# Module 2: Using Outcomes in Clinical Assessment & Intervention Planning

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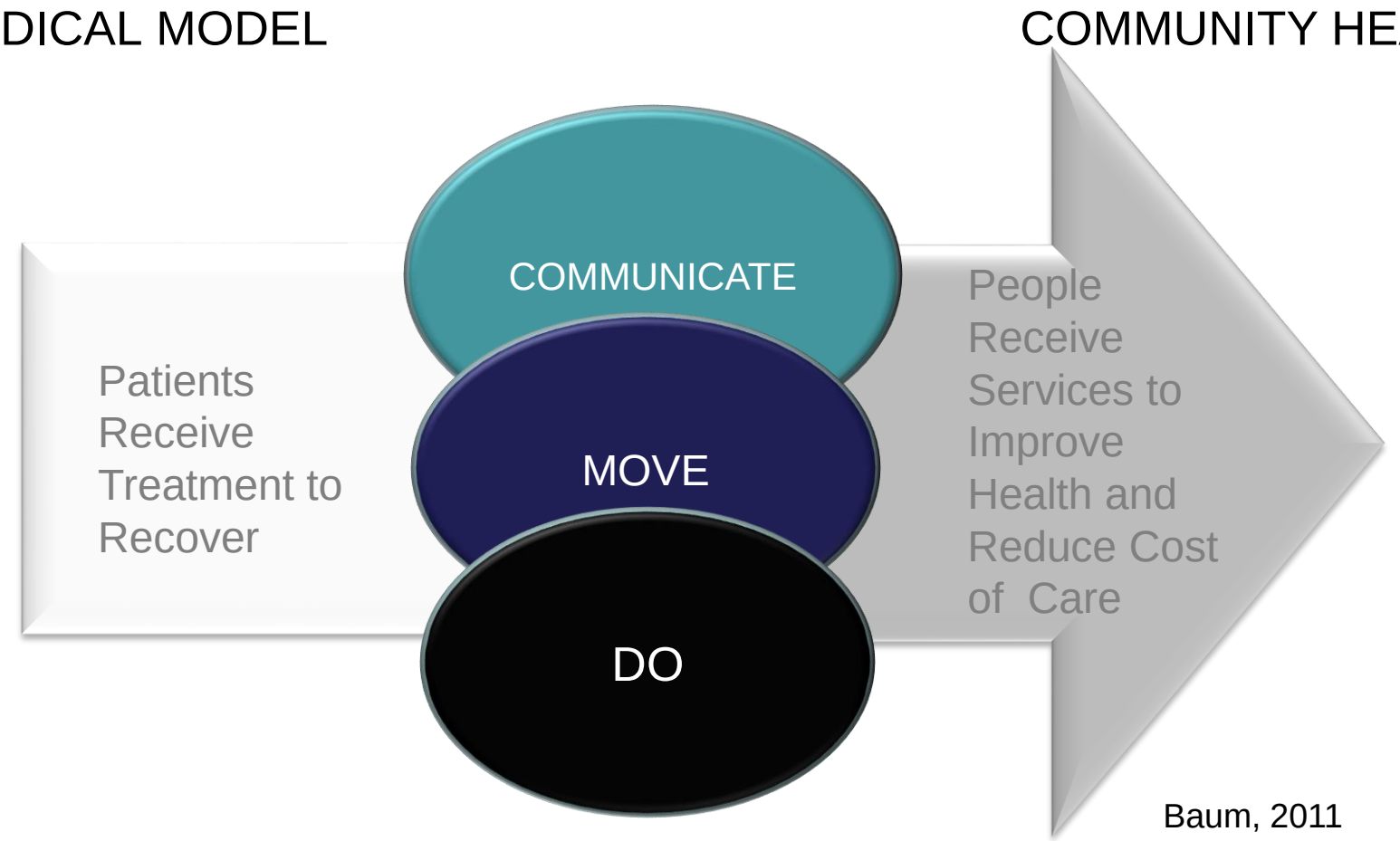
# Our objectives in this module

- In this module, you will learn how to:
  - Select outcome assessments using the ICF framework
  - Evaluate the rigor of outcome assessments
  - Utilize online databases and resources to find and evaluate outcome assessments
  - Use outcome assessments to document client, therapist & key stakeholder goals for rehabilitation
  - Use outcome assessments and research to guide evidence-based intervention planning
  - Document outcomes over time and across clients to show impact of rehabilitation

