

SUPPLEMENTARY DATA

Supplementary Table 1. Subject-Reported Characteristics of CGM Use

	<13 Years Old N=278	13-<18 Years Old N=179	18-<26 Years Old N=157	≥26 Years Old N=999
Duration of use in past 30 days*				
Median days (25 th , 75 th percentile)	27 (15, 30)	23 (10, 30)	21 (7, 30)	29 (20, 30)
Frequency of use per week - n(%)				
<4 days	71 (27%)	60 (39%)	52 (38%)	220 (23%)
4 - <6 days	47 (18%)	25 (16%)	34 (25%)	158 (17%)
≥6 days	143 (55%)	69 (45%)	51 (37%)	568 (60%)
Frequency of CGM data download-n(%)				
Never	66 (24%)	64 (36%)	70 (45%)	421 (42%)
Once a year or less	19 (7%)	11 (6%)	19 (12%)	92 (9%)
A few times a year	67 (24%)	42 (23%)	37 (24%)	267 (27%)
1 – 3 times per month	104 (37%)	40 (22%)	25 (16%)	174 (17%)
At least once per week	22 (8%)	22 (12%)	6 (4%)	45 (5%)
Change in frequency of blood glucose checks when wearing CGM-n(%)				
No change	107 (38%)	76 (42%)	36 (23%)	274 (27%)
More often	28 (10%)	21 (12%)	25 (16%)	200 (20%)
Less often	129 (46%)	71 (40%)	75 (48%)	416 (42%)
Much less often	14 (5%)	11 (6%)	21 (13%)	109 (11%)

* 93 participants missing duration of CGM use in the past 30 days

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Supplementary Table 2. Reported Frequency of ≥ 1 SH or ≥ 1 DKA Event by Frequency of CGM Use

	N	≥ 1 SH Event in Past 3 Months					≥ 1 DKA Event in Past 3 Months				
		% with Event	Unadjusted Odds Ratio ^a (95% CI*)	Unadjusted P-value ^a	Odds Ratio ^b (95% CI*)	P-value ^b	% with Event	Unadjusted Odds Ratio ^a (95% CI*)	Unadjusted P-value ^a	Odds Ratio ^b (95% CI*)	P-value ^b
<13 Years Old				0.56		0.24			0.85		0.95
<4 days/week of CGM use	71	4.2%	1.0		1.0		2.8%	1.0		1.0	
4- 6 days/week of CGM use	47	2.1%	0.5 (0.1, 4.9)		0.6 (0.1, 6.3)		2.1%	0.8 (0.1, 8.5)		1.3 (0.1, 17.6)	
≥ 6 days/week of CGM use	143	5.6%	1.3 (0.3, 5.2)		2.1 (0.5, 8.9)		2.1%	0.7 (0.1, 4.5)		0.8 (0.1, 5.9)	
13 - <18 Years Old				0.45		0.29			0.30		0.36
<4 days/week of CGM use	60	10.0%	1.0		1.0		10.0%	1.0		1.0	
4- 6 days/week of CGM use	25	4.0%	0.4 (0.0, 3.3)		0.3 (0.0, 3.4)		8.0%	0.8 (0.1, 4.2)		1.0 (0.2, 6.2)	
≥ 6 days/week of CGM use	69	5.8%	0.6 (0.1, 2.1)		0.4 (0.1, 1.6)		5.8%	0.6 (0.1, 2.1)		0.6 (0.2, 2.6)	
18 - <26 Years Old				0.12		0.14			0.98		0.38
<4 days/week of CGM use	52	1.9%	1.0		†		3.9%	1.0		1.0	
4- 6 days/week of CGM use	34	5.9%	3.2 (0.3, 36.6)		†		0	†		†	
≥ 6 days/week of CGM use	51	9.8%	5.5 (0.6, 49.2)		†		3.9%	1.0 (0.1, 7.5)		1.9 (0.1, 25.9)	
≥ 26 Years Old				0.41		0.31			0.94		0.61
<4 days/week of CGM use	220	9.1%	1.0		1.0		1.8%	1.0		1.0	
4- 6 days/week of CGM use	158	10.1%	1.1 (0.6, 2.3)		1.5 (0.7, 3.0)		1.9%	1.0 (0.2, 4.7)		1.2 (0.3, 5.6)	
≥ 6 days/week of CGM use	568	12.2%	1.4 (0.8, 2.3)		1.5 (0.9, 2.7)		1.9%	1.1 (0.3, 3.4)		1.5 (0.5, 5.0)	

*CI = confidence interval

^aP-value from a logistic regression model using continuous amount of CGM use, unadjusted for other variables. Odds ratios from the same logistic regression model, using categorical frequency of CGM use/week.

