



**A Key Tool in Health Care: Diabetes Self-Management Education and Training (DSME/T)
North Carolina: Background, Benefits, and Insurance Coverage of DSME/T**

This fact sheet provides information about public and private insurance coverage for diabetes self-management education and training (DSME/T)ⁱ services in North Carolina.

Diabetes and DSME/T in the United States

The nation is in the grips of a diabetes epidemic. According to the Centers for Disease Control and Prevention, 30.3 million Americans have diabetes,¹ exceeding the entire population of Texas.² In 2015, 1.5 million adults were diagnosed—more than 4,100 every day.¹ One in 3 adults has prediabetes, which often leads to diabetes.¹

Some risk factors for developing type 2 diabetes are increased age, higher weight, high blood pressure, high cholesterol, and physical inactivity.³ Further, people of color disproportionately bear the burden of type 2 diabetes and the related health effects. They are more likely to be diagnosed with the disease,¹ are less likely to have positive diabetes control indicators, such as lower A1c levels,⁴ and experience worse health outcomes overall.⁵⁻⁷

Effective diabetes management depends largely on individual self-care,^{8,9} making DSME/T critical to addressing this epidemic. DSME/T is “the process of facilitating the knowledge, skill, and ability necessary for diabetes self-care.”¹⁰ This process requires incorporating patients’ unique needs and experiences into individualized education and support plans that promote new behaviors and solutions.¹⁰ These solutions include healthy eating, physical activity, self-monitoring, medication use, risk reduction, management of acute and chronic complications, and problem-solving strategies to address psychosocial issues and establish healthy habits.¹¹

Research shows that by giving patients the tools necessary to better manage their diabetes, DSME/T significantly improves health outcomes¹²⁻¹⁵ and reduces health care expenditures.^{8,9,16-23} Indeed, “persons with diabetes who do not receive [DSME/T] are four times as likely as those who do to develop a major diabetes complication.”²⁴

Despite this evidence, participation in DSME/T remains low,^{25,26} particularly among rural populations,¹² Medicare²⁷ and Medicaid beneficiaries,¹⁶ uninsured or underinsured persons,^{28,29} and “ethnic minorities, older persons, and persons with language barriers and low literacy.”²⁴ Moreover, DSME/T services often do not conform to best practices.²⁸ To offer the most effective care, providers may consider patterning DSME/T services after the National Standards for Diabetes Self-Management Education and

Support, developed by the American Diabetes Association (ADA) and American Association of Diabetes Educators (AADE).¹¹

Insurance coverage presents one lever for facilitating delivery of and access to high-quality DSME/T. In many states, statutes and regulations require public and private insurers to cover DSME/T services. Some Medicaid materials, including managed care contracts and Medicaid agency guidance, have specific DSME/T coverage requirements. Public health professionals and policymakers may use these statutes, regulations, and Medicaid materials to understand the patterns, trends, and gaps in DSME/T coverage and to identify opportunities for reform.

Diabetes in North Carolina

As of 2015, approximately 1 in 10 adults in North Carolina had been diagnosed with diabetes—more than 829,000 people in total.³⁰ American Indians and African Americans in North Carolina are significantly more likely than non-Hispanic whites to have the disease.³¹ According to the ADA, an additional 2.6 million individuals—36.1% of the state’s adult population—have prediabetes.³²

North Carolina adults with diabetes are more likely to have hypertension and high cholesterol.³¹ In 2015, 52.1% of adults with diabetes in the state reported “fair or poor” general health, and 69.2% reported poor mental or physical health at least 1 day in the past 30 days.³⁰ The annual medical and economic costs attributable to diabetes in North Carolina exceeds \$13.6 billion.³³ In the state, diabetes “is the leading cause of death due to heart attacks and strokes, and it is the leading cause of blindness and kidney failure.”³⁴