# Introduction to Selecting Outcomes

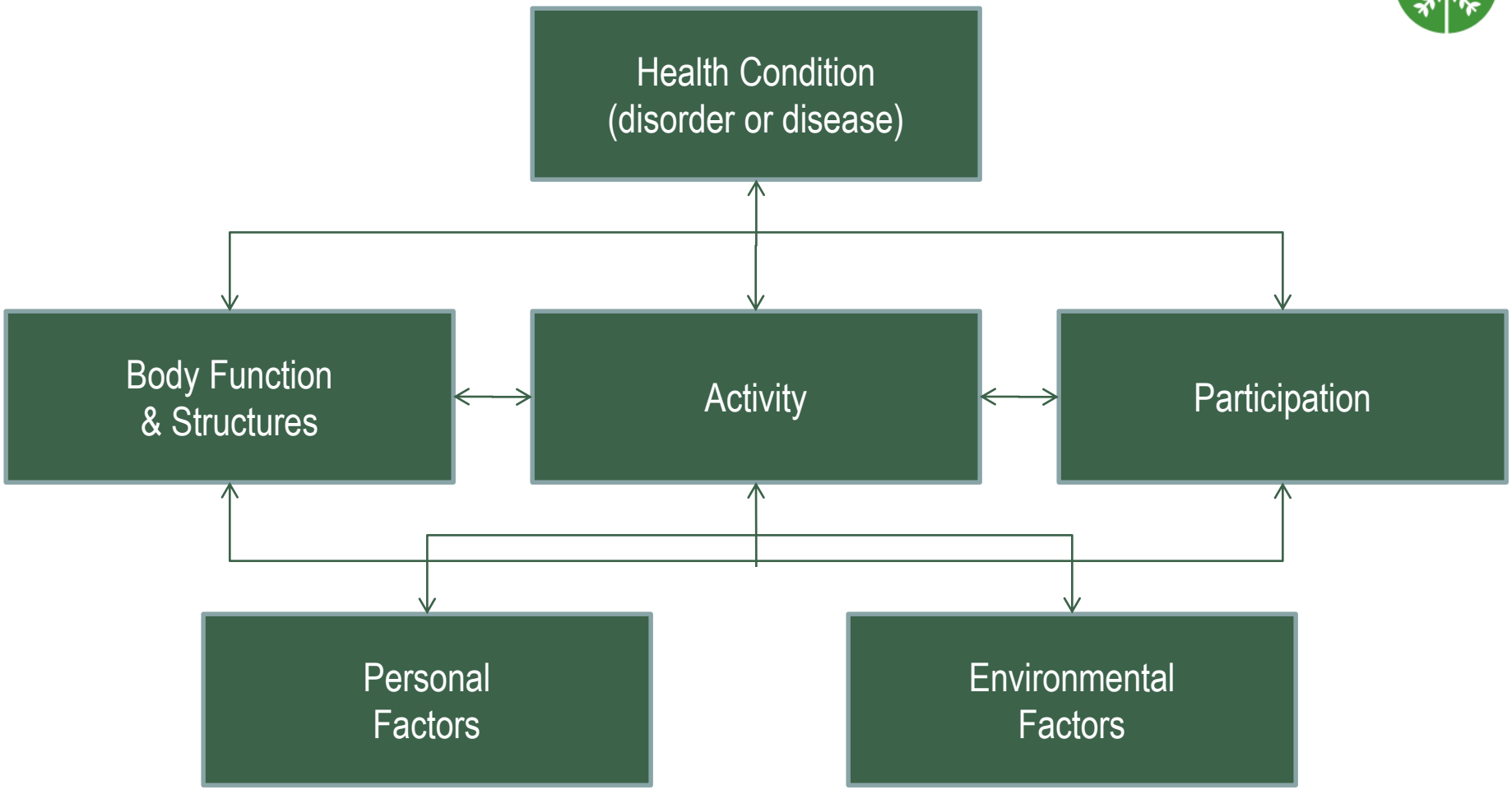
Section I

# A Changing Medical System



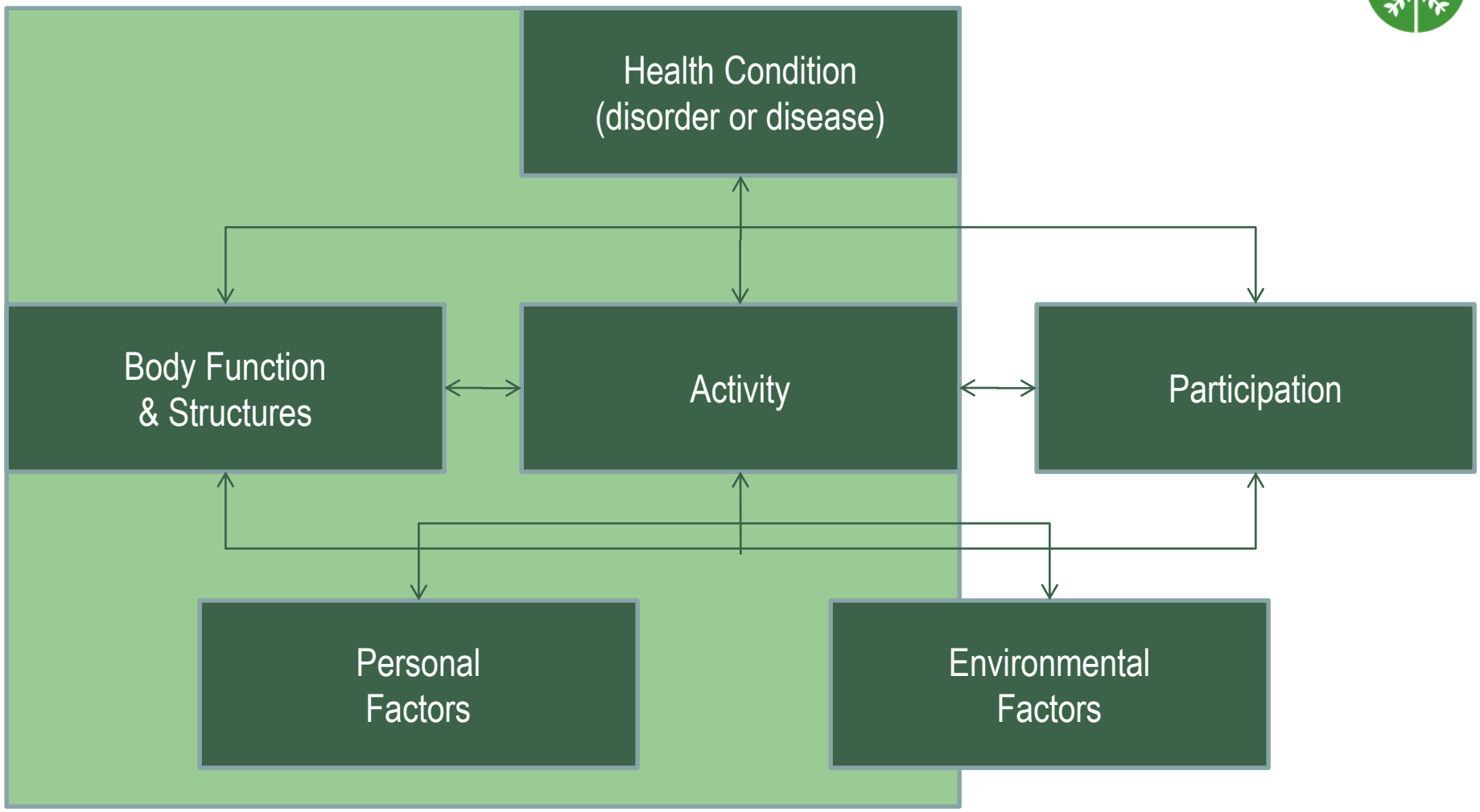

Requires Outcome Data to Guide Interventions, Demonstrate Effectiveness of Services, and Foster Policy Decisions

