ABSTRACT
Outcomes research activities include, comparing the cost /benefit or cost/ effectiveness ratios of different products, programs, and services, examining the impact of new technologies on patients health status(quality of life), and identifying segments of a population at risk for certain disease condition and developing strategies for optimal utilization of healthcare services. Outcomes measurements predict significant benefits, including improved physician and patient information, increased understanding of the effectiveness of different treatment interventions, and established guidelines of medical management. Over the past two decades, creators of outcomes measurement tools have greatly expanded the dimensions that these tools measure. The ultimate goal of outcomes research is to provide insights that lead to greater efficiency and higher quality of care. Today, outcomes are measured through a series of variables obtained in a variety of ways. Functional status, disability assessment, emotional health, social interaction, general health perception, cognitive functions are among the series of variables that are captured and measured for outcomes assessment. Existing outcomes indicators can be categorized as reflecting diseases, patients, providers, or organizations. The most sophisticated, complete, and useful reflection of outcomes will be derived from a balance of indicators representing a variety of outcomes categories. Outcomes research, its significance and measurement methods are discussed in this presentation.

KEYWORDS: Outcomes research, Measurement tools, General health measures.

INTRODUCTION
Continually escalating healthcare costs are generating more and more interest in the area of cost containment methodologies focusing on quality, cost-effective outcomes. As we move
forward in this quest for more cost-effective, quality care, the healthcare preamble addresses the need to use outcome information to measure and demonstrate the effectiveness of healthcare practices.

Across the country, managed care organizations (MCOs), large employer groups, and other healthcare networks are using Outcomes measurement tools to identify, measure, and evaluate the results of care. These organizations measure and evaluate their return on investment to make effective business decisions for the future. Purchasers and providers of healthcare are required to provide evidence of value in treatment and service. By performing outcomes studies, healthcare organizations are better able to determine which treatment or therapy offers the best clinical, humanistic, and cost-effective outcomes for their members and also to validate the Outcome of care.

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Types of Outcomes Measurement Tools
Over the past two decades, creators of outcomes measurement tools have greatly enhanced the parameters of generic health assessment (the dimensions of health that are measured). The definition of outcomes has expanded to include results of significance to patients, namely, patients assessments of their own health and their evaluations of the quality of care and services provided.¹

Outcomes measurement tools fall into three major categories: general health/generic measures, disease-specific measures, and functional status measures.

General health measures
The Medical Outcomes Study Short Form 36 (SF-36) is a general health measure.² Because its Concepts are not specific to any age, disease, or treatment group, it enables comparisons of the relative burden of different diseases or the relative benefits of different treatments. The SF36 can be used for comparison across diseases and across settings.
The scale assesses the following eight health concepts.

1. Limitations in physical activities because of health problems.
2. Limitations in usual activities because of physical health problems.
4. General health perceptions.
5. Vitality (energy and fatigue).
6. Limitations in social activities because of physical or emotional problems.
7. Limitations in usual activities because of emotional problems
8. Mental health (psychological distress and well-being).

Disease-specific symptoms and problems are not included in the SF-36. In fact, many generic tools lack the precision required to enhance effective healthcare decision making.

**Sample Questions from the SF-36**

1. **Compared to 1 year ago, how would you rate your health in general now?**
   **Would you say it is**
   1. Much better now than 1 year ago
   2. Somewhat better now than 1 year ago
   3. About the same as 1 year ago
   4. Somewhat worse now than 1 year ago
   5. Much worse now than 1 year ago

2. **During the past 4 weeks, have you had to cut down the amount of time you spent on work or other regular daily activities as a result of your physical health?** Yes No

3. **During the past 4 weeks, have you accomplished less than you would like as a result of any emotional problems, such as feeling depressed or anxious?** Yes No

4. **How much of the time during the past 4 weeks have you felt downhearted and blue?**
   * All of the time
   * Most of the time
   * A good bit of the time

   **Some of the time**
   * A little of the time
None of the time

5. I expect my health to get worse. Would you say that's

Definitely true
• Mostly true
• Don't know
• Mostly false
• Definitely false

Disease-specific measures:

Disease-specific measures focus on individual outcomes unique to a specific disease entity. Disease-specific measures are of greatest interest to the patients themselves and to the clinicians who treat them, whereas generic measures, because they permit comparisons across conditions and populations, are of greatest interest to policy and decision makers.[3] Generic measures exhibit breadth but not depth. Conversely, disease-specific measures exhibit great depth but little breadth.

