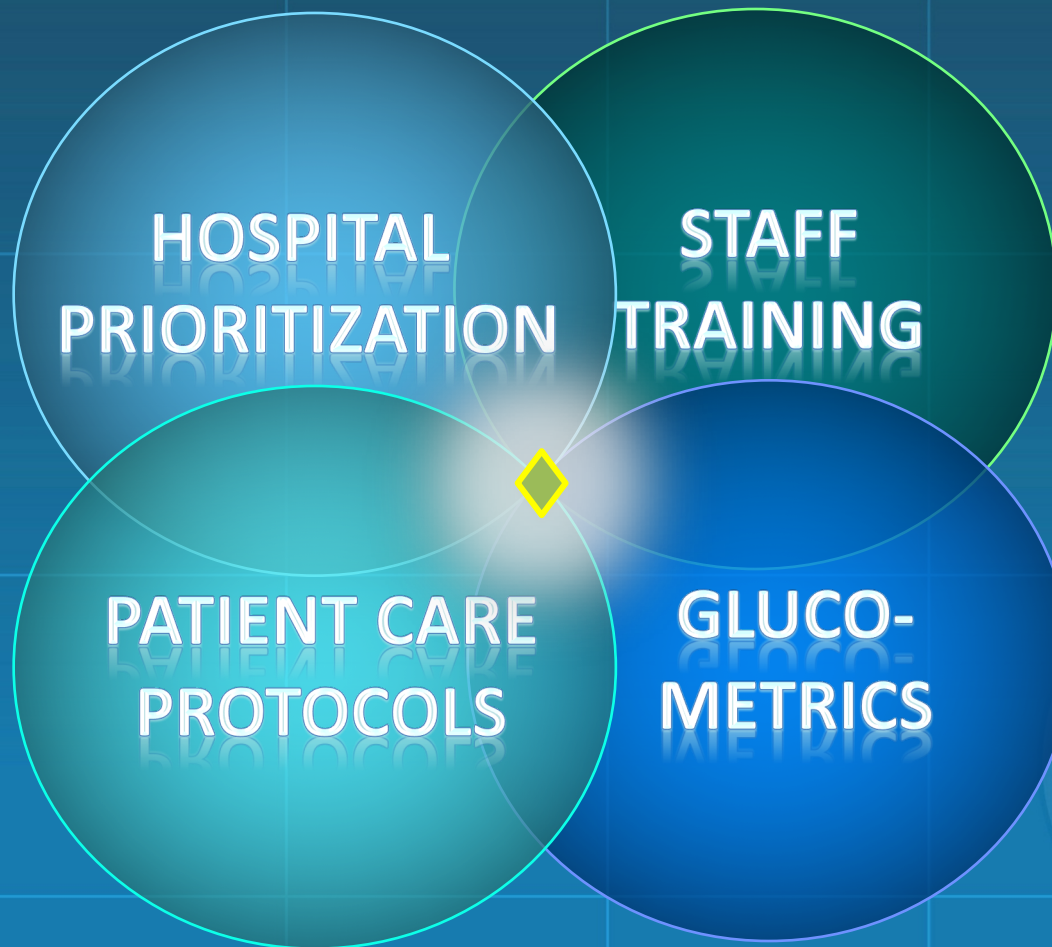


Successful Models of Implementation



The 4 Spheres of a Quality Inpatient Glucose Management Program



The 4 Spheres of a Quality Inpatient Glucose Management Program

1

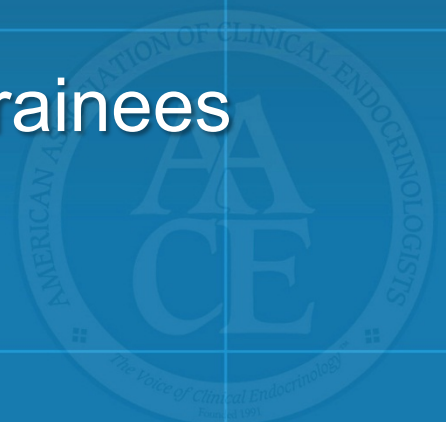
Recognition as a hospital priority

- Administrative support
- Physician, nursing, pharmacy, dietary champions
- Appointment of a multidisciplinary hyperglycemia committee