# International Classification of Function and Disability, WHO 2001



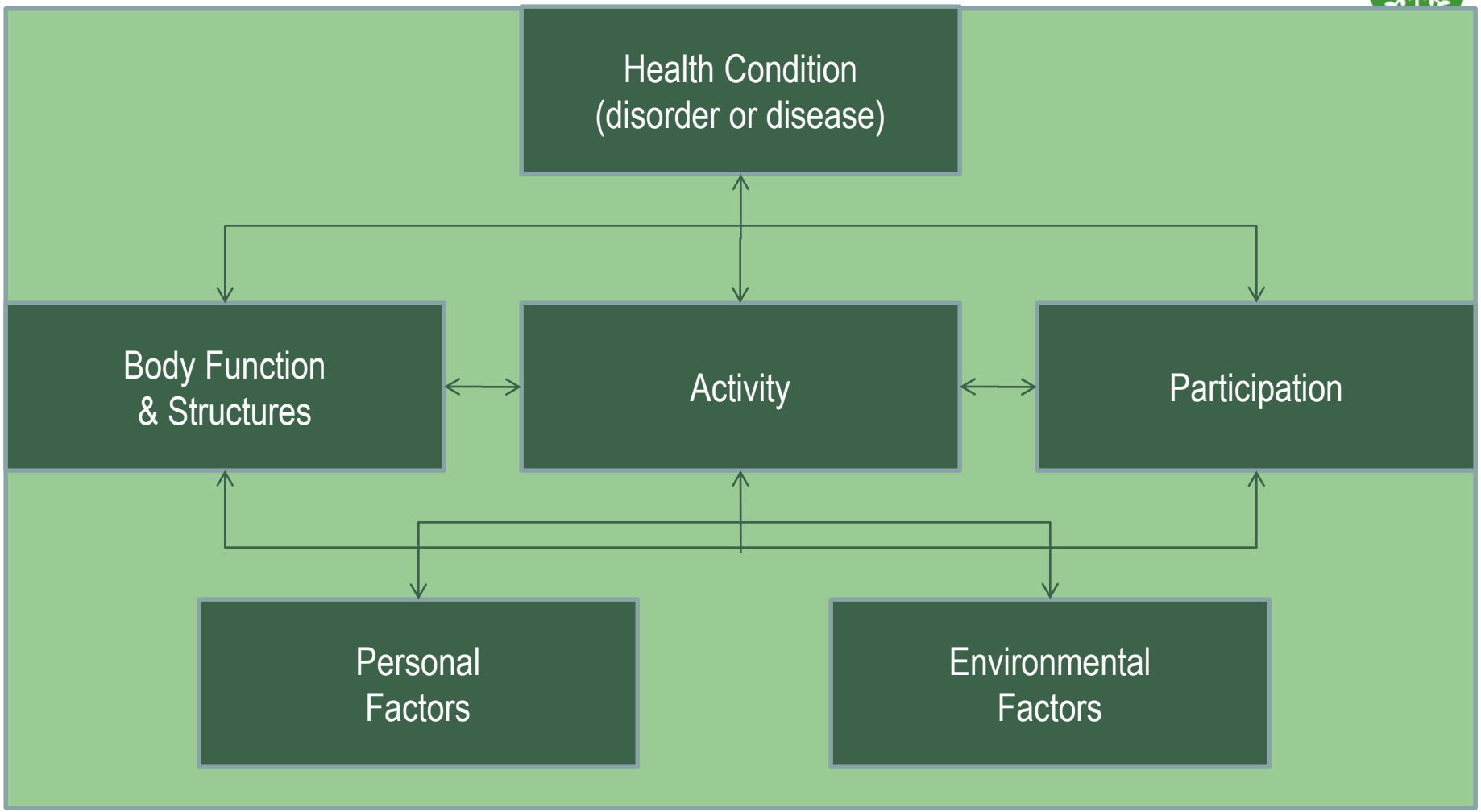

International Classification of Function and Disability

# International Classification of Function and Disability, WHO 2001

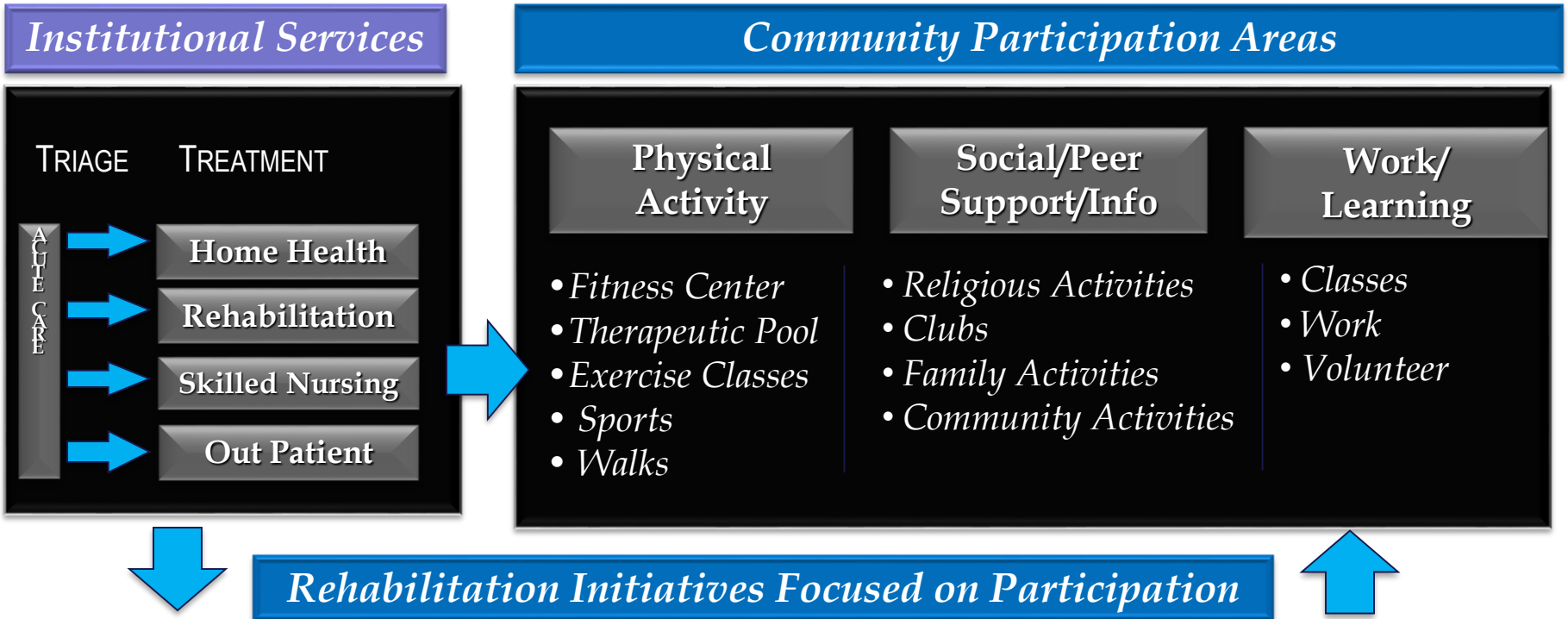



Current Medical System

# International Classification of Function and Disability, WHO 2001



# A Changing Rehabilitation Paradigm




## Rehabilitation Initiatives Focused on Participation

- Opportunities for mass training
- Virtual training strategies
- Assistive technology and robotics
- Driving assessment and training
- Communication strategies
- Home assessment/management
- Learning strategies to support performance
- Family and patient training
- Return to work training and accommodations
- Relationship with Independent Living Centers and Vocational Rehabilitation
- Enabling mobility, post-rehab fitness
- Social opportunities
- Self Management strategies for home, community, and work