The following are examples of disease-specific measurement tools:

• Adult Asthma QoI Questionnaire (AQLQ) o Pediatric Asthma Quality of Life Questionnaires for pa
tients (PAQILQ) and caregivers (PACQLQ)
• Sydney Asthma Quality of Life Questionnaire (adult) o BASIS-32 (Outcomes of Mental Health Treatment)
• Medical Outcomes Survey-HIV Health Survey o Kidney Disease and Quality of Life SF (KDQOL-SF)
• Prostatism Typology of Patient Experience
• Quality of Life after Myocardial Infarction (QLM)

"HASSLES" Diabetes Specific Health Status Measure.

Functional status measures

Functional status measures originated in the rehabilitation setting, focusing on different aspects of individual patients' performance associated with a specific activity. These measures give healthcare providers standardized criteria for assessing patient performance. Functional status measures have also been used to examine financial barriers that ultimately
may have an impact on the outcome of rehabilitation. Functional status measures do not encompass quality-of-life measures or project the impact of environmental or societal barriers on independence when the patient returns to the community. For this reason, it is important to combine a functional status assessment with other tools to capture the patient's full spectrum of needs.

Outcomes that include patient satisfaction, clinical outcomes, functional health status, and cost provide a comprehensive approach to assessing outcomes\(^1\). noted that multi items scales generally provide greater score variability and higher reliability and validity that single item measurements. In the future, multi-item scales will be more likely to capture information on patient satisfaction, clinical outcomes, functional health status, and cost, in order to be all-encompassing. These instruments usually have several domains, or dimensions. A domain, or dimension, refers to the area of behavior or experience being measured (e.g., communication, mobility level, nutrition).

Examples of functional status measures are the following: O London Handicap Scale Sickness Impact Profile (SIP) McMaster Health Index Questionnaire Functioning and Well-Being Profile Functional Status Questionnaire Seattle Angina Questionnaire (SAQ) Minnesota Living with Heart Failure Questionnaire. Attributes of well-defined outcomes measurement tools: The list of attributes from the Instrument Review Criteria of the Medical Outcomes Trust Scientific Advisory Committee includes the following:

- Conceptual and measurement model (scale and subscale structure)
- Reliability
- Internal consistency (Cronbach's alpha or KR-20)
- Reproducibility (test-retest/interobserver)

- Validity
- Content
- Construct
- Relationship to criterion measure
- Responsiveness or sensitivity to change
- Interpretability
Collection of Outcomes Data

To capture outcomes information adequately, data need to be collected, aggregated, and measured correctly. Defining uniform standards for data collection is of critical importance, inasmuch as different methods of data collection can yield different outcomes information.

Without a prototype to delineate the basic components of outcomes management studies, data may be riddled with inaccuracies and misrepresentations. Setting time lines for data collection that will not confound the relationship of severity of illness with complications of the intervention is critical for accurate outcomes reporting. Documenting the patient's condition before therapy or treatment is initiated and comparing the patient's condition after therapy or treatment are essential steps in accurate measurement of outcomes.\[^4\]

It is important that the measuring, monitoring, and managing of outcomes occur with full awareness of the different levels of analysis and the implications of each. Individual, group, facility, and community outcomes might each be studied by using different conceptual levels, different operational definitions, different parameters, and different techniques.

Protocol for developing an Outcomes indicator Tool

- What is the goal?
- What will be measured?
- When will it be measured?
- How will the data be collected?
- What is the method of data analysis?
- What is the indicator?

Contemporary Outcomes management encompasses three Components

Outcomes measurement—the systematic quantification, at a single point in time, of outcome indicators, outcomes monitoring—repeated measurement of outcomes indicators Over time to support casual inferences about how the outcomes were produced, and outcomes
management—the use of information gained from monitoring care to achieve Optimal outcomes through improved clinical decision making and delivery of quality care. The major goal of outcomes management is to utilize collected data to improve the quality of care rendered in the future. The effects of well-monitored quality improvement initiatives should be reflected in measurable improvements in outcomes.

CONCLUSION
Rapidly rising healthcare costs, questions about effective medical intervention, and the need for efficient delivery of healthcare services have compelled organizations to focus on Outcomes research, measurement, and management. Proponents of outcomes measurement predict that it will produce significant benefits, including improved physician and patient information, increased understanding of the effectiveness of different treatment interventions, and established guidelines for medical management. Multiple professional organizations, academic centers, and independent research laboratories, as well as government agencies, are now involved in the research and development of outcomes measurement tools.

REFERENCES
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