Arguments to Encourage Prioritization by Hospitals

- Emphasis on quality
- Emphasis on patient safety
- Patient/family satisfaction
- Competitive advantage
- Cost savings
- The Joint Commission certification
- Long-term educational benefits for trainees



The 4 Spheres of a Quality Inpatient Glucose Management Program

2

Institution-wide training efforts

- Physicians (attendings, residents)
- Nursing staff
- Pharmacists
- Medical assistants
- Dieticians
- Patients and families



The 4 Spheres of a Quality Inpatient Glucose Management Program



3 Patient care protocols

- Patient identification strategy
- Formularies
- Policies and procedures
 - ✓ Blood glucose monitoring/A1C testing
 - ✓ Glucose targets
 - ✓ IV insulin infusions (with transitions)
 - ✓ SC insulin order sets
 - ✓ Hypoglycemia protocol
 - ✓ Insulin pump policy



The 4 Spheres of a Quality Inpatient Glucose Management Program

Patient care protocols (cont'd)

- Inpatient diabetes management team
- Discharge planning and transitions to outpatient care

3



The 4 Spheres of a Quality Inpatient Glucose Management Program

Glucometrics

- Systematic acquisition, compilation, organization, reporting, and review of hospital blood glucose data and glycemia-related outcomes

4



Obstetrics

Cardiac Care

Pediatrics

**Patients with
hyperglycemia
are located
throughout the
hospital**

Dialysis

Rehab

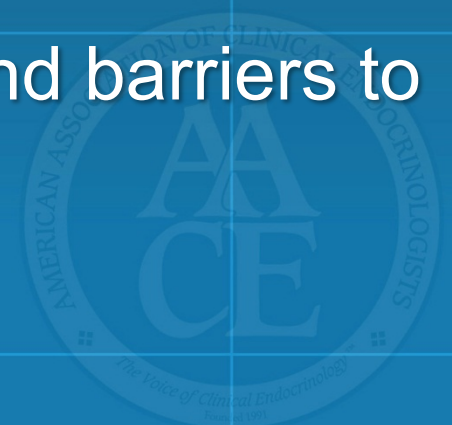
Emergency

Home Health

Med-Surg Unit

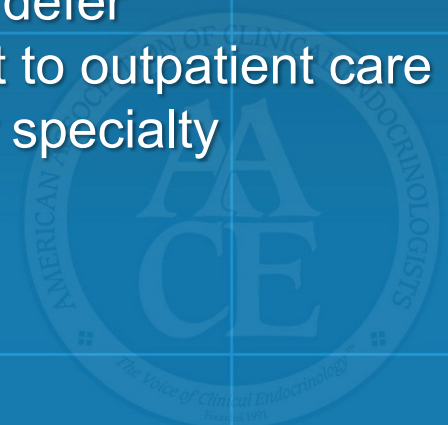
Hyperglycemia in the Hospital

- A quality of care issue
- A patient safety issue
- A length of stay issue and a cost issue
- There is an increased awareness among multiple stakeholders and a desire to change the current practice
- There remain multiple challenges and barriers to practice change



Perceived Barriers to Management of Inpatient Hyperglycemia

- Not knowing best options to treat hyperglycemia
- Not knowing what insulin type or regimen works best
- Not knowing how or when to start insulin
- Not knowing how to adjust insulin
- Risk of hypoglycemia
- Unpredictable timing of patient procedures
- Unpredictable changes in patient diet and mealtimes
- Glucose management not adequately addressed on rounds
- Patient not in hospital long enough to control glucose adequately
- Lack of guidelines on how to treat hyperglycemia
- Preferring to defer management to outpatient care or to another specialty