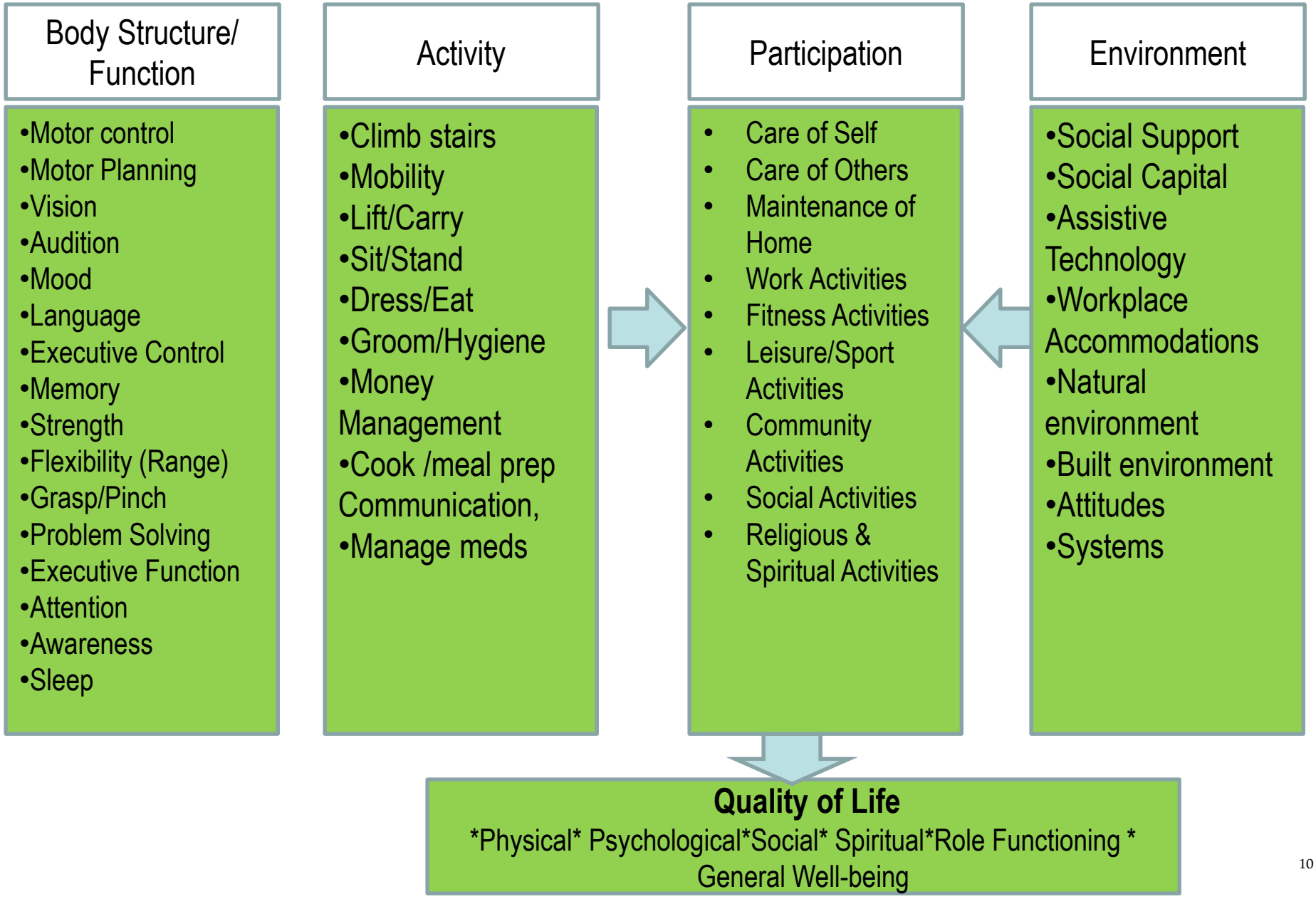
Baum, 2011

# Outcome Domains Relevant to Rehabilitation

| Level of Analysis or Domain | Body Function/ Body Structure | Activity | Participation | Environmental Factors | Quality of Life |
|---|---|---|---|---|---|
| Definition | Physiological function of body systems or anatomical parts such as organs, limbs, brain (ICF) | The capacity to perform a task or action by an individual (ICF) | Individuals actual doing /involvement in life situations (ICF) | The physical, social and attitudinal environment in which people live and conduct their lives (I CF) | Incorporates health, psychological state, level of independence, social relationships and relationships with the environment. WHO-Qual Group, 1994 |
| Measurement Constructs | •Motor control<br>•Motor Planning<br>•Vision<br>•Audition<br>•Mood<br>•Language<br>•Executive Control<br>•Memory<br>•Verbal Fluency<br>•Visuo-spatial function<br>•Strength<br>•Gait<br>•Posture<br>•Flexibility (Range)<br>•Grasp/Pinch<br>•Problem Solving<br>•Executive Function<br>•Attention<br>•Awareness<br>•Speech<br>•Learning<br>•Hearing<br>•Seeing<br>•Sleep | •Standing<br>•Stair Climbing<br>•Walking<br>•Mobility<br>•Lift/Carry<br>•Sitting<br>•Dressing<br>•Eating<br>•Grooming/Hygiene<br>•Bathing<br>•Bowel and Bladder Management<br>•Money Management<br>•Cooking /meal preparation<br>•Laundry<br>•Cleaning<br>•Driving<br>•Tasks associated with leisure interests<br>•Communicating,<br>•Medication management<br>•Health self -management | •Home management<br>•Education<br>•Work<br>•Recreation<br>•Leisure<br>•Religious/Spiritual<br>•Civic Life<br>•Parenting<br>•Child Care<br>•Community Activities | •Social Support of friends and families<br>•Social Capital<br>•Assistive Technology<br>•Policy<br>•Workplace Accommodations<br>•Community Receptivity<br>•Access to Services and information<br>•Natural environment<br>•Built environment<br>•Attitudes<br>•Systems | •Physical<br>•Psychological<br>•Social<br>•Spiritual<br>•Role functioning<br>•General well being |

# EXAMPLE OF ICF CONSTRUCTS TO ADDRESS CLINICAL ISSUES

Medical Care ( Recovery) Socio-cultural Care ( Compensation)



# Why is it important to document outcomes?

- There are several compelling reasons for documenting outcomes, particularly outcomes related to activity AND participation. These include:
  - Ensuring individual's civil rights to fully participate in society post-rehab, as mandated within the Americans with Disabilities Act
  - Meeting individual clients' needs and priorities, as well as those of family and significant others
  - Guiding effective and efficient clinical practice
  - Responding to a growing call for activity and participation outcome document by funders and service deliverers
  - Fostering communication with physicians and policy makers

# Why document participation outcomes?

- The Americans with Disabilities Act (ADA) mandates that American citizens with disabilities have the right to fully participate in society, including participation in community living, social participation, school, work and citizenship.
- Internationally, the right to participate is also validated in the Convention on the Rights of People with Disabilities (CRPD)

