NATIONAL LGBT HEALTH EDUCATION CENTER
A PROGRAM OF THE FENWAY INSTITUTE

DIABETES PREVENTION AND MANAGEMENT FOR LGBTQ PEOPLE

https://www.lgbthealtheducation.org

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Introduction

Diabetes mellitus affects over 30 million Americans, including those who are lesbian, gay, bisexual, transgender, and queer (LGBTQ). A quarter of Americans with diabetes have not received a diagnosis, and an additional 84.1 million have prediabetes.[1]

The great majority of people with diabetes have type 2, which can be managed with healthy eating, physical activity, smoking cessation, psychosocial screening and follow-up,[2] and often medications or insulin therapy.[3] Unfortunately, poverty and other social determinants create barriers that may inhibit an individual's ability to prevent and manage diabetes.[4] It is not surprising, then, that health centers serve a disproportionate number of patients with diabetes: at least one in every seven health center patients has a diabetes diagnosis,[5] compared to the national average of one in ten.[6] Without appropriate management, diabetes can lead to heart disease, stroke, vision loss, kidney disease, neuropathy, lower limb amputations, and mortality.[1]

In this publication, we discuss diabetes risk factors unique to LGBTQ people, and make recommendations for screening and management of diabetes in LGBTQ populations. For a brief overview of this publication, read the Key Summary Points on page 8.




Are LGBTQ People More Likely to Have Diabetes?

Research studies suggest that certain LGBTQ subgroups may have an increased risk for type 2 diabetes. The research is summarized below:

Lesbian and bisexual (LB) women

LB cisgender (i.e., not transgender) women, especially young women and teens, may have a higher prevalence of diabetes compared to cisgender straight women.[7] Studies consistently report that LB youth and women are more likely to be overweight or obese compared to their straight peers,[8,9] and that high body mass index (BMI) is a primary contributor to type 2 diabetes.[2] Other common risk factors for diabetes among LB women include cigarette smoking and alcohol use disorders.[10] It should be noted, however, that some studies have not shown a significant difference in prevalence of diabetes diagnosis among LB women compared to straight women.[11,12]

Gay and bisexual (GB) men

Lifetime diabetes diagnosis may be higher among cisgender GB men than among cisgender straight men.[12] Although GB men do not have a higher BMI than straight men, they are more likely to smoke cigarettes and possibly more likely to engage in at-risk alcohol use.[10,13-15] In addition, GB men are disproportionately living with HIV,[16] and people living with HIV are more likely to have type 2 diabetes. Some HIV medications increase insulin resistance, although their direct effects on diabetes risk is unclear.[17] A 2017 Australian study found that older HIV-infected GB men had an increased risk of diabetes compared to older HIV-uninfected GB men, and that the difference was possibly due HIV medication use.[18]

Transgender people

Transgender people may also have a somewhat higher prevalence of type 2 diabetes compared to cisgender people.[19-21] In some cases, gender-affirming hormone therapy may contribute to weight gain and other risk factors for diabetes (e.g., oral estrogens may increase triglycerides and insulin resistance; testosterone may increase hemoglobin/hematocrit) although these effects appear to be modest.[20-22] Research suggests that transgender people may also have a high prevalence of tobacco use[22] and hazardous drinking,[23] which can increase the risk of diabetes. Transgender men are also more likely to be obese and to have a poor lipid profile compared to cisgender men, but not cisgender women.[24] As with GB men, transgender women are a population with high HIV incidence and prevalence,[25] and may therefore be at increased risk of diabetes from taking certain HIV medications.

LGBTQ racial and ethnic minorities

Among all health center patients, diabetes disproportionately affects Pacific Islanders, American Indian/Alaska Native, Native Hawaiian, Black/African American, and Hispanic or Latino patients.[5] LGBTQ patients who identify as one or more of these race/ethnicities may therefore have a compounded risk of diabetes.