AACE/ADA Major Recommendations for Optimal Glycemic Management in Hospitalized Patients

- Identify elevated blood glucose in all hospitalized patients
- Establish a multidisciplinary team approach to diabetes management in all hospitals
- Implement structured protocols for aggressive control of blood glucose in ICUs and other hospital settings
- Create educational programs for all hospital personnel caring for people with diabetes
- Plan for a smooth transition to outpatient care with appropriate diabetes management

Successful Strategies for Implementation

- Champion(s)
- Administrative support
- Multidisciplinary steering committee to drive the development of initiatives
 - Medical staff, nursing and case management, pharmacy, nutrition services, dietary, laboratory, quality improvement, information systems, administration
- Assessment of current processes, quality of care, and barriers to practice change

Development and Implementation

- Standardized order sets
 - BG measurement
 - Treatment of hyperglycemia AND hypoglycemia
- Protocols, algorithms
- Policies
- Educational programs (physicians and nurses)
- Glycemic management clinical team
- Metrics for evaluation



Standardize Insulin Therapy

- Single insulin infusion concentration
- Single insulin infusion protocol
- SC insulin order set
- Hypoglycemia protocol
- Guidelines for transitions
 - IV to SC
 - Back to ambulatory regimen
- Guidelines for special situations
 - Enteral nutrition
 - Parenteral nutrition



Metrics for Evaluation

- A system to track hospital glucose data on an ongoing basis can be used to:
 - Assess the quality of care delivered
 - Allow for continuous improvement of processes and protocols
 - Provide momentum



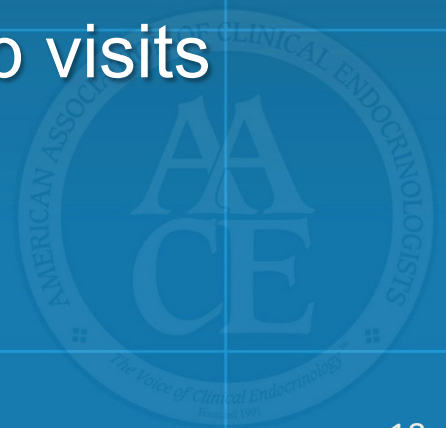
Consultant Model

SUCCESSFUL MODELS



Endocrinologist as a Consultant

- Endocrinologist is called in to consult on patients identified with diabetes or hyperglycemia
- Writes orders and communicates the plan to others
- Follows patients throughout hospital stay, makes therapeutic adjustments
- Coordinates discharge and follow-up visits



Advantages of the Consultant Model

- Positions endocrinologists as leading experts in inpatient glycemic control practice
- Can bill for services



Disadvantages of the Consultant Model

- If nearly 40% of hospital inpatients have hyperglycemia, endocrinologist consultant cannot care for all of them
- Must wait for a consulting request
 - May not be called each time it is appropriate
- Knowledge and skills are limited to few personnel



Keys to Success With the Consultant Model

- Hospital-wide understanding of the importance of calling for an endocrinologist consult
- Ability to tap in to other resources to manage large volumes of patients



Diabetes Team Model

SUCCESSFUL MODELS



Diabetes Team Model

Endocrinologist

- Acts as medical director
- Leads a multidisciplinary team to manage patient care on an ongoing basis

Nurse Practitioner or Advanced Practice Nurse

- Acts as case manager
- Interacts daily with residents, attending physicians, and nursing staff to improve glycemic management
- Conducts patient screenings to identify those with elevated glucose levels
- Uncovers opportunities for improvement in glycemic management and makes recommendations to the medical team

Advantages of the Team Model

- Strengthens multidisciplinary approach to care of patients with diabetes or hyperglycemia
- Allows each professional to share different areas of expertise while standardizing systems
- Clinical staff can become more specialized in effective diabetes management
 - Enhanced opportunities for higher level training