# Why document participation outcomes?

- Although the ADA was passed over 20 years ago, people with disabilities in the U.S. still **face significant participation disparities** in major areas of participation when compared to people without disabilities, including:
  - employment,
  - household income,
  - access to transportation,
  - health care,
  - socializing,
  - going to restaurants, and
  - satisfaction with life
    - Kessler Foundation/NOD 2010 Survey of Americans with Disabilities

# Why document participation outcomes?

- The ADA is important in that the right to live in a least restrictive setting was validated in the 1999 Supreme Court LC vs. Olmstead Decision. In response, major federal policy & funding agencies also incorporated this participation focus into their mandates to service providers.
- Some relevant examples for rehabilitation providers include:
  - **Centers for Medicare & Medicaid Services (CMS)** funding Home & Community-based Waivers (see Money Follows the Person Rebalancing Demonstration Grant )
  - ***Commission on the Accreditation of Rehabilitation Facilities (CARF)*** requiring therapists to document participation for "Stroke Specialty Programs" (CARF, 2011).
  - The **Affordable Care Act of 2010** focusing on provision of community-based service delivery and participation outcomes

# Why document participation outcomes?

- Participation and activity are emphasized in the ICF as important elements of health, functioning and disability.
- There is a growing body of research examining participation-focused interventions and their impact on health, as well as on how to rigorously assess participation outcomes.
- Thus we have a compelling case in rehabilitation to include participation in our outcome plans and evidence-based research. The following content provides a summary of how to assess rehabilitation outcomes across ICF categories, and how to use this information to guide evidence-based interventions in rehabilitation.

# Applying what you've learned

- Throughout this workshop we will apply the material to a case study to enhance understanding and offer examples of how you can incorporate rehabilitation outcomes into your practice.

# Meet our Case Study Client: John

- John is a 52 year old man who was hospitalized after a stroke. He is status-post right parietal CVA. He remained in acute care for 8 days following acute care admit and is currently receiving inpatient rehabilitation.
- John presents with left sided hemiplegia (UE more involved than LE), left sided facial droop, slurred speech, left homonymous hemianopsia, dysphagia, left neglect, and impaired sensation/proprioception on the left. Specifically, John has no protective or discriminative sensation distal to the mid forearm. PROM through the left (nondominant) UE is full.
- Fortunately, John has no shoulder subluxation or edema. His endurance is sufficient to support his involvement in six hours of therapy a day, however he is quite fatigued at the end of the day. John presents with mild cognitive deficits. He is able to carry-over instructions from one session to the next, but requires cues for safety and is distractible with higher-level activities. Additionally, John is experiencing reactive depression.