Diabetes Prevention and Clinical Care for LGBTQ Patients

Social determinants

The successful prevention, treatment, and management of diabetes requires health centers to not only provide appropriate medical care, but also to address the complex social needs of patients. Unemployment and homelessness are disproportionately high among LGBTQ people, especially transgender people, as a result of pervasive societal discrimination.[26] Many also report delaying necessary medical care in order to avoid experiencing stigma and bias from health care providers.[27] Unequal access to housing, employment, food, and education all have a profound influence on diabetes health status.[4,28] A person without steady employment may not have the income to purchase healthy foods or pay gym membership fees. To regularly attend medical appointments and visit the pharmacy, a person needs a car or access to public transportation, but may not have the funds to afford a vehicle or transportation fees. Homelessness exacerbates all of these issues and more.[29]

Substance use disorders, depression, anxiety and other behavioral health issues can also complicate the prevention, treatment, and management of diabetes.[30] LGBTQ people have an increased risk of behavioral health disorders in response to stressors caused by stigma and discrimination.[31]

Strategies for overcoming barriers

To support LGBTQ patients with diabetes, health centers can provide LGBTQ patients with equitable health care that is free of stigma, addresses social determinants, and is culturally tailored as needed. Steps to doing this include:

- Training clinical and front-line staff in LGBTQ-affirming communication and care – be sure to include nutritionists and diabetes educators in the training
- Establishing patient policies that protect LGBTQ people from discrimination based on sexual orientation, gender identity, and gender expression
- Working with local community groups and partners to engage LGBTQ patients
- Using an integrated behavioral health and primary care model, or setting up a strong referral network of culturally affirming behavioral health providers
- Using LGBTQ-inclusive language and images on forms, as well as educational and promotional materials.
- Addressing behavioral needs that impede treatment adherence and self-care, e.g., use a trauma-informed approach to care.

Screening

Diabetes screening for LGBQ cisgender people should follow the same recommendations as for the general population. The American Diabetes Association's 2019 Standards of Medical Care in Diabetes provides evidence-graded clinical practice recommendations for diabetes screening.[32]

When screening transgender patients, it is important to know that gender-affirming hormone treatment may increase blood pressure, blood glucose, and weight.[33] Transgender health guidelines recommend that patients taking masculinizing or feminizing hormone therapy be screened at time of hormone therapy initiation and at least annually (guidelines vary); more frequent screening is recommended for patients with a family history of diabetes or an annual weight gain of more than 5 kg.[34,35] Clinicians should also keep in mind that transgender men are at increased risk for developing polycystic ovarian syndrome, which is a risk factor for diabetes.[30]

For HIV-infected patients, it is recommended that clinicians test the blood glucose levels of patients prior to initiating HIV medications. Clinicians should consult guidelines to determine the best HIV medications to use with patients who have higher-than-normal glucose levels.[36]

Treatment and management

Health center patients overall have better controlled blood sugar levels (Hemoglobin A1c < 9%) than the national average (67%[5] vs. 59%[6] respectively, in 2017). Nonetheless, there is much room for improvement, particularly among racial, ethnic, and sexual and gender minority populations.

Diabetes treatment and management for LGBTQ people should follow the same guidelines as for the general population (see the American Diabetes Association's Standards of Medical Care in Diabetes)[30], with some exceptions for those taking gender-affirming hormone therapy (see next page).[33,34] Current recommendations for managing type 2 diabetes include offering or referring patients to interventions for weight loss, healthy eating, regular exercise, and smoking cessation when applicable.[2] Some patients will require diabetes medication or insulin therapy, and all patients should receive blood sugar monitoring.[3]

We recommend providing LGBTQ culturally affirming care to help patients connect to social and community supports that will diminish the stressors and barriers unique to LGBTQ people. In addition, being nonjudgmental and avoiding assumptions about a patient's gender expression, partners, and pronouns are important for fostering a good relationship with LGBTQ patients. To learn more about culturally affirming care, see the strategies listed on page 3 and the training and information resources listed on page 9.

Diabetes management for transgender patients

The World Professional Association for Transgender Health's Standards of Care recommends that conditions such as diabetes be "reasonably well controlled" prior to initiating gender affirming hormone therapy. As part of the informed consent process with a diabetes patient who wishes to access hormone therapy,[37] clinicians can discuss the potential effects of gender-affirming hormone therapy on blood sugar levels.[21,38] It is not yet clear if gender-affirming hormone therapy affects diabetes disease course.[32] To reduce the potential risk of complications in transgender patients with diabetes, clinicians should consider closely monitoring for fasting glucose and hemoglobin A1c when initiating or adjusting gender-affirming hormone therapy.[32,36] Patients taking estrogen may need insulin-sensitizing agents if diabetes medications are indicated.[33] Anecdotally, transgender patients who have poorly controlled diabetes prior to initiating gender-affirming hormone therapy often see declines in hemoglobin A1c levels after starting hormone treatment as a result of improved mental health and self-care.[32]

Population Health Management

To better understand how diabetes affects your LGBTQ patient population, we recommend including sexual orientation and gender identity (SOGI) demographic categories when developing electronic health record (EHR) summary reports on diabetes measures.[39] HRSA has required health centers to collect and report SOGI data to the Uniform Data System since 2016 in order to allow for better LGBTQ population health management. Tracking disparities and trends in diabetes prevalence and hemoglobin A1c levels among LGBTQ patients will enable your health center to provide more focused care for this vulnerable population.