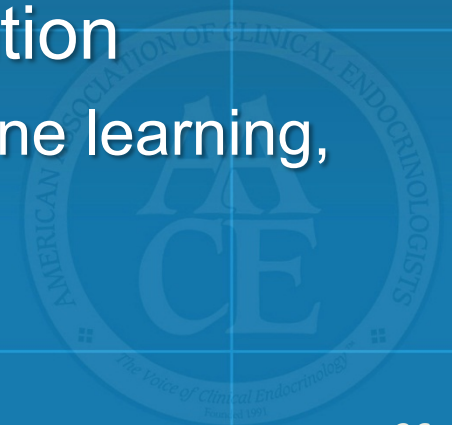
Disadvantages of the Team Model

- Administrative and medical staff leadership must see this as a priority and devote resources
- Does not change culture to become more focused on diabetes hospital-wide



Keys to Success With the Team Model

- Must have streamlined, effective communication between team members
- Systems must effectively identify hyperglycemic patients early in the stay to allow the team to manage the care
- Continuous education must be provided systematically throughout the institution
 - Can be a combination of didactics, online learning, bedside rounds, etc



System-Wide Model

SUCCESSFUL MODELS

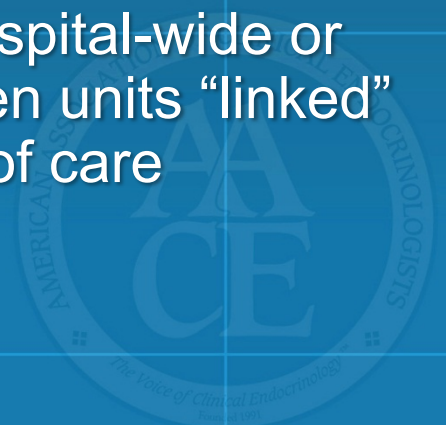


System-Wide Model

- Endocrinologist oversees hospital-wide program, which trains all clinical staff to identify and assist in managing patients with diabetes
- Systematic hospital-wide program with all members of the clinical team enhancing diabetes knowledge and skills
- Endocrinologist serves as “champion” and oversees development and implementation of protocols
 - Available as resource for complex cases
- All clinical staff undergo training on diabetes and hyperglycemia
 - Diabetes nurses serve as resources to house staff
 - Floor nurses manage routine care based on protocols

Advantages of the System-Wide Model

- Achieve hospital-wide culture change when all clinical employees work toward a common goal
- Effective resource utilization by disseminating skills and knowledge throughout the hospital
- Facilitates standardization while respecting unit culture
- Offers opportunities for systematic program rollout
 - Evidence-based training can be offered hospital-wide or rolled out gradually by coordinating between units “linked” by routine flow of patients for consistency of care
 - Surgery ► Intensive Care ► Med Surg



Disadvantages of the System-Wide Model

- Units may “backslide” if no ongoing monitoring/ accountability
- More difficult to control day-to-day adherence to glycemic control practice
- Staff turnover creates need for ongoing training/ awareness



Keys to Success With the System-Wide Model

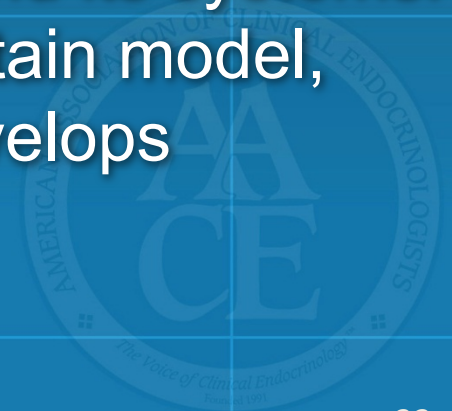
- Commitment from top levels of clinical and administrative teams
- Ongoing results monitoring of clinical and financial improvement
 - Sharing results system-wide
- Active involvement of all key departments
 - Nursing, lab, information services, billing, dietary, education, and so on
- Communication and maintenance of a high level of awareness among staff and physicians throughout the system



The Choice Is Yours!

