



# Patient satisfaction with Internet-based diabetes management in Native American communities

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## Diabetes in AI/AN

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- 14.9% of AI/AN aged 20 or older and receiving care from IHS have diabetes
- AI/AN are 2.3% times as likely to have diabetes than non-Hispanic whites
- From 1990-1998 number of young AI/AN with diabetes increased 71%
- Most common in Southeastern US (27.8%)

# MyCareTeam™



The logo graphic consists of a vertical black line on the left, a horizontal black line at the bottom, and three overlapping squares: a yellow one at the top left, a red one at the middle left, and a blue one at the bottom left. The text "MyCareTeam™" is positioned to the right of these elements.

# MyCareTeam™

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- Internet based diabetes management application
- Electronic capture of clinical data
- Automated analysis of clinical data
- Simple user interface presents patients and providers with clinical information
- Efficient & secure communications between patients and providers
- Disease specific Personal Health Record (PHR)

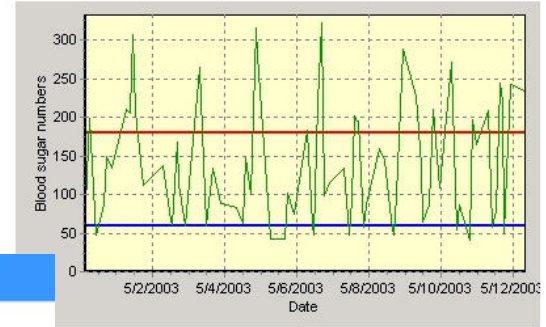


## Features:

- Automated capture of BG values
- Automatic analysis and multi-formatted presentation of BG values
- Tracking of other information – meds, lab results, exercise, blood pressure
- Secure communications with provider

# MyCareTeam™

Blood Sugar Readings  
4/29/2003 - 5/12/2003



blood sugar above 180  
blood sugar below 60

Brown, Charlie 10/2/1960

Good Afternoon Mr. Brown

Diabetes News Archive

**IMPORTANT:** If you use a OneTouch Ultra Meter, [Click here](#)

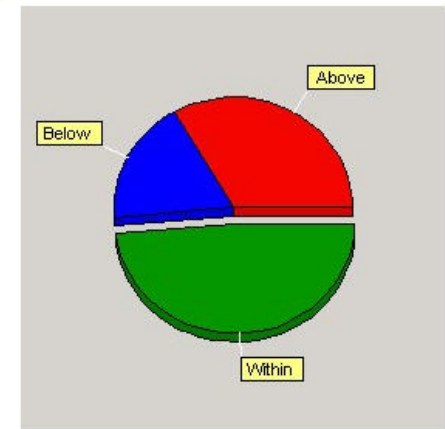
**ALERTS:**  
Your HbA1c from 5/14/2003 = 12.  
It has been 29 days since we received your BG data. Please send it in.  
You had 8 hypoglycemic events between 5/6/2003 - 5/12/2003.  
You had 24 hyperglycemic events between 4/29/2003 - 5/12/2003.

Brown, Charlie 10/2/1960

**MESSAGES:**  
Average Blood Glucose between 4/29/2003 - 5/12/2003 was 138.  
You have new BG Data - [Click here to enter a comment for Your doctor or go to the Summary Page.](#)

**REMINDERS:**  
Time to make Your next office visit appointment.  
Time to make Your next lab work appointment.  
Remember to check your feet daily.

Percentage of Blood Sugar Readings at Target  
2003



Above Target: 33%  
Below Target: 18%  
Within Target: 49%

Brown, Charlie 10/2/1960

Date	Sleep 0 - 5 AM	Morning 5 - 11 AM	Mid-Day 11 AM - 4 PM	Evening 4 - 9 PM	Night 9 - 12 PM	#	Reading
5/12/2003		+234				1	
5/11/2003		+209	78	+221	+243	7	
5/10/2003		+271	87	-41	164	6	
5/9/2003		+227	64	86	108	6	
5/8/2003		159	68	-47	+289	6	
5/7/2003		135	-47	+195	86	8	
5/6/2003		+183	-47	+323	115	7	
5/5/2003		-42	-43	102	74	4	
5/4/2003		84	63	101	+282	6	165
5/3/2003		+265	-59	134	89	4	136
5/2/2003		138	67	168	-59	6	101
5/1/2003		+210	+308	112		5	+208
4/30/2003	86	+198		86	135	6	117
Average	86	153	121	138	149	5.54	
Hypos	4	4	4	1			
Hypers		9	6	6	3		

Average BG: 138  
Range: 41 - 323  
Standard deviation: 78.98

Legend:  
- blue: Too low < 60  
green: In range 60 - 180  
+ red: Too high > 180

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Patent pending [Contact us](#)



# Native American Sites

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- Poarch Band of Creek Indians, AL
- Nez Perce, ID
- Tlingit and Haida Tribes, AK
- Mandan Hidatsa & Arikara Nation, ND
- Native Hawaiians, HI
- Phoenix Indian Medical Center, AZ



# Outcome Measures

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- Clinical outcomes
  - HbA1c – laboratory blood test that measures long-term glycemic control
  - American Diabetes Association recommends a value of under 7.0
- Satisfaction Surveys





## Results – Clinical Outcomes

	Baseline HbA1c	Follow-up HbA1c	diff
All Users (p<.001)	8.61	7.66	0.95
Login-light use (p<.002)	8.53	7.76	0.77
Login-heavy use (p<.05)	9.18	6.90	2.28
Upload-light use (p<.017)	8.3	7.68	0.62
Upload-heavy use (p<.004)	9.37	7.62	1.75



# Satisfaction Survey

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- Educational level
  - 77% had some college or more
- Where they use the computer most
  - 33% @ home 42% @ work 25% @ other
- Features they use most often
  - Log Book – 70% @ baseline; 48% @ follow-up
  - Line chart – 16% @ baseline; 44% @ follow-up
  - TOD Pie chart – 14% @ baseline; 41% @ follow-up
- Internet use
  - 57.1% find Health Information



# Satisfaction Survey

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- Satisfaction measures
  - Experience using MyCareTeam™
  - Experience learning about diabetes through MyCareTeam™
  - Communicating with their provider over MyCareTeam™



# Results - Satisfaction

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- Older participants more apt to state a positive experience using MyCareTeam™ ( $p < .05$ )
- Older participants were more positive about talking with a provider via MyCareTeam™ (n/s)
- Those reporting a positive experience using MyCareTeam™, also report positively that they use it to learn about diabetes ( $p < .001$ )
- Those reporting positive experiences at baseline also reported positive experiences at follow-up for:
  - using MyCareTeam™ ( $p < .02$ )
  - Learning about diabetes (n/s but in the correct direction)
  - communicating with their provider ( $p < .005$ )



# Future Work

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- Continue collecting data at existing sites
- Enroll new sites
- Expand to include the Diabetes Center at National Naval Medical Center
- Integrate into existing Health Information Systems



# Acknowledgement

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Thank you

- U.S. Army Medical Research and Materiel Command for their supported under contract #W81XWH-04-2-0002
- Partners at Nez Perce and Poarch Band of Creek Indians Tribes
- Alan NeustadtI, PhD and Jim Grigsby, PhD for their statistical support