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^b P-value from a logistic regression model using continuous amount of CGM use, adjusting for gender, race/ethnicity, education level, annual household income, insurance status, duration of diabetes, and insulin delivery method. Odds ratios from the same logistic regression model, using categorical frequency of CGM use/week. Due to very few events, the logistic regression model for SH in participants <26 years old and the logistic regression model for DKA in all age groups was not adjusted for race/ethnicity or insurance status.

†Due to very few events in the 18-<26 years old age group (8 SH events reported; 4 DKA events reported), the odds ratios could not be computed.

Supplementary Table 3. Reasons for Stopping CGM Use at Year 1 Data Collection

Reason for Stopping CGM	N (%) N=727
CGM Sensor is uncomfortable to wear	307 (42%)
Problems inserting the CGM sensor	242 (33%)
Problems with adhesive holding sensor on skin	215 (30%)
Problems with CGM working properly	204 (28%)
CGM had too many alarms	197 (27%)
Concerns about accuracy of CGM	183 (25%)
CGM interfered with sports and activities	132 (18%)
Skin reactions from the CGM sensor	129 (18%)

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A listing of the T1D Exchange Clinic Network sites with participating principal investigators (PI), co-investigators (I) and coordinators (C) ordered by the number of participants recruited per site as of August 1, 2012 is included below:

Philadelphia, PA Children's Hospital of Philadelphia (n=1451) Steven Willi (PI); Terri Lipman (I); Tammy Calvano (C); Olena Kucheruk (C); Pantea Minnock (C); Chau Nguyen (C) **Aurora, CO Barbara Davis Center for Childhood Diabetes** (n=1440) Georgeanna Klingensmith (PI); Carolyn Banion (I); Jennifer Barker (I); Cindy Cain (I); Peter Chase (I); Sandy Hoops (I); Megan Kelsy (I); Georgeanna Klingensmith (I); David Maahs (I); Cathy Mowry (I); Kristen Nadeau (I); Jennifer Raymond (I); Marian Rewers (I); Arleta Rewers (I); Robert Slover (I); Andrea Steck (I); Paul Wadwa (I); Philippe Walravens (I); Philip Zeitler (I); Heidi Haro (C); Katherine Manseau (C) **Syracuse, NY SUNY Upstate Medical University** (n=1301) Ruth Weinstock (PI); Roberto Izquierdo (I); Umair Sheikh (I); Patricia Conboy (C); Jane Bulger (C); Suzan Bzdick (C) **New York City, NY Naomi Berrie Diabetes Center, Columbia University P&S** (n=1249) Robin Goland (PI); Rachelle Gandica (I); Lindsay Weiner (I); Steve Cook (C); Ellen Greenberg (C); Kevin Kohm (C); Sarah Pollack (C) **Ann Arbor, MI University of Michigan** (n=927) Joyce Lee (PI); Brigid Gregg (I); Meng Tan (I); Kimberly Burgh (C); Ashley Eason (C) **Aurora, CO University of Colorado/Denver, Barbara Davis Center for Childhood Diabetes** (n=897) Satish Garg (PI); Aaron Michels (I); Lisa Myers (C); **Indianapolis, IN Riley Hospital for Children, Indiana University School of Medicine** (n=859) Linda DiMeglio (PI); Tamara Hannon (I); Donald Orr (I); Christy Cruz (C); Stephanie Woerner (C) **Boston, MA Children's Hospital Boston** (n=836) Joseph Wolfsdorf (PI); Maryanne Quinn (I); Olivia Tawa (C) **Portland, OR Harold Schnitzer Diabetes Health Center at Oregon Health and Science University** (n=793) Andrew Ahmann (PI); Jessica Castle (I); Farahnaz Joarder (I); Chris Bogan (C); Nancy Cady (C); Jennifer Cox (C); Amy Pitts (C); Rebecca Fitch (C); Brad White (C); Bethany Wollam (C) **Atlanta, GA Atlanta Diabetes Associates** (n=742) Bruce Bode (PI); Katie Lindmark (C); RaShonda Hosey (C) **Buffalo, NY University Pediatric Associates** (n=673) Kathleen Bethin (PI); Teresa Quattrin (I); Michelle Ecker (C) **Los Angeles, CA Children's Hospital Los Angeles** (n=605) Jamie Wood (PI); Lily Chao (I); Clement Cheung (I); Lynda Fisher (I); Debra Jeandron (I); Francine Kaufman (I); Mimi Kim (I); Brian Miyazaki (I); Roshanak Monzavi (I); Payal Patel (I); Pisit Pitukcheewanont (I); Anna Sandstrom (I); Marisa Cohen (C); Brian Ichihara (C); Megan Lipton (C) **Grand Rapids, MI Helen DeVos Children's Hospital Endocrinology and Diabetes** (n=576) Ayse Cemeroglu (PI); Yaw Appiagyei-Dankah (I); Maala Daniel (I); Daniel Postellon (I); Michael Racine (I); Michael Wood (I); Lora Kleis (C); **Seattle, WA University of Washington, Diabetes Care Center** (n=569) Irl Hirsch (PI); Anthony DeSantis (I); DC Dugdale (I); R Alan Failor (I); Lisa Gilliam (I); Carla Greenbaum (I); Mary Janci (I); Peggy Odegard (I); Dace Trence (I); Brent Wisse (I); Emily Batts (C); Angela Dove (C); Deborah Hefty (C); Dori Khakpour (C); Jani Klein (C); Kristen Kuhns (C); Marli McCulloch-Olson (C); Christina Peterson (C); Mary Ramey (C); Marissa St. Marie (C); Pam Thomson (C); Christine Webber (C) **Idaho Falls, ID Rocky Mountain Diabetes & Osteoporosis Center, PA** (n=557) David Liljenquist (PI); Mark Sulik (PI); Carl Vance (PI); Tiffany Coughenour (I); Chris Brown (C); Jean Halford (C); Andrea Prudent (C); Shanda Rigby (C); Brandon Robison (C) **Morristown, NJ BD Diabetes Center at Goryeb Children's Hospital** (n=542) Harold Starkman (PI); Tymara Berry (I); Barbara Cerame (I); Daisy Chin (I); Laurie Ebner-Lyon (I); Frances Guevarra (I); Kristen Sabanosh (I); Lawrence Silverman (I); Christine Wagner (I); Marie Fox (C) **Stanford, CA Stanford University School of Medicine, Division of Pediatric Endocrinology** (n=525) Bruce Buckingham (PI); Avni Shah (I); Kimberly Caswell (C); Breanne Harris (C) **Minneapolis, MN International Diabetes Center/Park Nicollet Adult Endocrinology** (n=514) Richard Bergenstal (PI); Amy Criego (I); Greg Damberg (I); Glenn Matfin (I); Margaret Powers (I); David Tridgell (I); Cassie Burt (C); Beth Olson (C); LeeAnn Thomas (C) **Boston, MA Joslin Diabetes Center- Pediatric** (n=451) Sanjeev Mehta (PI); Michelle Katz (I); Lori Laffel (I); Joanne Hathway (C); Roxanne Phillips (C) **New Haven, CT Yale Pediatric Diabetes Program** (n=398) Eda Cengiz (PI); William Tamborlane (I); Darryll Cappiello (C); Amy Steffen (C); Melinda

