

Outcomes !!!

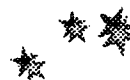


■ The REALITY of
Clinical Practice !!!

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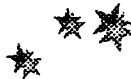
*I've been told to collect
Outcomes...where do I start?*



Today's Objectives



- Overview of the AADE National Diabetes Education Outcomes System (NDEOS)
- Explain the NDEOS approach to outcomes measurement
- Report on the NDEOS Prototype
- Apply the NDEOS to practice
- Describe how the NDEOS can be used to influence decision makers



What is an Outcome?

An Outcome is a "measurable product, and is the changed state or condition of an individual as a consequence of health care"over time

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The National Diabetes Education OUTCOMES System



The Challenge of Outcomes
Measurement!



So.... Which outcomes do I measure?



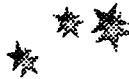
- Metabolic
- Behavioral
- Financial
- Learning
- Patient satisfaction
- QOL
- Productivity
- Provider satisfaction
- Demographics
- Functional status
- Knowledge
- Programmatic
- Education



What outcome measures determine the effectiveness of DSME?



- The case for metabolic control is compelling, and so clinical indicators are being promoted and tracked.
- Are clinical indicators, such as glycemic control measures of DSME effectiveness?
- Research has demonstrated effectiveness of DSME, but has not been able to isolate the variables that are characteristic of an effective program



Measuring Outcomes



- Intermediate Outcomes (Physiologic and Satisfaction)
 - ♦ Laboratory measurements
 - Improved HbA1c, lipids
 - ♦ Other Clinical Measures:
 - BP, BMI, etc
 - ♦ Satisfaction scales
 - Participant satisfaction
 - ♦ AADE's Diabetes Educator Tool (D-ET) serves as both medical documentation and data input for capture of physiologic and satisfaction measures



Measuring Outcomes



- Immediate Outcomes (Learning)
 - ♦ Enhance knowledge, develop skills, overcome barriers and attitudes
 - Pre- and post-program knowledge tests
 - Pre- and post-program skills assessment
 - Pre- and post-program attitude inventories
 - Pre- and post-program stages of change



Measuring Outcomes:



- Long Term Outcomes (Improved Health Status, reduction in Co-morbidity)
 - ♦ Quality of life
 - SF-36 or other QOL instruments
 - CES-D, Zung or Beck depression scales
 - ♦ Decreased incidence of complications



Measuring Outcomes

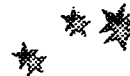


- Intermediate Outcomes (Behavior Change)
 - ♦ Behavior modification
 - Behavior goal achievement (ADA)
 - Problem Areas in Diabetes Inventory (PAID)
 - ♦ AADE's Diabetes Self-Management Assessment Report Tool or (D-SMART) can be administered repeatedly to measure behavior change



The customer defines the outcomes you collect!

Know your customer



Who are your customers?



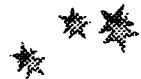
- ADA Education Recognition
- Administration
- Insurance Industry
- Physicians
- Community
- Patients
- Regulatory Agencies
- YOU!!!



Guiding Principles for the Project



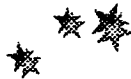
- Benefit the individual educator in use
 - ◆ Function as a quality improvement tool
 - ◆ Be reasonably resource independent to use
 - ◆ Provide a framework for reflection on and improvement of practice
- Define performance measures for diabetes education that have validity across multiple practice settings, disciplines, and patient populations
- Focus on the desired outcome rather than the curriculum



AADE's Response to a Challenge



- In the 1997 AADE Recognized the need to identify measures Unique to diabetes education...customers were asking!!
- Appointment of the Outcomes Task Force
 - ◆ Educators with experience in DSME and outcomes
 - ◆ Diverse professional representation
 - RN, RD, RPh, behaviorist, epidemiologist, IS
 - ◆ Geographically representative of the AADE membership
 - ◆ Practice in diverse settings and payment systems



AADE Outcomes Project: Progress to Date...



- Defined behavioral outcomes as unique to diabetes education
 - ◆ AADE 7
- Created and validated a measurement tool (patient self-report)
 - ◆ D-SMART
- Created systems to support the educator for data capture, documentation, and outcomes reporting
- Prototyped the NDEOS in 11 diabetes education centers (in progress)



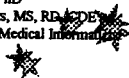
Task Force Members (1998-99) Project Team (2000-2001*)



*Malinda Peoples, RN, MS, CDE, Chair
 *Kathy Mulcahy, RN, MSN, CDE, Chair
 Betty Brackenridge, MS, RD, CDE
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 Debra Young-Hyman, PhD, CDE

Consultants
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 Maggie Powers, MS, RD, CDE
 *Paul Upham, Medical Informatics



The National Diabetes Education OUTCOMES System



Application to Practice





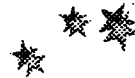
Now that I understand which outcomes I need...How do I collect them?