NC Diabetes Burden Compared With National Diabetes Burden (Age-Adjusted)^{30,35}	NC	U.S.
% of Adults with Diagnosed Diabetes (2015)	9.6%	9.1% ⁱⁱⁱ
New Cases of Diabetes / 1,000 Adults (2015)	7.5	6.5
Completed a DSME/T Class ⁱⁱ (2010)	54.5%	57.4%
Daily Self-Monitoring Blood Glucose ⁱⁱ (2010)	63.4%	63.6%
Overweight or Obese ⁱⁱ (2010)	86.8%	84.7%
Physical Inactivity ⁱⁱ (2010)	37.1%	36.1%
High Blood Pressure ⁱⁱ (2015)	58.4%	57.9% ⁱⁱⁱ
High Cholesterol ⁱⁱ (2015)	56.5%	55.5% ⁱⁱⁱ

ⁱ DSME/T may also be referred to as diabetes self-management education (DSME), diabetes self-management training (DSMT), or diabetes self-management education and support.

ⁱⁱ Adults with Self-reported Diagnosed Diabetes
ⁱⁱⁱ 50 States + DC: US Median

Current State Insurance Coverage for DSME/T

This section examines DSME/T coverage by the 3 primary sources of health insurance: private insurance, Medicare, and Medicaid. Private insurance includes coverage provided by an employer, purchased through an Affordable Care Act Marketplace, or purchased directly from an insurer. Medicare is a public health insurance program that provides coverage for most individuals ages 65 or older, as well as certain individuals with disabilities.³⁶ Medicaid is a public health insurance program for many low-income populations, certain individuals with disabilities, and pregnant women. Unlike Medicare, Medicaid limits eligibility based upon an individual's income and assets.³⁷ These limitations, as well as the services Medicaid covers, vary among the states.³⁸

Insurance Type	Private	Medicare	Medicaid
% of State Population ³⁹	55%	13%	18%
Coverage Required	Yes	Part B only	Yes
Cost Sharing	Varies by plan	Up to 20% copay Deductible	Varies
Limitations	Varies by plan	10 hours within 12 months of initial referral 2 hours annual follow-up training Referral required	10 hours within 12 months of initial training 2 hours annual follow-up training Referral or prescription required

Private Insurance

North Carolina requires all private health insurance plans to provide coverage for medically necessary outpatient DSME/T.⁴⁰ Any physician or health care professional designated by a physician may provide DSME/T.⁴⁰ However, insurers are authorized to determine who will provide and be reimbursed for DSME/T.⁴⁰ Any deductibles, coinsurance, or other limitations that apply to similar services covered by the health insurance plan also apply to DSME/T.⁴⁰

Medicare Coverage

Medicare provides recipients with up to 10 hours of outpatient DSME/T in the year following their first referral for DSME/T.^{41,42} Subject to limited exception,⁴³ recipients may receive 1 hour of private training and 9 hours of group training.⁴⁴ Recipients may qualify for up to 2 hours of follow-up training each year after

they receive initial training.⁴⁵ To receive coverage for DSME/T, a Medicare recipient must obtain a referral from the health care professional treating the recipient's diabetes^{46,47} and receive the training from an ADA- or AADE-accredited program.^{46,48} Recipients may be responsible for any applicable deductible and a copay up to 20% of the total cost of DSME/T services.^{46,49}

Medicaid Coverage

North Carolina's Medicaid program covers certain low-income populations, including low-income pregnant women, blind individuals, individuals with disabilities, individuals 65 or older, and individuals with dependent children.^{38,50} Beneficiaries with a diabetes diagnosis may receive up to 10 hours of initial DSME/T within a 12-month period as well as up to 2 hours of follow-up training each year.⁵¹ Beneficiaries must obtain a physician referral or prescription before receiving DSME/T, but do not need prior approval from the Medicaid program.⁵¹