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Zgorski (C) **Los Angeles, CA University of Southern California - Community Diabetes Initiatives** (n=365) Anne Peters (PI); Valerie Ruelas (C) **Durham, NC Duke University Medical Center - Pediatric Endocrine Division** (n=364) Robert Benjamin (PI); Deanna Adkins (I); Juanita Cuffee (C); Amber Spruill (C) **Minneapolis, MN International Diabetes Center/Park Nicollet Pediatric Endocrinology** (n=357) Richard Bergenstal (PI); Amy Criego (I); Greg Damberg (I); Glenn Matfin (I); Margaret Powers (I); David Tridgell (I); Cassie Burt (C); Beth Olson (C); LeeAnn Thomas (C) **Chicago, IL Northwestern University** (n=352) Grazia Aleppo-Kacmarek (PI); Teresa Derby (C); Elaine Massaro (C); Kimberly Webb (C) **Charlottesville, VA University of Virginia Health System** (n=342) Christine Burt Solorzano (PI); Mark DeBoer (I); Helen Madison (C) **St. Louis, MO Washington University** (n=342) Janet McGill (PI); Lori Buechler (C); Mary Jane Clifton (C); Stacy Hurst (C); Sarah Kissel (C); Carol Recklein (C) **Iowa City, IA University of Iowa Children's Hospital** (n=327) Eva Tsalikian (PI); Michael Tansey (I); Joanne Cabbage (C); Julie Coffey (C); Sarah Salamati (C) **Kansas City, MO Children's Mercy Hospital** (n=323) Mark Clements (PI); Sripriya Raman (I); Angela Turpin (I); Jennifer Bedard (C); Cyndy Cohoon (C); Aliza Elrod (C); Amanda Fridlington (C); Lois Hester (C); **Detroit, MI Henry Ford Health System** (n=316) Davida Kruger (PI); Andreana Tassopoulos **Gainesville, FL University of Florida** (n=306) Desmond Schatz (PI); Michael Clare-Salzler (I); Kenneth Cusi (I); Colleen Digman (I); Becky Fudge (I); Mike Haller (I); Collette Meehan (I); Henry Rohrs (I); Janet Silverstein (I); Sujata Wagh (I); Miriam Cintron (C); Eleni Sheehan (C); Jamie Thomas (C) **Orange, CA Children's Hospital of Orange County** (n=305) Mark Daniels (PI); Susan Clark (I); Timothy Flannery (I); Nikta Forghani (I); Ajanta Naidu (I); Christina Reh (I); Peggy Scoggin (I); Lien Trinh (I); Natalie Ayala (C); Rebeca Quintana (C); Heather Speer (C) **Columbus, OH Central Ohio Pediatrics Endocrinology and Diabetes Services** (n=303) William Zipf (PI); Diane Seiple (C) **Sioux Falls, SD Avera Research Institute** (n=281) Julie Kittelsrud (PI); Ashutosh Gupta (I); Vikki Peterson (C); Ashley Stoker (C) **San Diego, CA University of California** (n=280) Michael Gottschalk (PI); Marla Hashiguchi (C); Katheryn Smith (C) **Tampa, FL University of South Florida Diabetes Center** (n=276) Henry Rodriguez (PI); Craig Bobik (C); Danielle Henson (C) **Nashville, TN Vanderbilt Eskind Diabetes Clinic** (n=276) Jill Simmons (PI); Amy Potter (I); Margo Black (C); Faith Brendle (C) **Cleveland, OH Case Western Reserve University** (n=251) Rose Gubitosi-Klug (PI); Beth Kaminski (I); Susan Bergant (C); Wendy Campbell (C); Catherine Tasi (C) **Oklahoma City, OK University of Oklahoma Health Sciences Center Dept. of Pediatric Diabetes and Endocrinology** (n=243) Kenneth Copeland (PI); Joni Beck (I); Joane Less (C); Jill Schanuel (C); Jennifer Tolbert (C) **San Francisco, CA University of California, San Francisco Medical Center (UCSF)** (n=237) Saleh Adi (PI); Andrea Gerard-Gonzalez (I); Stephen Gitelman (I); Nassim Chettout (C); Christine Torok (C) **Seattle, WA Seattle Children's Hospital** (n=226) Catherine Pihoker (PI); Joyce Yi-Frazier (I); Susan Kearns (C) **Pittsburgh, PA Children's Hospital of Pittsburgh of UPMC** (n=217) Ingrid Libman (PI); Vicky Bills (C); Ana Diaz (C); Julie Duke (C) **Minneapolis, MN University of Minnesota** (n=204) Brandon Nathan (PI); Antoinette Moran (I); Melena Bellin (I); Shannon Beasley (C); Anne Kogler (C); Janice Leschyshyn (C); Kara Schmid (C); Anne Street (C) **Greenville, SC Greenville Hospital System Pediatric Endocrinology** (n=196) Bryce Nelson (PI); Carrie Frost (C); Erin Reifeis (C) **Houston, TX Baylor College of Medicine / Texas Children's Hospital** (n=187) Morey Haymond (PI); Fida Bacha (I); Maria Caldas-Vasquez (I); Sara Klinepeter (I); Maria Redondo (I); Rosa Berlanga (C); Teresa Falk (C); Elizabeth Garnes (C); Janette Gonzalez (C); Cecilia Martinez (C); Mariam Pontifes (C); Ronald Yulatic (C) **Ocean Springs, MS The Diabetes Center, PLLC** (n=187) Kathleen Arnold (PI); Traci Evans (I); Sharon Sellers (C) **Salt Lake City, UT University of Utah - Utah Diabetes Center** (n=181) Vandana Raman (PI); Carol Foster (I); Mary Murray (I); Vandana Raman (I); Trina Brown (C); Hillarie Slater (C); Karen Wheeler (C) **Worcester, MA University of Massachusetts Medical School** (n=179) David Harlan (PI); Mary Lee (I); John-Paul Lock (I); Celia Hartigan (C); Lisa Hubacz (C) **Durham, NC University of North Carolina Diabetes Care Center** (n=179) John Buse (PI); Ali Calikoglu (I); Joseph Largay (I); Laura Young (I); Helen Brown (C); Vinnie Duncan (C); Michelle Duclos (C); Julie Tricome (C) **Sioux Falls, SD Sanford Research/USD** (n=178)

