test drawn. This is especially important for patients who often miss appointments.

Oral health
Poor oral hygiene is common among homeless people. Dental abscesses and periodontal disease contribute to poor glycemic control. The clinician should identify free or discounted dental services available within the community. Dental schools, public health departments and private dentists who volunteer their services can be valuable resources for homeless people.

Alcohol dependence
For the patient who is not ready or able to abstain from alcohol use:

- Stress the importance of eating.
- If patient is drinking alcohol, assess amount. Teach patient caloric content of alcohol and effect on glucose management.
- Encourage the patient to seek shelter on nights when weather is extreme, e.g., cold, hot or wet.
- Consider using motivational interviewing techniques and risk reduction methods to guide the patient toward abstinence.
- Suggest more frequent office visits to encourage goal setting and closely monitor the diabetes progression.

Nicotine dependence
For the patient who is dependent on nicotine, the clinician should refer or enroll the patient in a smoking cessation program. Smoking causes vasoconstriction that increases the risk of frostbite. For patients living outside or in poorly heated places, the clinician should:

- Explain the relationship between smoking, vasoconstriction and diabetes.
- Recommend that the patient always wear gloves and carry an extra pair of socks to change into when feet get damp.

Smoking increases risk of pulmonary infection and may contribute to a vitamin C deficiency that can affect wound healing. The clinician should:

- Stress hand washing to decrease the transmission of organisms.
- Provide annual influenza vaccines and encourage the administration of the pneumococcal vaccine.
- Teach the patient about good food sources of vitamin C.
- Consider providing vitamin supplements.

Mental Impairment
About 25 percent of homeless people have at some time experienced severe mental disorders such as schizophrenia, major depression or bipolar disorder (Koegel, et al, 1996). Homeless patients may have developmental delays and impaired cognitive functioning. Patients with mental impairments may experience the following:

- Impaired thinking processes that result in disorientation and a disorganized lifestyle.
- Lack of motivation to seek help.
- Lack of insight or understanding of their illness, which may result in denial of the need for services.
- Negative experiences with mental health institutions.
- Unpleasant medication side effects.

Patients prescribed atypical antipsychotic medications are at increased risk for the development of obesity, hyperlipidemia, and hyperglycemia. For these patients, providers should carefully monitor weight, lipids, and glucose.

For providers not in health care for the homeless projects that offer mental health services, connecting with other agencies that offer counseling and therapy will help greatly in managing the plan for the homeless patient with a mental impairment.

REFERENCES

American Diabetes Association (2002). Insulin administration. *Diabetes Care, 25:* S112-115.

American Diabetes Association (2007). Standards of medical care for patients with diabetes mellitus. *Diabetes Care, 25*: S33-49. © 2007, American Diabetes Association. Cited with permission from the American Diabetes Association.

Brehove, T., Bloominger, M. J., Gillis, L., Meierbachtol, D. A., Richardson, V. J., and Strehlow, A. J. (2002). *Adapting Your Practice: Treatment and Recommendations for Homeless People with Diabetes Mellitus.* [inclusive page numbers]. Nashville: Health Care for the Homeless Clinicians' Network.

Koegel, P., Burnam, M.A., and J. Baumohl (1996). The causes of homelessness. In J. Baumohl (editor), *Homelessness in America.* Phoenix: Oryx Press, p. 31.

Miller, W. R. and S. Rollnick (2002*). Motivational interviewing: preparing people to change addictive behavior,* second edition. New York: Guildford Press.

Ridolfo, A, J. and B. J. Proffitt (2000) *Diabetes and homelessness: Overcoming barriers to care.* Nashville: Health Care for the Homeless Clinicians' Network.

Uphold, C. R. and M. V. Graham (2003). Diabetes mellitus. In C. R. Uphold and M. V. Graham (editors). *Clinical guidelines in family practice.* Gainesville, Fla.: Barmarrae Books, pp. 164 - 198.

Wilk, T., Mora, P.F., Chaney, S, and Shaw, K. (Aug 2002). *Use of an Insulin Pen by Homeless Patients with Diabetes Mellitus.* Journal of the American Academy of Nurse Practitioners Vol. 14 Issue 8, pp. 372-379

Lorig, K.R., Sobel, D.S., Stewart, A.L., et al. *Evidence Suggesting That a Chronic Disease Self-Management Program Can Improve Health Status While Reducing Hospitalization: A Randomized Trial.* Med Care. 1999 Jan; 37 (1): 5 – 14.

SUGGESTED RESOURCES

McMurray-Avila, M. (2001). *Organizing health services for homeless people* second edition. Nashville: National Health Care for the Homeless Council, Inc.

WEB SITES

American Diabetes Association	www.diabetes.org
American Academy of Family Physicians	www.aafp.org
Health Disparities Collaboratives	www.healthdisparities.net
National Guideline Clearinghouse	www.guideline.gov
National Health Care for the Homeless Council	www.nhchc.org

ABOUT THE HCH CLINICIANS' NETWORK

Founded in 1994, the Health Care for the Homeless Clinicians' Network is a national membership association that unites hands-on care providers from many disciplines who are committed to improving the health and quality of life of our homeless neighbors. The Network is engaged in a broad range of activities including publications, training, research and peer support. The National Health Care for the Homeless Council, Inc., operates the Network and the Bureau of Primary Health Care, the Substance Abuse and Mental Health Services Administration, and member dues support our efforts. A Steering Committee that represents diverse community and professional interests governs the Network.

To join the Network or order additional materials about homelessness, call 615 226-2292 or write network@nhchc.org. Please visit our Web site at www.nhchc.org.