

Improving Regional Diabetic Management Through a Novel Education Outreach Program



DR. JILL E. VOLLBRECHT, MD

**CO-MEDICAL DIRECTOR,
NORTHERN MICHIGAN DIABETES INITIATIVE
STAFF ENDOCRINOLOGIST, MUNSON MEDICAL CENTER**

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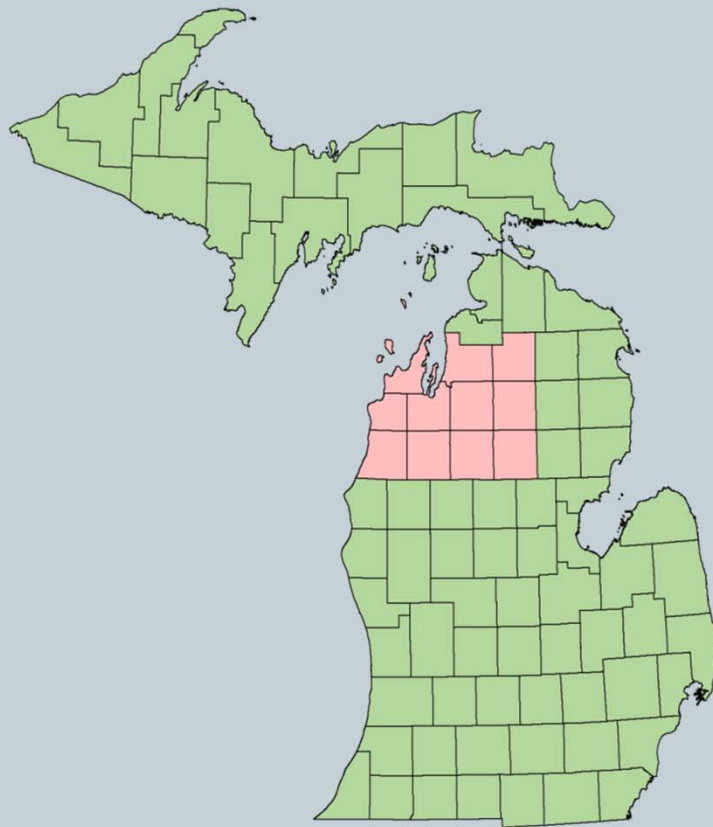
www.nmdiabetes.org

Northern Michigan Diabetes Initiative



- An 11-county initiative, started in 2006, in response to high prevalence of diabetes in the geographic area.
- 2005 survey revealed a prevalence of diabetes of 13.7%, above statewide average of 9% and US average of 7.5%.
- Funded by area hospitals and Priority Health.

Geographic area served



Antrim
Otsego
Leelanau
Benzie
Grand Traverse
Kalkaska
Crawford
Manistee
Wexford
Missaukee
Roscommon

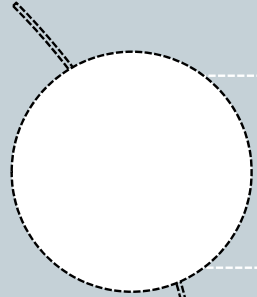
NMDI objectives



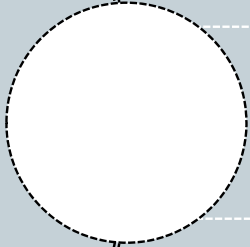
- **Mission**
 - dedicated to prevention, early detection, and management of diabetes.

- **Vision/Goal:**
 - reduction in the prevalence of diabetes and improvement in the care of people with diabetes.

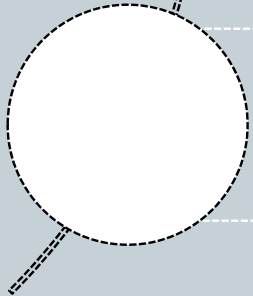
NMDI focus



Community/Prevention



Patients



Providers

Yearly workplan



- **Objective #1:** Develop, implement, and evaluate a focused media campaign to increase awareness, prevention and management of pre-diabetes and diabetes in the area.
- **Objective #2:** Develop, implement, and evaluate a targeted provider education plan
- **Objective #3:** Develop, and disseminate a comprehensive electronic resource guide for the un/underinsured in the 11-county region

Workplan (continued)



- **Objective #4:** Refine and expand the Healthy Backpack program to reach 200 families this year.
- **Objective #5:** Conduct the Community Diabetes Survey for the 11-county region.
- **Objective #6:** Explore potential opportunities to impact environmental and social policy change related to diabetes prevention at the state, regional and local levels.