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Verdayne Brandenburg (PI); Julie Blehm (I); Julie Hallanger-Johnson (I); Dawn Hanson (C); Corliss Miller (C); Jennifer Weiss (C) **Columbus, OH The Research Institute at Nationwide Children's Hospital** (n=168) Robert Hoffman (PI); Monika Chaudhari (I); David Repaske (I); Elizabeth Gilson (C); Jesse Haines (C) **Billings, MT St. Vincent Healthcare/Internal Medicine and Diabetes** (n=165) Justen Rudolph (PI); Charles McClave (I); Doris Biersdorf (C) **Bismarck, ND Medcenter One** (n=156) Anthony Tello (PI); Julie Blehm (I); Donna Amundson (C); Rhonda Ward (C) **Philadelphia, PA University of Pennsylvania School of Medicine/Rodebaugh Diabetes Center** (n=156) Michael Rickels (PI); Cornelia Dalton-Bakes (C); Eileen Markman (C); Amy Peleckis (C); Nora Rosenfeld (C) **Cincinnati, OH Cincinnati Children's Hospital Medical Center** (n=148) Lawrence Dolan (PI); Sarah Corathers (I); Jessica Kichler (I); Holly Baugh (C); Debbie Standiford (C) **Spokane, WA Rockwood Research Center, P.S.** (n=132) Jeanne Hassing (PI); Jennifer Jones (I); Stephen Willis (I); Stephen Willis (I); Carol Wysham (I); Lisa Davis (C) **Baltimore, MD Johns Hopkins University Pediatric Endocrinology** (n=120) Scott Blackman (PI); Kimber-Lee Abel (C); Loretta Clark (C); Andrea Jonas (C); Ellie Kagan (C) **Miami, FL University of Miami, Diabetes Research Institute** (n=119) Jay Sosenko (PI); Carlos Blashke (C); Della Matheson (C) **Rapid City, SD Regional Health Clinical Research** (n=118) Rachel Edelen (PI); Thomas Repas (I); Denise Baldwin (C); Trista Borgwardt (C); Christina Conroy (C); Kelly DeGrote (C); Rod Marchiando (C); Michelle Wasson (C) **Jacksonville, FL Nemours Children's Clinic** (n=116) Larry Fox (PI); Nelly Mauras (I); Ligeia Damaso (C); Kim Englert (C) **Cleveland, OH Cleveland Clinic Department of Endocrinology, Diabetes and Metabolism** (n=111) Marwan Hamaty (PI); Laurence Kennedy (I); Michelle Schweiger (I); Pantelis Konstantinopoulos (C); Carolyn Mawhorter (C); Amy Orasko (C); Denise Rose (C) **Tallahassee, FL Tallahassee Memorial Diabetes Center** (n=108) Larry Deeb (PI); Kim Rohrbacher (C) **Findlay, OH Blanchard Valley Medical Associates** (n=100) Leroy Schroeder (PI); Amanda Roark (C) **Milwaukee, WI The Medical College of Wisconsin/ Children's Hospital of WI** (n=99) Omar Ali (PI); Joanna Kramer (C); Donna Whitson-Jones (C) **Nashville, TN Vanderbilt Eskind Diabetes Clinic** (n=98) Amy Potter (PI); Margo Black (C); Faith Brendle (C) **Vallejo, CA Kaiser Permanente** (n=74) Heidi Gassner (PI); Sobha Kollipara (I); Vicky Bills (C); Julie Duke (C) **Paterson, NJ St. Joseph's Children's Hospital** (n=53) Katerina Harwood (PI); Vijaya Prasad (I); Judy Brault (C)