# Case Study (cont.)

- John lives with his wife in a 2-story home.  John and his wife are very close. John's wife is highly invested in John's progress in rehabilitation and attends daily rehab sessions. Emotionally, she is having difficulty coping with John's current limitations, especially since this contrasts greatly with his abilities prior to the stroke. Prior to his stroke, John was completely independent. He drove daily, worked as a real estate sales agent for a major real estate agency, and went to the  health club regularly. John and his wife enjoyed an active social life in their community prior to John's stroke and disability has not been an issue for either of them. Additional leisure activities include going out to dinner and spending time with his family.
- Currently, John has been in inpatient rehabilitation for 3 weeks. John will be discharged in 2 weeks and is starting to have concerns about integrating into the community post discharge.

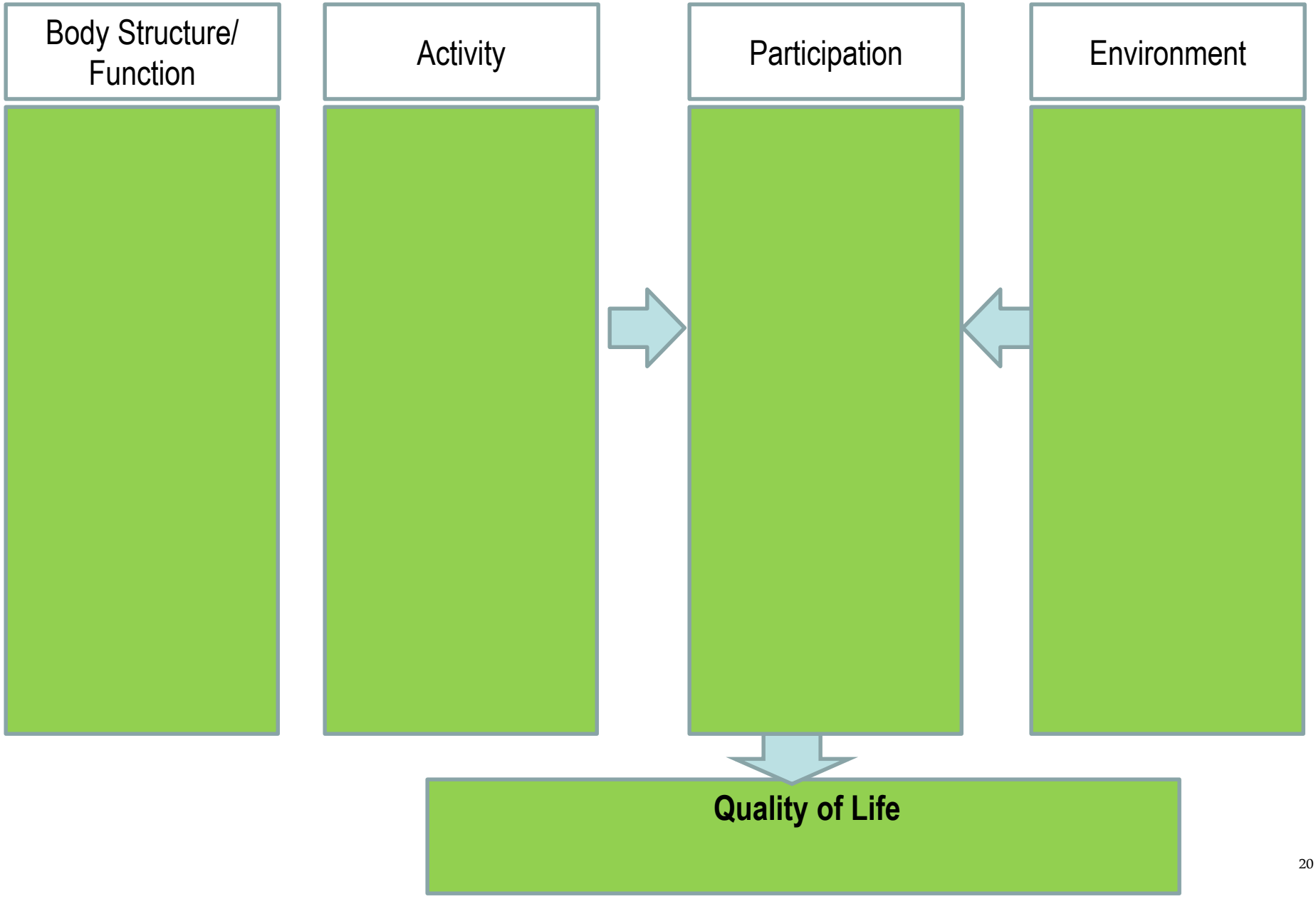
# Using the ICF to choose outcome assessments

- ACTIVITY: Given this short description of John, which ICF categories would you assess with him and why? Use ICF worksheet on the following slide to identify outcome assessments across areas of:
  - Body Structure & Function
  - Activity
  - Participation
  - Environment

# ICF Outcome Assessment Toolbox Worksheet

Medical Care ( Recovery)

Socio-cultural Care ( Compensation)



# Using the ICF to choose outcome assessments

- As examples, you may want to assess activity engagement with John beyond functional independence/dependence in the Functional Independent Measure. The Activity Card Sort (ACS) (Baum & Edwards, 2008) uses a client-centered card sort to assess current activity profiles (home, community, work, social) over time (past life vs. current, pre-disability vs. post, start of rehab to discharge evaluation).
- Click HERE to watch the ACS being administered to John

This slide shows you a sample of ACS data from John to give you an idea of the kind of activity data you can use to guide your intervention with him.