Diabetes Programs

Health centers that conduct patient programs for diabetes prevention and management can take steps to ensure these programs are welcoming for LGBTQ patients. Ways to do this include: stating in promotional materials that the program welcomes people of all sexual orientations and gender identities; training program leaders in culturally affirming communication; and modeling inclusive language when facilitating groups (e.g., saying 'partner' or 'spouse' instead of 'wife' or 'husband;' asking members for their pronouns). Where feasible, health centers can create programs and support groups specifically for LGBTQ people in order to address unique barriers with culturally appropriate solutions.

Though not specific to LGBTQ people, we wish to highlight a model program for diabetes management that addresses social determinants of health that disproportionately affect LGBTQ people. Started in 2016, Geisinger Health in Pennsylvania created the Fresh Food Farmacy program that gives out "prescriptions" for healthy food to patients with diabetes who experience food insecurity. Patients pick up free nutritious food, menus, and recipes from an onsite pantry while also receiving patient-centered, multidisciplinary collaborative care, and participating in group classes on diabetes self-management. After 12 months of being in the program, patients' hemoglobin A1c levels dropped from an average of 9.6 before the program to 7.5.[40] See https://www.geisinger.org/freshfoodfarmacy to read more about the program.

Key Summary Points

LGBTQ patients may be at higher risk for type 2 diabetes. The screening, treatment, and management of diabetes is the same as for all populations, with some additional screening and management needed for transgender patients taking gender-affirming hormone therapy. To better engage patients in care, we recommend:

- Training staff in LGBTQ culturally affirming care and services
- Accessing primary care guidelines for transgender patients that include screening and management recommendations for patients taking gender-affirming hormone therapy
- Addressing risk factors and treating co-morbid conditions common among LGBTQ populations, such as obesity, substance use disorders, cigarette smoking, and HIV
- Collecting sexual orientation and gender identity data in the EHR in order to monitor trends and disparities in diabetes incidence, prevalence, and control among LGBTQ patients
- Supporting patients in overcoming socio-economic issues that negatively influence health status; for example, connecting patients to programs for housing and job training, partnering with LGBTQ community groups and services, and ensuring that your clinical environment is free of stigma and is pro-actively inclusive of LGBTQ patients
- Developing culturally specific diabetes management programs that address LGBTQ risk factors and social stressors that impede engagement in care.

Resources

- **The National LGBT Health Education Center**
  Free online training and educational publications to improve health centers' capacity to provide culturally affirming care to LGBTQ patients. Includes resources on SOGI data collection.
  www.lgbthealtheducation.org

- **HRSA Health Center Program Diabetes QI Initiative**
  HRSA's initiative to improve diabetes outcomes and lower health care costs using principles of QI and data driven decision-making, and sharing promising practices and lessons learned.
  bphc.hrsa.gov/qualityimprovement/clinicalquality/diabetes.html

- **American Diabetes Association. Standards of Medical Care in Diabetes—2019. Diabetes Care. 2019; 42; Supplement 1.**
  Diabetes care clinical practice recommendations based on the clinical literature, with input from the medical community and the American Diabetes Association. Updated at least annually.
  care.diabetesjournals.org/content/42/Supplement_1

- **Center of Excellence for Transgender Care, University of San Francisco, CA**
  Primary care guidelines for transgender health.
  www.transhealth.ucsf.edu

- **The Fenway Guide to Lesbian, Gay, Bisexual, and Transgender Health, 2nd edition. American College of Physicians; 2015**
  See: Feldman J, Spencer K. Medical and surgical management of the transgender patient: what the primary care clinician needs to know, pp.479-518.