NDEOS: The System



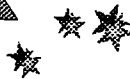
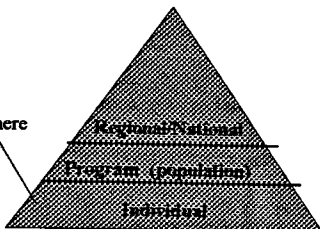
- Purpose:
 - ♦ Capture educational, behavioral, and clinical outcomes that support:
 - best practice
 - quality improvement activities
 - program recognition
 - ♦ Support AADE's effort to have a uniform data set from all programs that can be used:
 - influence policy
 - support reimbursement



Start with the most discrete element...the individual



Start here



If your customer wants to know how effective your DSME is...make sure you capture outcomes that are specific indicators of quality DSME

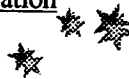


The Vision



A complete system to gather, track and aggregate outcome measures unique to diabetes education and to support the integration of diabetes education into clinical care.

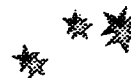
"National Diabetes Education Outcomes System"



Seven Education Outcome Areas



- Physical activity
- Food choices
- Medication administration
- Monitoring of blood glucose
- Problem solving re. blood glucose highs and lows, and sick days
- Risk reduction activities
- Psychosocial adaptation



Integrating Education Outcomes into Practice: NDEOS

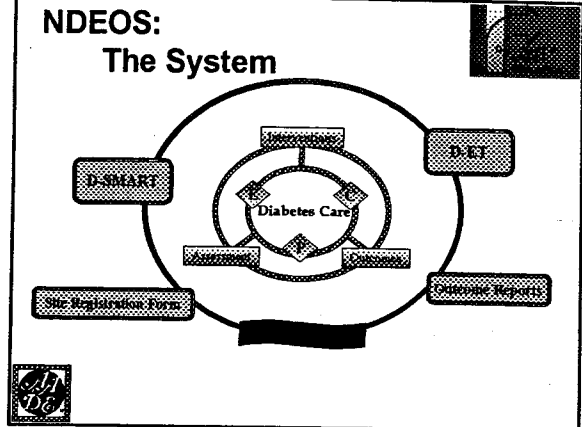


• Assessment, intervention and evaluation are the core processes for the system

- ♦ Standards based (National Standards)
- ♦ Outcomes Focused (AADE 7)
- ♦ Capture data to guide interventions
- ♦ Track patient and program outcomes longitudinally
- ♦ Aggregate, analyze and benchmark data
- ♦ Identify "best practices" for program development and patient intervention



NDEOS: The System



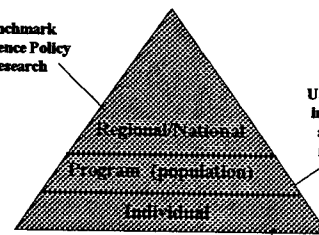
Evaluation = Outcome



Outcomes Reporting



Benchmark
Influence Policy
Research

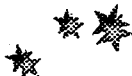


Use for quality
improvement
activities &
recognition

Guide education interventions
for individual patients



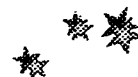
**NDEOS supports
integration of clinical,
behavioral, and
educational structure,
processes, and outcomes**



Outcomes Reporting



- Initial level reports are individual Point of Service (POS)
- Second level are aggregate site specific reports
- Third level reports are regional or national benchmarking



The NDEOS Reports



- Individual
 - ♦ POS (Point of service)
- Population (Aggregate/Program)
 - ♦ Population
 - ♦ Program
 - ♦ Outcome
- Benchmarking (National and Regional)



Using the Tools at the Program Level



- Population focus
 - ♦ Drives behavior-oriented curriculum design
 - ♦ Supports quality improvement
 - ♦ Aggregate, analyze and benchmark data
 - ♦ Identify "best practices" for program development and patient intervention
 - ♦ Standard 10 - "The DSME entity will utilize CQI to evaluate the effectiveness of the education experience provided and determine opportunities for improvement"



Using NDEOS at the Individual Level



- D-SMART provides a validated reliable tool for capturing patient behavior
- D-SMART and D-ET enhances assessment capability
- Eliminates duplication of data entry from chart to database
- Integrates educational, clinical and behavior
- Provides Point of Service reports that can be to guide educator interventions, provide feedback to patient, communicate with physician.



NDEOS Aggregate Outcomes Report: Population Report April 20, 2001

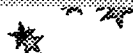
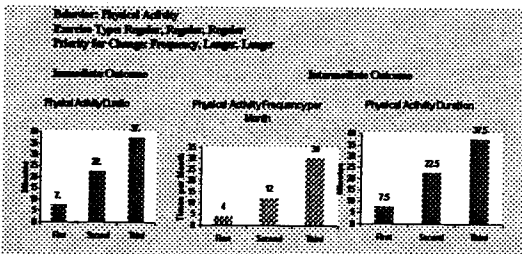


NDEOS Aggregate Outcomes Report
Population Report
April 20, 2001

Site ID: 123456789
Name: Diabetes Center of Antarctica
Number of Unique Patients in the NDEOS Population: 100
For the Data Period: January 1, 2001 - June 30, 2001



Sample Individual Report



Summary of the NDEOS Population




The following report is intended for evaluating characteristics of the population receiving diabetes education services at your center. This report only contains statistics on the population participating in the National Diabetes Education Outcomes System.