**Activity Card Sort, 2nd Edition**
**Recovering Version Form B**

Name John
Date Of Birth 4/10/67
Tester Maria

Date of Onset 10/29/12
Date 12/12/12

| Number | Activity | Not Done Before Current Illness or Injury | Continued to Do During Illness or Injury | Doing Less Since Illness or Injury | Given Up Due to Illness or Injury | Done Previously | New Activity Since Illness or Injury | Score |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 12.5 |
| | **Instrumental** | | | | | | | |
| 1 | Shopping in a Store | | 1 | 0.5 | 0 | 1 | 1 | |
| 2 | Shopping for Groceries | | 1 | 0.5 | 0 | 1 | 1 | |
| 3 | Dishes | | 1 | 0.5 | 0 | 1 | 1 | |
| 4 | Laundry | | 1 | 0.5 | 0 | 1 | 1 | |
| 5 | Yard Maintenance | | 1 | 0.5 | 0 | 1 | 1 | |
| 6 | Taking Out the Trash | | 1 | 0.5 | 0 | 1 | 1 | |
| 7 | Cooking Dinner | | 1 | 0.5 | 0 | 1 | 1 | |
| 8 | Household Maintenance | | 1 | 0.5 | 0 | 1 | 1 | |
| 9 | Fixing Things Around the House | | 1 | 0.5 | 0 | 1 | 1 | |
| 10 | Driving | | 1 | 0.5 | 0 | 1 | 1 | |
| 11 | Getting Gas | | 1 | 0.5 | 0 | 1 | 1 | |
| 12 | Car Maintenance | | 1 | 0.5 | 0 | 1 | 1 | |
| 13 | Going to Doctor or Therapy | | 1 | 0.5 | 0 | 1 | 1 | |
| 14 | Taking Care of a Pet | | 1 | 0.5 | 0 | 1 | 1 | |
| 15 | Paying Bills | | 1 | 0.5 | 0 | 1 | 1 | |
| 16 | Managing Investments | | 1 | 0.5 | 0 | 1 | 1 | |
| 17 | Resting | | 1 | 0.5 | 0 | 1 | 1 | |
| 18 | Beauty/Barbershop | | 1 | 0.5 | 0 | 1 | 1 | |
| 19 | Child Care | | 1 | 0.5 | 0 | 1 | 1 | |
| 20 | Work (paid) | | 1 | 0.5 | 0 | 1 | 1 | |
| | **Total Instrumental** | | | | | | | Current 12.5<br>Previous 20<br>% Retained 62.5% |
| | **Low-Demand Leisure** | | | | | | | |
| 21 | Spectator Sports | | 1 | 0.5 | 1 | 1 | 1 | |
| 22 | Recreational Shopping | | 1 | 0.5 | 1 | 1 | 1 | |
| 23 | Cooking as a Hobby | | 1 | 0.5 | 1 | 1 | 1 | |
| 24 | Sewing (clothing or household, including mending) | / | 1 | 0.5 | 1 | 1 | 1 | |
| 25 | Needle Crafts (knitting, needlepoint, quilting) | / | 1 | 0.5 | 1 | 1 | 1 | |
| 26 | Hand Crafts | / | 1 | 0.5 | 1 | 1 | 1 | |
| 27 | Table Games (checkers) | | 1 | 0.5 | 1 | 1 | 1 | |
| 28 | Computer (e-mail, paying bils, shopping) | / | 1 | 0.5 | 1 | 1 | 1 | |
| 29 | Computer Games | / | 1 | 0.5 | 1 | 1 | 1 | |
| 30 | Collecting | | 1 | 0.5 | 1 | 1 | 1 | |
| 31 | Playing Cards (solitaire, poker, bridge) | | 1 | 0.5 | 1 | 1 | 1 | |
| 32 | Putting Together Puzzles | | 1 | 0.5 | 1 | 1 | 1 | |
| 33 | Crossword or Sudoku Puzzles | | 1 | 0.5 | 1 | 1 | 1 | |
| 34 | Photography | / | 1 | 0.5 | 1 | 1 | 1 | |
| 35 | Drawing/Painting | | 1 | 0.5 | 1 | 1 | 1 | |
| 36 | Interior Decorating | / | 1 | 0.5 | 1 | 1 | 1 | |
| 37 | Playing a Musical Instrument | | 1 | 0.5 | 1 | 1 | 1 | |
| 38 | Reading Magazines/Books | | 1 | 0.5 | 1 | 1 | 1 | |
| 39 | Reading Newspaper | | 1 | 0.5 | 1 | 1 | 1 | |
| 40 | Reading the Bible/Religious Materials | | 1 | 0.5 | 1 | 1 | 1 | |
| 41 | Singing in Choir or Group | / | 1 | 0.5 | 1 | 1 | 1 | |
| 42 | Creative Writing/Journal | / | 1 | 0.5 | 1 | 1 | 1 | |
| 43 | Letter Writing | / | 1 | 0.5 | 1 | 1 | 1 | |
| 44 | Bird Watching | / | 1 | 0.5 | 1 | 1 | 1 | |
| 45 | Going to the Museum | | 1 | 0.5 | 1 | 1 | 1 | |
| 46 | Going to Garden or Park | | 1 | 0.5 | 1 | 1 | 1 | |
| 47 | Attending Concerts | | 1 | 0.5 | 1 | 1 | 1 | |
| 48 | Going to Casino | / | 1 | 0.5 | 1 | 1 | 1 | |
| 49 | Bingo/Lottery | / | 1 | 0.5 | 1 | 1 | 1 | |
| 50 | Going to the Theater | | 1 | 0.5 | 1 | 1 | 1 | |
| 51 | Watching Movies | | 1 | 0.5 | 1 | 1 | 1 | |
| 52 | Watching Television | | 1 | 0.5 | 1 | 1 | 1 | |
| 53 | Listening to Music | | 1 | 0.5 | 1 | 1 | 1 | |
| 54 | Listening to Radio | | 1 | 0.5 | 1 | 1 | 1 | |
| 55 | Sitting and Thinking | | 1 | 0.5 | 1 | 1 | 1 | |
| | **Total Low-Demand-Leisure Activities** | | | | | | | Current 13<br>Previous 22<br>% Retained 59% |
| | **High-Demand Leisure** | | | | | | | |
| 56 | Swimming | / | 1 | 0.5 | 1 | 1 | 1 | |
| 57 | Playing Team Sports | | 1 | 0.5 | 1 | 1 | 1 | |