- **Tom Waddell Health Center Hormonal Treatment Protocols for Transgender Patients, 2013**
  Hormone treatment guidelines based on available evidence as well as the Tom Waddell Health Center's experience in treating transgender patients over 20 years. www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/TransGendprotocols122006.pdf

- **The Endocrine Society: Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline, 2017**
  An evidence-based guideline developed by an expert task force appointed by the Endocrine Society. www.endocrine.org/guidelines-and-clinical-practice/clinical-practice-guidelines/gender-dysphoria-gender-incongruence

references

1. Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2017. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2017. www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf
2. American Diabetes Association. 5. Lifestyle management: Standards of Medical Care in Diabetes--2019. Diabetes Care. 2019; 42(Supplement 1): S46-S60.
3. American Diabetes Association. 9. Pharmacologic approaches to glycemic treatment: Standards of Medical Care in Diabetes--2019. Diabetes Care. 2018; 42(Supplement 1): S90-S102.
4. Gaskin DJ, Thorpe RJ Jr, McGinty EE, et al. Disparities in diabetes: the nexus of race, poverty, and place. Am J Public Health. 2014;104:2147–2155.
5. HRSA Health Center Program. 2017 Uniform Data System. https://bphc.hrsa.gov/datareporting/reporting/index.html
6. NCQA. Comprehensive Diabetes Care, 2017. www.ncqa.org/hedis/measures/comprehensive-diabetes-care/.
7. Corliss HL, VanKim NA, Jun HJ, et al. Risk of type 2 diabetes among lesbian, bisexual, and heterosexual women: Findings from the Nurses' Health Study II. Diabetes Care. 2018;41:1448-1454.
8. Simoni JM, Smith L, Oost KM, Lehavot K, Fredriksen-Goldsen K. Disparities in physical health conditions among lesbian and bisexual women: a systematic review of population-based studies. J Homosex. 2017;64:32-44.
9. Beach LB, Turner B, Felt D, Marro R, Phillips GL, 2nd. Risk factors for diabetes are higher among non-heterosexual US high-school students. Pediatr Diabetes. 2018;19:1137-1146.
10. Cunningham TJ, Xu F, Town M. Prevalence of five health-related behaviors for chronic disease prevention among sexual and gender minority adults – 25 US states and Guam, 2016. MMWR. 2018;17:67:888-893.
11. Beach LB, Elasy TA, Gonzales G. Prevalence of self-reported diabetes by sexual orientation: results from the 2014 Behavioral Risk Factor Surveillance System. LGBT Health. 2018;5:121-130.
12. Conron KJ, Mimiaga MJ, Landers SJ. A population-based study of sexual orientation identity and gender differences in adult health. Am J Public Health. 2010;100:1953-1960.
13. Blosnich JR, Farmer GW, Lee JG, Silenzio VM, Bowen DJ. Health inequalities among sexual minority adults: evidence from ten U.S. states, 2010 [published correction appears in Am J Prev Med. 2014;47:103]. Am J Prev Med. 2014;46:337–349.
14. Lunn MR, Cui W, Zack MM, Thompson WW, Blank MB, Yehia BR. Sociodemographic characteristics and health outcomes among lesbian, gay, and bisexual U.S. adults using Healthy People 2020 Leading Health Indicators. LGBT Health. 2017;4:283–294.
15. Gonzales G, Przedworski J, Henning-Smith C. Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: results from the National Health Interview Survey. JAMA Intern Med. 2016 Sep 1; 176: 1344-1351.
16. Centers for Disease Control and Prevention. HIV in the United States and Dependent Areas. https://www.cdc.gov/hiv/statistics/overview/ataglance.html.
17. U.S. Department of Health and Human Services. AIDS Info: HIV and Diabetes. https://aidsinfo.nih.gov/understanding-hiv-aids/fact-sheets/22/59/hiv-and-diabetes.
18. Petoumenos K, Huang R, Hoy J, et al. Prevalence of self-reported comorbidities in HIV positive and HIV negative men who have sex with men over 55 years-The Australian Positive & Peers Longevity Evaluation Study (APPLES). PLoS One. 2017;12:e0184583.
19. Wierckx K, Elaut E, Declercq E, et al. Prevalence of cardiovascular disease and cancer during cross-sex hormone therapy in a large cohort of trans persons: a case-control study. Eur J Endocrinol. 2013;169:471-478.
20. Jones TH. Effects of testosterone on type 2 diabetes and components of the metabolic syndrome. J Diabetes. 2010;2:146-156.

21. Elbers JM, Giltay EJ, Teerlink T, al. Effects of sex steroids on components of the insulin resistance syndrome in transsexual subjects. Clin Endocrinol. 2003;58:562-571.