NMDI 2007-2009



- A diabetes “toolkit” was compiled, based on current ADA guidelines at the time.
- Dealt with appropriate medication selection and order for treatment of DM-2.
- Brought to physicians’ offices and reviewed by the NMDI coordinator.
- Little interest, outcomes not tracked, not particularly successful.

Anecdotal observations



- Lack of comfort with insulin initiation
 - Lack of comfort with insulin dose adjustment
 - Lack of standard approach to management of DM-2
 - Knowledge gap regarding principles of insulin use.
 - Simple mistakes with prescription writing leading to barriers to care.
-
- *“If you want something done right, do it yourself.”*

The end result



Educational outreach visits



- Used to describe “a personal visit by a trained person to health professionals in their own settings.”
- Also referred to as:
 - university-based educational detailing
 - public interest detailing
 - academic detailing.

Key principles



- Surveys of practitioners to determine barriers to appropriate practice.
- The subsequent development of an intervention that was tailored to address those barriers using simple messages.
- Targeting of practitioners with low compliance.
- The delivery of the intervention by a respected person.
- Often included feedback on existing practice.

Outcomes



- No specific data on visits related to diabetes.
- Meta-analyses have demonstrated significant, positive effect on physician prescribing practices (5% reduction).
- No demonstrated benefit to multiple visits.
- Savings may outweigh costs if targeted at inappropriate prescribing and the effects are enduring
- Real-time telemedicine endocrinology input during PCP visits has been found to significantly improve outcomes in gestational diabetics.

NMDI EOV program objectives



- Disseminate and explain ADA guidelines for management of type 2 diabetes.
- Step-by-step review of insulin administration and principles thereof.
- Emphasizing treatments that are effective and cost-effective.
- Provide practical information about prescribing diabetic supplies.
- Improve comfort and confidence with, and knowledge of managing diabetic patients.

Program design



- Recruitment of ten primary care providers to participate.
- Incentives: financial compensation, CME.
- Curriculum designed to include on consistent educational content.
- Materials brought to the office highlighting program objectives.

Incentives



- **FY2011: funded by MDCH and NMDI**
- **FY2012: funded by NMDI**

- **Participants receive \$1000 compensation plus 4 hours of CME upon completion of their pre- and post-tests, as well as program evaluation.**

Patient types



- **Type 1 diabetes**
- **Type 2 diabetes, oral medications, controlled.**
- **Type 2 diabetes, oral medications, uncontrolled.**
- **Type 2 diabetes, insulin therapy, uncontrolled.**

Curriculum



Type 1:

- Basal-bolus insulin program
- Carb counting/correction insulin
- Screening for other autoimmune diseases

Type 2 insulin- uncontrolled:

- Glucotoxicity
- Identify barriers/finances
- Pseudohypoglycemia and hypoglycemia tx

Type 2 oral- uncontrolled:

- Review of ADA algorithm
- Initiation of insulin de novo
- Confirming the correct diagnosis (1 vs. 2)

Type 2 oral- controlled:

- Preconception counseling
- Yearly screening needs
- Frequency of monitoring

Materials: flow sheet

- **BP (Goal <130/80)**
- **Weight/BMI**
- **Blood glucose**
- **Aspirin use**
- **Contraception**
- **Smoking**
- **Eye exam**
- **Foot exam**
- **Recommended exercise (150 minutes/week and 2 strength training days)**
- **Pneumonia vaccination**
- **Flu vaccination**
- **Hepatitis B series of vaccinations**
- **Diabetes education**
- **HgbA1c (3-6 months)**
- **Urine microalbumin (yr)**
- **Serum cr (every yr)**
- **LDL (yr.)**
- **Goal <100**
- ***TSH (yr for DM-1)**

Materials: insulin administration



- Table demonstrating efficacy of all drugs available for treating DM-2.
- Summary of meters covered by different Medicaid plans.
- Methods of calculating insulin doses.
- Helpful logistic information on prescribing insulin.
- EHR diabetic “smart set.”
- Tips on providing low-cost diabetic care.
- Link to an online CME through Munson Medical Center on the initiation of insulin.