Each hospital has different internal systems and resources available to implement an effective diabetes management program

You can start by assessing your facility and its systems.
You may choose to begin using a certain model,
then change as the program develops

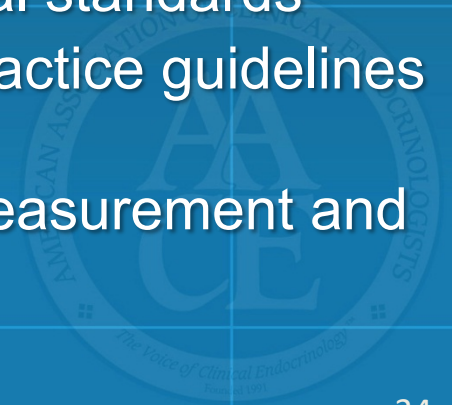


JOINT COMMISSION'S DISEASE-SPECIFIC CERTIFICATION



Joint Commission's Disease-Specific Care Certification

- The Joint Commission's Disease-Specific Care Certification Program evaluates disease management and chronic care services provided by direct care providers such as hospitals
- Certification is available for virtually any chronic disease or condition
- Certification decision is based on assessment of
 - Compliance with consensus-based national standards
 - Effective use of evidence-based clinical practice guidelines to manage and optimize care
 - An organized approach to performance measurement and improvement activities