The population served by your center primarily consists of the following characteristics:



Gender:	55.6% Female
Mean Age:	55.5 years
Mean Duration:	6.7 years
Type of Diabetes:	52.6% Type 1
Race / Ethnicity:	58.3% White
Education:	51.1% High school degree or less
Occupation:	12.6% Self
Language:	92.3% English
Barriers:	25.6% Reported




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Sample Reports from NDEOS Prototype

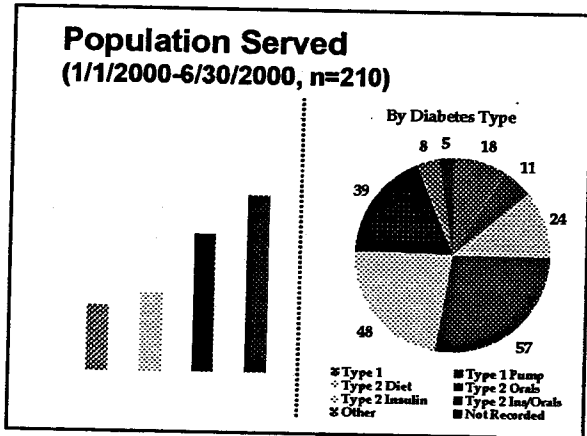
 




Small Group Work

- Describe how you could use these reports to support application for ADA Education recognition.
- Describe how to use these reports to meet the HCFA regulations for outcomes measurement.



 

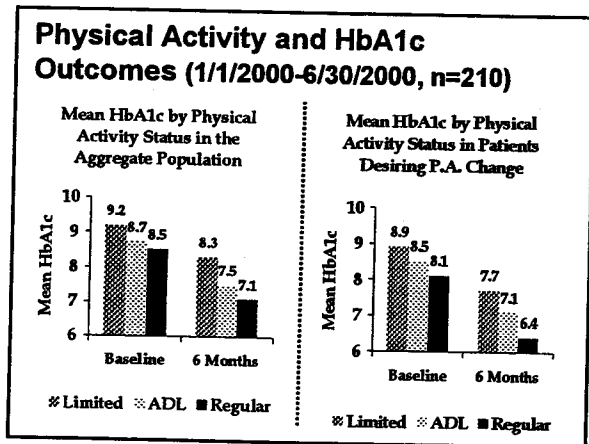





Small Group Work

- How would you use the POS report in your practice?
- Other than ADA Recognition, and HCFA requirements, what other ways would the NDEOS aggregate reports prove useful to you?



 







Small Group Work


- What types of relationship reports would be useful to create? (Example: Compare intervention method to outcome?)
- Are there different ways you would like the data presented, so that it is more meaningful?

Turn to the NDEOS Tools

Diabetes Self-Management Assessment Report Tool (D-SMART)




- Focuses on
 - ♦ Behavior change instead of knowledge change
 - ♦ Behavioral outcomes instead of content completion
- A self-report instrument that captures
 - ♦ Current Behavior
 - ♦ Intent to Change
 - ♦ Skills/Skills Confidence
 - ♦ Barriers (including lack of knowledge)
- Measures the 7 behavioral outcomes of DSMSE

Questions to group


- What do you include in your initial assessment?
- How do you determine the data that you need to capture in your assessment?
- What tools do you use to complete this assessment?
- How long does it take you to complete the assessment?
- How do you determine if the intervention you provided was effective?

Validity and Reliability Testing of the D-SMART




- Tested in 29 diabetes education centers across the country representing diverse settings and patient populations
- Over 1,400 D-SMART's administered and analyzed
- Validity
 - ♦ Face Validity - expert panel convened, defined outcomes, and developed the D-SMART
 - ♦ Content Validity - content validity index was high with >90% of the panel agreeing to survey questions
 - ♦ Concurrent Validity - ongoing

Site Registration Form (SRF)



- Focuses on
 - ♦ Site characteristics
 - ♦ Educator profiles
 - ♦ Service delivery methods
 - ♦ Program design
- Completed upon enrollment and annually
- Serves as the foundation for establishment of a benchmarking initiative

Validity and Reliability Testing of the D-SMART



- Reliability
 - ♦ High test-retest reliability - Patients completed the D-SMART twice within a two week period prior to an intervention. 97% of all responses were not significantly different
 - ♦ High inter-item consistency - Questions related to certain domains (e.g., coping with diabetes, barriers to change, etc.) were highly correlated
- Responsiveness
 - ♦ Questions and response categories in the D-SMART were sensitive enough to quantify behavior changes for each of the outcome areas