Logistics



- **Participants are informed that this program is not designed to increase endocrinology referrals.**
- **Patient participation does not imply that they will be followed chronically in my office.**
- **Due to the length of the office visit (>40 minutes), patients' insurance companies are billed a 99215.**

Typical site visit



- 12:30-1:00 PM: review of educational materials, question/answers. Bullet points for first patient type reviewed.
- 1:00-1:40: patient seen with provider/endocrinologist.
- 1:40-1:45: debrief outside patient room
- 1:45-2:00: patient wrap-up, bullet point review for second patient.

Visit outline

- **Diabetes history:**

- Date of diagnosis
- Historic treatment from diagnosis to present day
- Current treatment
- Current diet
- Current frequency of monitoring
- Hypoglycemia frequency
- Most recent date of diabetic education
- Timing of shots in relation to meals
- Complications:
 - ✦ Date/results of last eye exam
 - ✦ Microalbuminuria?
 - ✦ Presence of paresthesias?

- **Compliance**

- Depression/frustration?
- Financial?
- Physical?

- **Yearly housekeeping**

- Vaccines
- LDL
- U ACR
- Cr
- BP
- Feet

Outcomes



- Tracking HbA1c, LDL, urine microalbumin:creatinine ratios of participating patients over 2 years.
- Tracking number of above tests ordered per participating provider per year over 2 years.
- Comparison of pre-program and post-program comfort, confidence, and knowledge with/of diabetes management.
- Process was IRB-approved and all patients signed consent forms for participation.

Program participation



- **FY2011: nine providers, all in Traverse City, MI.**
- **FY2012: ten providers, two in Cadillac, MI.**

Pre/post-visit results

2010-11	Pre-test Avg	Post-test Avg	Difference and percentage %	
how comfortable are you in managing your patients with diabetes?				
Type 1	2.6	3.4	0.8	31%
Type 2 ins	3.9	4.8	0.9	23%
Type 2 oral/un	3.8	4.7	0.9	23%
Type 2 cont	4.1	5	0.9	22%
how confident are you in managing your patients with diabetes?				
Type 1	2.3	3.3	1	43%
Type 2 ins	3.8	4.7	0.9	24%
Type 2 oral/un	3.4	4.7	1.3	38%
Type 2 cont	4.4	5	0.6	14%
On a scale of 1 to 5, how knowledgeable are you in diabetes management?				
Type 1	2.6	3.6	1	38%
Type 2 ins/cont	3.7	4.7	1	27%
Type 2 oral/un	3.7	4.4	0.7	19%
Type 2 cont	4.2	4.9	0.7	17%

A1c measurement change



<u>Provider</u>	<u>2010 totals</u>	<u>2011 totals</u>
BT	14	28
B	1	8
BC	15	19
G	53	78
M	55	45
BR	24	58
GR	74	167
H	71	133
S	58	63

Evaluation data

	Average
I feel this program achieved all of the objectives stated above.	5
I feel that the handouts provided are useful tools.	4.9
I feel that this program was a good use of my time.	5
I feel I will be able to better manage my patients with diabetes because of this program.	4.9
I feel other physicians would benefit by having this program offered to their practices.	5
I would recommend this program to my colleagues.	5
I feel that the compensation I received for my participation in this program was adequate.	5
I feel that this program was well organized.	4.9

Evaluation comments



- I improved my ability to start insulin, change insulin products and better use the oral agents that I typically do not use much.
- Thanks to Dr. Vollbrecht for taking the time to bring this wonderful program to our office!
- I feel like answering all 5's should discredit my believability, but I really gained so much from this chance. I would love a refresher meeting at 6 months with Dr. Vollbrecht-like a lunch hour for question/answer.
- Excellent program. Time well spent with Dr. Vollbrecht. This needs to be offered to all ...docs. Thank you.

Results summary



- **Subjective improvement in diabetic management.**
- **Trend toward increased frequency of HbA1c measurement.**
- **Positively received.**

Summary



- Based on data from meta-analyses, our hope is that prescription practices will change based on our intervention.
- Will be tracking Diabetic Education and endocrinology referrals in the future.
- Impact on patient outcomes will be more clear over time.