22. Edmiston EK, Donald CA, Sattler AR, Peebles JK, Ehrenfeld JM, Eckstrand KL. Opportunities and gaps in primary care preventative health services for transgender patients: a systemic review. Transgend Health. 2016;1:216-230.

23. Gilbert PA, Pass LE, Keuroghlian AS, Greenfield TK, Reisner SL. Alcohol research with transgender populations: a systematic review and recommendations to strengthen future studies. Drug Alcohol Depend. 2018;186:138-146.

24. Velho I, Fighera TM, Ziegelmann PK, Spritzer PM. Effects of testosterone therapy on BMI, blood pressure, and laboratory profile of transgender men: a systematic review. Andrology. 2017;5:881-888.

25. Poteat T, Scheim A, Xavier J, Reisner S, Baral S. Global epidemiology of HIV infection and related syndemics affecting transgender people. J Acquir Immune Defic Syndr. 2016;72 Suppl 3:S210-219.

26. Badgett MVL DL, Schneebaum A. New patterns of poverty in the lesbian, gay, and bisexual community. Los Angeles, CA: The Williams Institute, UCLA School of Law; 2013.

27. Grant JM, Mottet LA, Tanis J, Harrison J, Herman JL, Keisling M. Injustice at every turn: A report of the National Transgender Discrimination Survey. Washington, DC; 2011.

28. Chaufan C, Davis M, Constantino S. The twin epidemics of poverty and diabetes: understanding diabetes disparities in a low-income Latino and immigrant neighborhood. J Community Health. 2011;36:1032–1043.

29. Berkowitz SA, Kalkhoran S, Edwards ST, Essien UR, Baggett TP. Unstable housing and diabetes-related emergency department visits and hospitalization: a nationally representative study of safety-net clinic patients. Diabetes Care. 2018;41:933-939.

30. American Diabetes Association. 3. Comprehensive medical evaluation and assessment of comorbidities: Standards of Medical Care in Diabetes--2018. Diabetes Care 2018;41(Suppl. 1): S28–S37.

31. Feinstein BA1, Goldfried MR, Davila J. The relationship between experiences of discrimination and mental health among lesbians and gay men: an examination of internalized homonegativity and rejection sensitivity as potential mechanisms. J Consult Clin Psychol. 2012;80:917-927.

32. American Diabetes Association. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes--2019. Diabetes Care. 2019; 42(Supplement 1): S13-S28.

33. Deutsch MB, ed. Guidelines for the primary and gender-affirming care of transgender and gender nonbinary people: diabetes mellitus. Center of Excellence for Transgender Health, University of California - San Francisco. http://transhealth.ucsf.edu/trans?page=guidelines-diabetes.

34. Feldman J, Spencer K. Medical and surgical management of the transgender patient: what the primary care clinician needs to know. In: Makadon HJ, Mayer KH, Potter J, Goldhammer H, eds. Fenway Guide to Lesbian, Gay, bisexual, and Transgender Health, 2nd edition. Philadelphia, PA: American College of Physicians; 2015; pp.479-518.

35. Dahl M, Feldman JL, Goldberg J, Jaberi A; Vancouver Coastal Health. Endocrine therapy for transgender adults in British Columbia: Suggested guidelines. Vancouver, BC: Vancouver Coastal Health; 2015. www.phsa.ca/transcarebc/Documents/HealthProf/BC-Trans-Adult-Endocrine-Guidelines-2015.pdf.

36. U.S. Department of Health and Human Services. Guidelines for the use of antiretroviral agents in adults and adolescents with HIV. aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv-guidelines/31/adverse-effects-of-arv.

37. Coleman E, Bockting W, Botzer M, et al. Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. Int J Transgenderism. 2012;13:165–232.

38. Maraka S, Singh Ospina N, Rodriguez-Gutierrez R, et al. Sex steroids and cardiovascular outcomes in transgender individuals: a systematic review and meta-analysis. J Clin Endocrinol Metab. 2017 1;102:3914-3923.

39. Grasso C, McDowell MJ, Goldhammer H, Keuroghlian AS. Planning and implementing sexual orientation and gender identity data collection in electronic health records. J Am Med Inform Assoc. 2019;26:66-70.

40. Feinberg AT, SLotkin JR, Hess A, Erskine, AR. How Geisinger treats diabetes by giving away free, healthy food. Harvard Business Review. October 25, 2017. https://hbr.org/2017/10/how-geisinger-treats-diabetes-by-giving-away-free-healthy-food.

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