DSME/T must be provided in accordance with the National Standards, and services must be administered by a provider and program recognized by the ADA.⁵¹ Providers must conduct an individualized assessment and develop "an individualized education plan based on the assessment ... in collaboration with each beneficiary."⁵¹ Diet therapy and dietary counseling are covered if they are not billed separately from the DSME/T.⁵¹

Conclusion

Research suggests that by empowering patients to manage their diabetes, DSME/T can improve health outcomes and reduce treatment costs.¹²⁻²³ Private insurance and Medicaid coverage for DSME/T services may help with the provision of and access to DSME/T. States that already require such coverage might consider building on those efforts by ensuring covered DSME/T services comply with the National Standards. They may also consider reducing barriers to access, such as pre-authorization requirements, cost sharing, and utilization limitations; raising awareness about the availability of DSME/T; and increasing the frequency and duration of DSME/T services.

Resources

North Carolina Medicaid Information

<https://dma.ncdhhs.gov/>

Medicare DSME/T Information

<http://bit.ly/2wC4pRE>

Diabetes Information from the CDC

www.cdc.gov/diabetes/

LawAtlas North Carolina DSME/T Website

<http://j.mp/2cnA5kd>

References

- Centers for Disease Control and Prevention. *National Diabetes Statistics Report, 2017*. Atlanta, GA: Centers for Disease Control and Prevention; 2017. <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>.
- U.S. Census Bureau PD. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015. United States Census Bureau Website. <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>. Published 2015. Accessed February 4, 2016.
- Am I at Risk for Type 2 Diabetes? Taking Steps to Lower Your Risk of Getting Diabetes. National Institute of Diabetes and Digestive and Kidney Diseases website. <http://www.niddk.nih.gov/health-information/health-topics/Diabetes/type-2-diabetes-taking-steps-lower-your-risk-diabetes/Pages/index.aspx#7>. Published 2012. Accessed February 29, 2016.
- Risk Factors for Complications. Centers for Disease Control and Prevention website. http://www.cdc.gov/diabetes/statistics/risk_factors_national.htm. Accessed January 22, 2016.
- Health Status and Disability. Centers for Disease Control and Prevention website. http://www.cdc.gov/diabetes/statistics/health_status_national.htm. Accessed January 22, 2016.
- Diabetes Complications. Centers for Disease Control and Prevention website. http://www.cdc.gov/diabetes/statistics/complications_national.htm. Accessed January 22, 2016.
- Hospitalization. Centers for Disease Control and Prevention website. http://www.cdc.gov/diabetes/statistics/hospitalization_national.htm. Accessed January 22, 2016.
- Ryan JG, Jennings T, Vittoria I, Fedders M. Short and long-term outcomes from a multisession diabetes education program targeting low-income minority patients: A six-month follow up. *Clin Ther*. 2013;35(1):A43-A53. doi:10.1016/j.clinthera.2012.12.007.
- Ruppert K, Uhler A, Siminerio L. Examining patient risk factors, comorbid conditions, participation, and physician referrals to a rural diabetes self-management education program. *Diabetes Educ*. 2010;36(4):603-612. doi:10.1177/0145721710369705.
- Powers MA, Bardsley J, Cypress M, et al. Diabetes self-management education and support in type 2 diabetes: A joint position statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *Diabetes Care*. 2015;38(7):1372-1382. <http://care.diabetesjournals.org/content/38/7/1372.full.pdf>.
- Haas L, Maryniuk M, Beck J, et al. National standards for diabetes self-management education and support. *Diabetes Care*. 2014;37(Supplement 1):S144-S153. doi:<http://dx.doi.org/10.2337/dc14-S144>.
