Trends and Characteristics of Self-reported Case Presentation of Diabetes Diagnosis Among Youth From 2002 to 2010: Findings From the SEARCH for Diabetes in Youth Study

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Sharon H. Saydah,[1] Giuseppina Imperatore,[1] Leora Henkin,[2] Ralph D'Agostino Jr.,[2] Jasmin Divers,[2] Elizabeth J. Mayer-Davis,[3] Dana Dabelea,[4] Georgeanna Klingensmith,[5] Catherine Pihoker,[6] and Jean M. Lawrence[7]

Diagnosis of diabetes in youth is increasing in the U.S. (1,2). It is not known how much of this change is due to an increase in diabetes and how much is due to improved case detection, especially for type 2 diabetes. Some researchers have hypothesized that part of the explanation for the increase in diabetes diagnosis in youth is increased screening, resulting in a higher percentage of cases being identified. The objective of this study was to assess whether the change in diabetes could be explained by changes in case identification by examining trends from 2002 to 2010 in self-reported case presentation of diabetes.

Briefly, there were 9,054 youth aged <20 years with newly diagnosed diabetes between 2002 and 2010 in the SEARCH for Diabetes in Youth study (3). Participants were asked, "How did you find out you had diabetes?" Responses were grouped into symptoms, checkup, community screening, or other. Self-reported case presentation patterns were examined in 3-year blocks to assess change over time, reported by diabetes type. We explored trends in self-reported modes of diabetes diagnosis (i.e., symptoms, checkup, screening, and other method) and reported results unadjusted and then adjusted for age-group, sex, and race/ethnicity.

Results are presented in Table 1. Among youth with type 1 diabetes, >95% of them reported diabetes diagnosis due to symptoms and many fewer reported diagnosis due to checkup, health screening, or other. Self-report of case presentation remained stable from 2002 to 2010 for youth with type 1 diabetes. Among youth with type 2 diabetes, 65% reported diagnosis due to symptoms and 30% reported diagnosis during a regular checkup. Unlike type 1 diabetes, there were significant changes in reported case presentation for type 2 diabetes with presentation due to symptoms decreasing from 72.1% in 2002–2004 to 59.1% in 2008–2010.

Observed differences in patterns of the self-reported modes of case presentation by age and sex among youth with type 1 diabetes and by sex and race/ethnicity among youth with type 2 diabetes may reflect differences in how diabetes presents, medical-seeking practices, or community awareness.

Of the few previous studies reporting on modes of diabetes diagnosis, none have included youth (4,5). Previous studies have found that adults with diabetes are most likely to report diagnosis due to symptoms (4,5).

While we found no evidence that increased incidence of type 1 diabetes was due to improvements in case finding, there was evidence of increased case finding among youth with type 2 diabetes. The changes in reported modes of case presentation over time for type 2 diabetes suggest that some of the trends in prevalence over this time period may be attributable to changes in health care or community screening patterns.

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[1]*Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta, GA*
[2]*Wake Forest School of Medicine, Winston-Salem, NC*
[3]*University of North Carolina at Chapel Hill, Chapel Hill, NC*
[4]*Colorado School of Public Health, University of Colorado Denver, Aurora, CO*
[5]*Barbara Davis Center for Diabetes and Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO*
[6]*Department of Pediatrics, University of Washington, Seattle, WA*
[7]*Department of Research & Evaluation, Kaiser Permanente Southern California, Pasadena, CA*

Corresponding author: Sharon H. Saydah, ssaydah@cdc.gov.

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Table 1—Self-reported case presentation of diabetes diagnosis by incident year and diabetes type among youth 20 years of age and younger, SEARCH for Diabetes in Youth Study 2002–2010

	Type 1 diabetes (n = 7,554)					Type 2 diabetes (n = 1,500)				
	Symptoms	Checkup	Community screening	Other	P value	Symptoms	Checkup	Community screening	Other	P value
Incident years										
2002–2004	95.4	3.7	0.2	0.7		72.1	23.7	2.8	1.4	
2005–2007	94.8	3.6	0.4	0.4	0.0512	66.4	29.5	2.5	1.6	<0.0001
2008–2010	94.2	4.1	0.3	0.3		59.1	37.1	3.3	0.5	
Adjusted estimates*										
2002–2004	95.9	3.2	0.2	0.2		72.9	23.7	2.4	1.0	
2005–2007	95.5	3.3	0.2	0.2	0.0505	66.8	29.9	2.7	0.6	<0.0001
2008–2010	94.9	3.4	0.3	0.3		59.8	36.9	3.0	0.4	

Data are %. *Adjusted for age-groups (0 to < 5 years, 5 to < 10 years, 10 years to < 15 years, 15 years and older), sex, and race/ethnicity (Asian/Pacific).

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