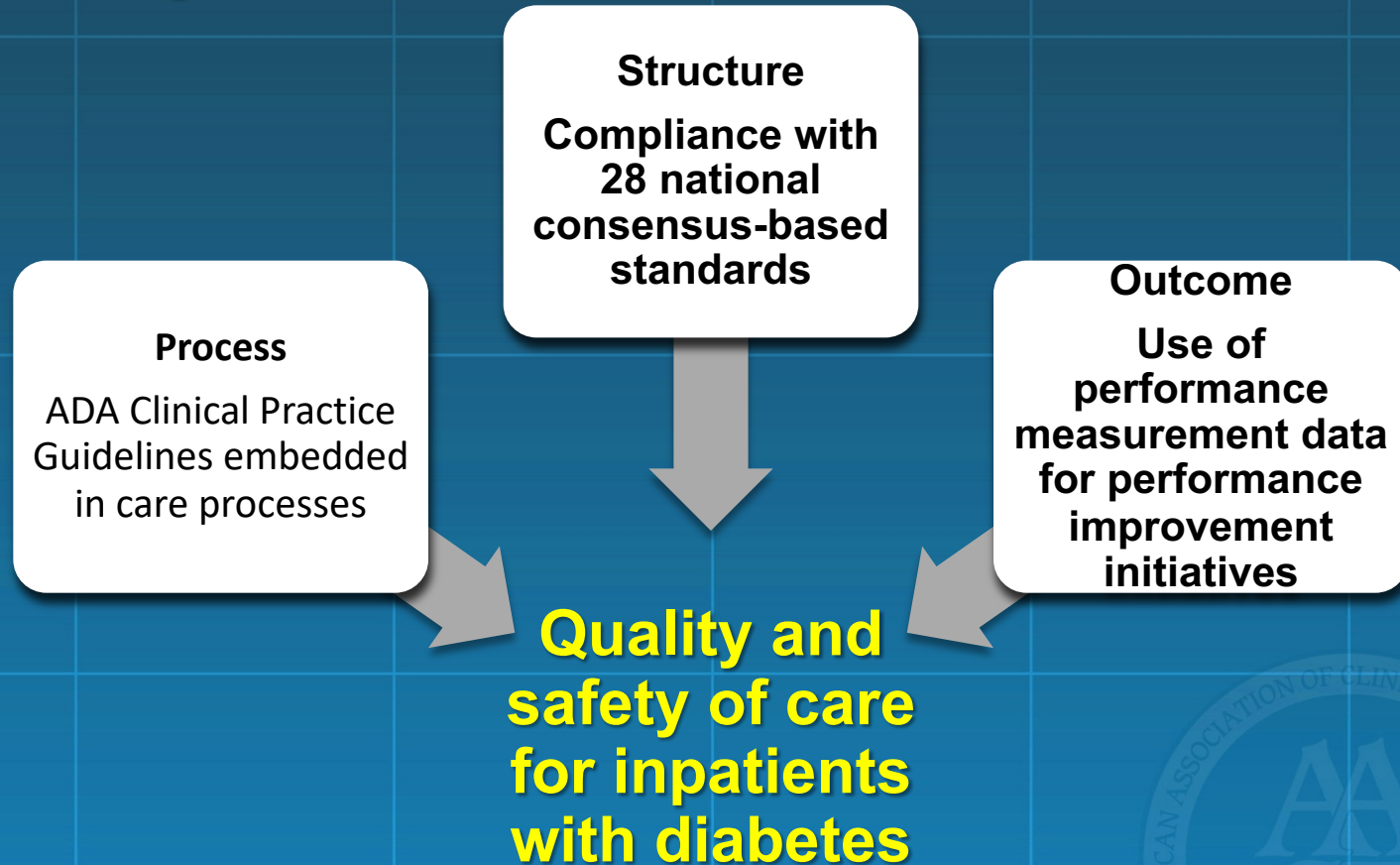


Benefits of Joint Commission Disease-Specific Care Certification

- Improves the quality of patient care by reducing variation in clinical processes
- Provides a framework for program structure and management
- Provides an objective assessment of clinical excellence
- Creates a loyal, cohesive clinical team
- Promotes a culture of excellence across the organization
- Facilitates marketing, contracting, and reimbursement
- Strengthens community confidence in the quality and safety of care, treatment, and services
- Recognized by select insurers and other third parties
- Can fulfill regulatory requirements in select states



Scope of Joint Commission Inpatient Diabetes Certification



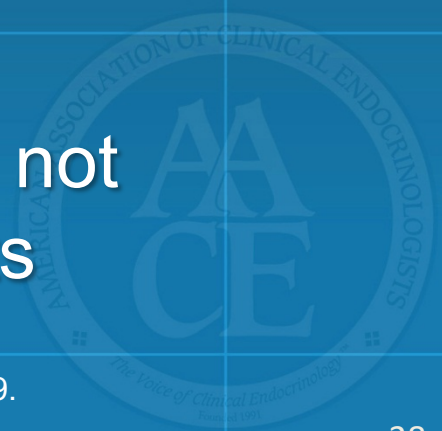
Joint Commission Standards for Disease-Specific Care Certification: Overview

- Program management
- Clinical information management
- Delivering or facilitating clinical care
- Supporting self-management
- Performance measurement and improvement



Joint Commission Inpatient Diabetes Certification: Key Requirements

- Designated multidisciplinary team and team leader
- Staff education in diabetes management
- Medical record identifies diabetes mellitus (existing or newly diagnosed)
- Plan coordinating insulin administration and meal delivery
- Nutritional assessments for patients not consistently reaching glucose targets



Joint Commission Inpatient Diabetes Certification: Key Requirements

- Written protocols for the management of patients on IV insulin infusions
- PI program evaluates episodes of hypoglycemia for root causes and trends
- Blood glucose monitoring protocols
- A1C results available for patients with known diabetes
- Blood glucose monitoring results available for all team members
- Individualized plan for treatment of hypoglycemia and hyperglycemia

Joint Commission Inpatient Diabetes Certification: Key Requirements

- Patient comprehension of self-management documented in medical record
- Patient education components
 - Use of personal glucose monitor
 - Meal plan management
 - Medication administration instructions (oral agents and injectable medications)
 - Signs and symptoms of hyperglycemia and hypoglycemia
 - Treatment of hyperglycemia and hypoglycemia
 - Emergency contact information
 - Additional education/resources