- Lepard MG, Joseph AL, Agne AA, Cherrington AL. Diabetes Self-Management Interventions for Adults with Type 2 Diabetes Living in Rural Areas: A Systematic Literature Review. *Curr Diab Rep*. 2015;15(6):37.
- Norris SL, Nichols PJ, Caspersen CJ, et al. Increasing Diabetes Self-Management Education in Community Settings: A Systematic Review. *Am J Prev Med*. 2002;22(4S):39-66.
- Brunisholz KD, Briot P, Hamilton S, et al. Diabetes self-management education improves quality of care and clinical outcomes determined by a diabetes bundle measure. *J Multidiscip Healthc*. 2014;7:533-542. doi:10.2147/JMDH.S69000.
- Chrvala CA, Sherr D, Lipman RD. Diabetes self-management education for adults with type 2 diabetes mellitus: A systematic review of the effect on glycemic control. *Patient Educ Couns*. November 2015. doi:10.1016/j.pec.2015.11.003.
- Balamurugan A, Ohsfeldt R, Hughes T, Phillips M. Diabetes self-management education program for Medicaid recipients: A continuous quality improvement process. *Diabetes Educ*. 2006;32(6):893-900. doi:10.1177/0145721706294787.
- Frye R. Self-management education is the key to helping Medicaid patients with diabetes. *Health Care Strateg Manage*. 1997;15(11):16-17.
- Boren SA, Fitzner KA, Panhalkar PS, Specker JE. Costs and benefits associated with diabetes education: a review of the literature. *Diabetes Educ*. 2009;35(1):72-96.
- Duncan I, Birkmeyer C, Coughlin S, Li Q (Emily), Sherr D, Boren S. Assessing the Value of Diabetes Education. *Diabetes Educ*. 2009;35(5):752-760.
- Duncan I, Ahmed T, Li Q, et al. Assessing the value of the diabetes educator. *Diabetes Educ*. 2011;37(5):638-657. doi:10.1177/0145721711416256.
- Brownson CA, Hoerger TJ, Fisher EB, Kilpatrick KE. Cost-effectiveness of diabetes self-management programs in community primary care settings. *Diabetes Educ*. 2009;35(5):761-769.
- Li R, Zhang P, Barker LE, Chowdhury FM, Zhang X. Cost-Effectiveness of Interventions to Prevent and Control Diabetes Mellitus: A Systematic Review. *Diabetes Care*. 2010;33(8):1872-1894. <http://care.diabetesjournals.org/content/33/8/1872.long>.
- Micklethwaite A, Brownson CA, O'Toole ML, Kilpatrick KE. The Business Case for a Diabetes Self-Management Intervention in a Community General Hospital. *Popul Health Manag*. 2012;15(4):230-235.
- Strine TW, Okoro CA, Chapman DP, Beckles G LA, Balluz L, Mokdad AH. The impact of formal diabetes education on the preventive health practices and behaviors of persons with type 2 diabetes. *Prev Med (Baltim)*. 2005;41(1):79-84.
- Age-Adjusted Percentage of Adults Aged 18 Years or Older with Diagnosed Diabetes Ever Attending a Diabetes Self-Management Class, United States, 2000–2010. Centers for Disease Control and Prevention website. http://www.cdc.gov/diabetes/statistics/preventive/fy_class.htm. Accessed January 21, 2016.
- Li R, Shrestha SS, Lipman R, Burrows NR, Kolb LE, Rutledge S. Diabetes self-management education and training among privately insured persons with newly diagnosed diabetes — United States, 2011–2012. *Morb Mortal Wkly Rep*. 2014;63(46):1045-1049. www.cdc.gov/mmwr/preview/mmwrhtml/mm6346a2.htm.
- Strawbridge LM, Lloyd JT, Meadow A, Riley GF, Howell BL. Use of Medicare's diabetes self-management training benefit. *Heal Educ Behav*. 2015;42(4):530-538. doi:10.1177/1090198114566271.
- Shaw K, Killeen M, Sullivan E, Bowman P. Disparities in diabetes self-management education for uninsured and underinsured adults. *Diabetes Educ*. 2011;37(6):813-819. doi:10.1177/0145721711424618.
- Carpenter DM, Fisher EB, Greene SB. Shortcomings in Public and Private Insurance Coverage of Diabetes Self-Management Education and Support. *Popul Health Manag*. 2012;15(3):144-148.
- United States Diabetes Surveillance System. Centers for Disease Control and Prevention website. <http://gis.cdc.gov/grasp/diabetes/DiabetesAtlas.html>. Accessed August

- 22, 2017.
31. Morgan M, Downer S, Lopinsky T. *2014 North Carolina State Report - The Diabetes Epidemic in North Carolina: Policies for Moving Forward*; 2014. <http://www.chlpi.org/wp-content/uploads/2014/05/2014-New-Carolina-State-Report-Providing-Access-to-Healthy-Solutions-PATHS.pdf>.
32. American Diabetes Association. *The Burden of Diabetes in North Carolina*; 2014. <http://main.diabetes.org/dorg/PDFs/Advocacy/burden-of-diabetes/north-carolina.pdf>.
33. Diabetes State Burden Toolkit. Centers for Disease Control and Prevention website. <https://nccd.cdc.gov/Toolkit/DiabetesBurden/>.
34. NC Diabetes Prevention and Control Program. *The Burden of Diabetes in North Carolina: Brief 2013 Report*; 2013. <http://www.diabetesnc.com/downloads/BurdenofDiabetesinNC2010ppt.pdf>.
35. Chronic Disease Indicators Comparison Report. Centers for Disease Control and Prevention website. http://nccd.cdc.gov/CDI/rdPage.aspx?rdReport=DPH_CDI.ComparisonReport. Accessed August 22, 2017.
36. Original Medicare (Part A and B) Eligibility and Enrollment. Centers for Medicare & Medicaid Services website. <https://www.cms.gov/medicare/eligibility-and-enrollment/origmedicarepartabeligenrol/index.html>. Accessed August 22, 2017.
37. Centers for Medicare & Medicaid Services. Eligibility. Medicaid.gov website. <https://www.medicare.gov/medicaid/eligibility/index.html>. Accessed August 22, 2017.
38. Kaiser Family Foundation. *Where Are States Today? Medicaid and CHIP Eligibility Levels for Children, Pregnant Women, and Adults*; 2017. <http://www.kff.org/medicaid/fact-sheet/where-are-states-today-medicare-and-chip/>.
39. Kaiser Family Foundation. Health Insurance Coverage of the Total Population. Kaiser Family Foundation website. <http://kff.org/other/state-indicator/total-population/>. Published 2015. Accessed August 22, 2017.
40. N.C. Gen. Stat. § 58-51-61.
41. Centers for Medicare & Medicaid Services. Diabetes self-management training. Medicare.gov website. <https://www.medicare.gov/coverage/diabetes-self-mgmt-training.html>. Accessed August 22, 2017.
42. 42 C.F.R. § 410.141(c)(1)(i)(B)-(C).
43. 42 C.F.R. § 410.141(c)(1)(ii).
44. 42 C.F.R. §§ 410.141(c)(1)(i)(D), (F).
45. 42 C.F.R. § 410.141(c)(2)(i).
46. Administration on Aging. AoA Diabetes Self-Management (DSMT) Toolkit. 2015. <https://www.acl.gov/sites/default/files/programs/2016-11/AoA-DSMT-Toolkit-2015.pdf>.
47. 42 C.F.R. §§ 410.141(b)(1), (c)(2)(v).
48. 42 C.F.R. § 410.142-.145.
49. 42 C.F.R. § 410.152(b).
50. North Carolina Medicaid Program. Benefits.gov website. <http://www.benefits.gov/benefits/benefit-details/1390>. Accessed May 4, 2016.
51. North Carolina Division of Medical Assistance. Diabetes Outpatient Self-Management Education. Medicaid and Health Choice Clinical Coverage Policy No: 1A-24. 2015. <https://ncdma.s3.amazonaws.com/s3fs-public/documents/files/1A24.pdf>.