# Using the ICF to choose outcome assessments

- As another example, you may want to add participation data to your outcome plan. The Community Participation Indicators (CPI) (Heinemann et al, 2011) is an assessment that documents participation in key areas of life (home, community, work/productive/economic, and social). It provides data on participation engagement (frequency, importance, satisfaction), and a set of participation values (enfranchisement and empowerment).
- Click HERE to watch the CPI being administered to John

# Using the ICF to choose outcome assessments

- The following slides show you some sample CPI data from John to give you an idea of the kind of participation data you can use to guide your intervention with John.

# CPI data-1 (engagement, social sample)

## Community Participation Indicators

**This survey is voluntary. If you choose to participate, your information will be kept private. Your name will never be linked to any of the information you share.**

Shade circles like this: ●
Not like this: ⊗ ⊘

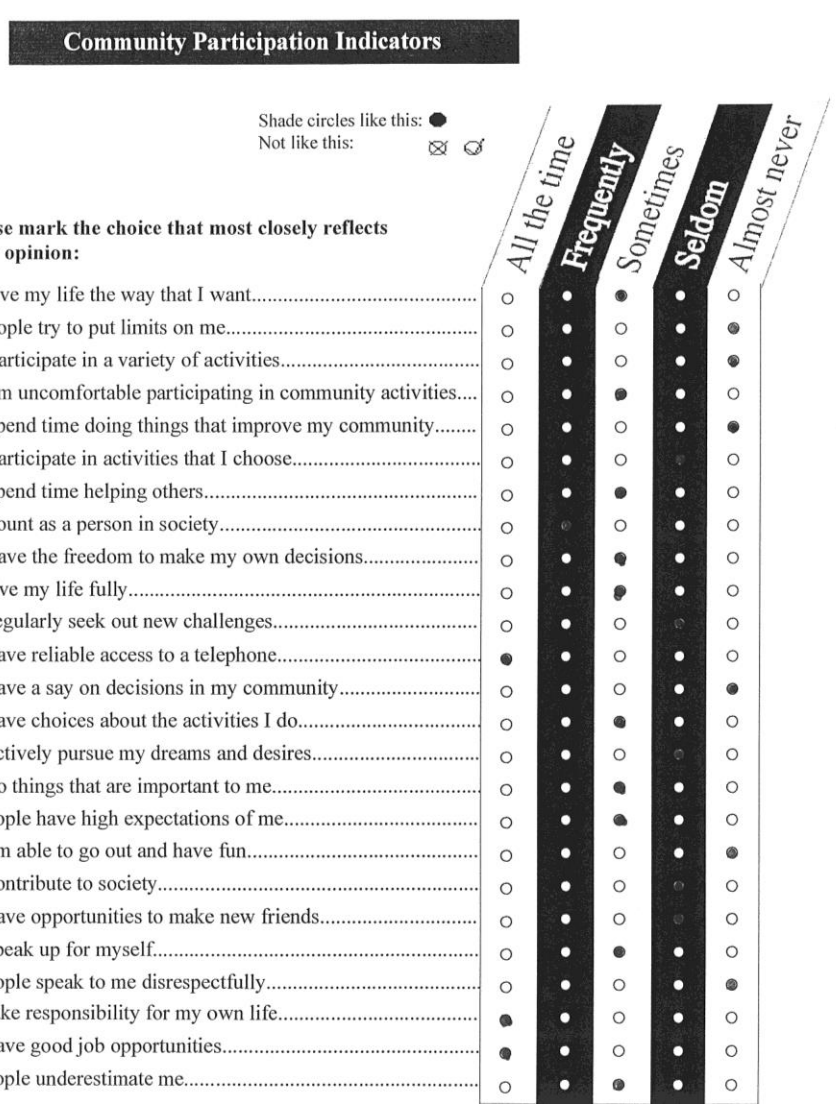
**The statements below describe many of the ways that people participate in society. For each item, tell us:**

1) How often you do the activity,
2) If the activity is important to you, and
3) If you feel you are doing the activity enough, too much, or not enough.

**1. How often? --> 2. Important? --> 3. Doing enough?**

| In a typical week, how many days do you: | None | 1-2 Days | 3-4 Days | 5-6 Days | 7 Days | Is this activity important to you? No | Is this activity important to you? Yes | Are you doing this activity: Enough | Are you doing this activity: Not Enough | Are you doing this activity: Too Much |
|---|---|---|---|---|---|---|---|---|---|---|
| Get out and about | ○ | ○ | ○ | ⊗ | ○ | ○ | ⊗ | ○ | ⊗ | ○ |
| Spend time with family | ○ | ○ | ○ | ⊗ | ○ | ○ | ⊗ | ○ | ⊗ | ○ |
| Keep in touch with family by phone or Internet | ○ | ⊗ | ○ | ○ | ○ | ○ | ⊗ | ○ | ⊗ | ○ |
| Spend time with friends | ○ | ⊗ | ○ | ○ | ○ | ○ | ⊗ | ○ | ⊗ | ○ |
| Keep in touch with friends by phone or Internet | ○ | ⊗ | ○ | ○ | ○ | ○ | ⊗ | ⊗ | ○ | ○ |
| Go to parties, out to dinner, or other social activities | ⊗ | ○ | ○ | ○ | ○ | ○ | ⊗ | ○ | ⊗ | ○ |
| Spend time with a significant other or intimate partner | ○ | ○ | ○ | ○ | ⊗ | ○ | ⊗ | ⊗ | ○ | ○ |

# CPI data-2 (participation values)

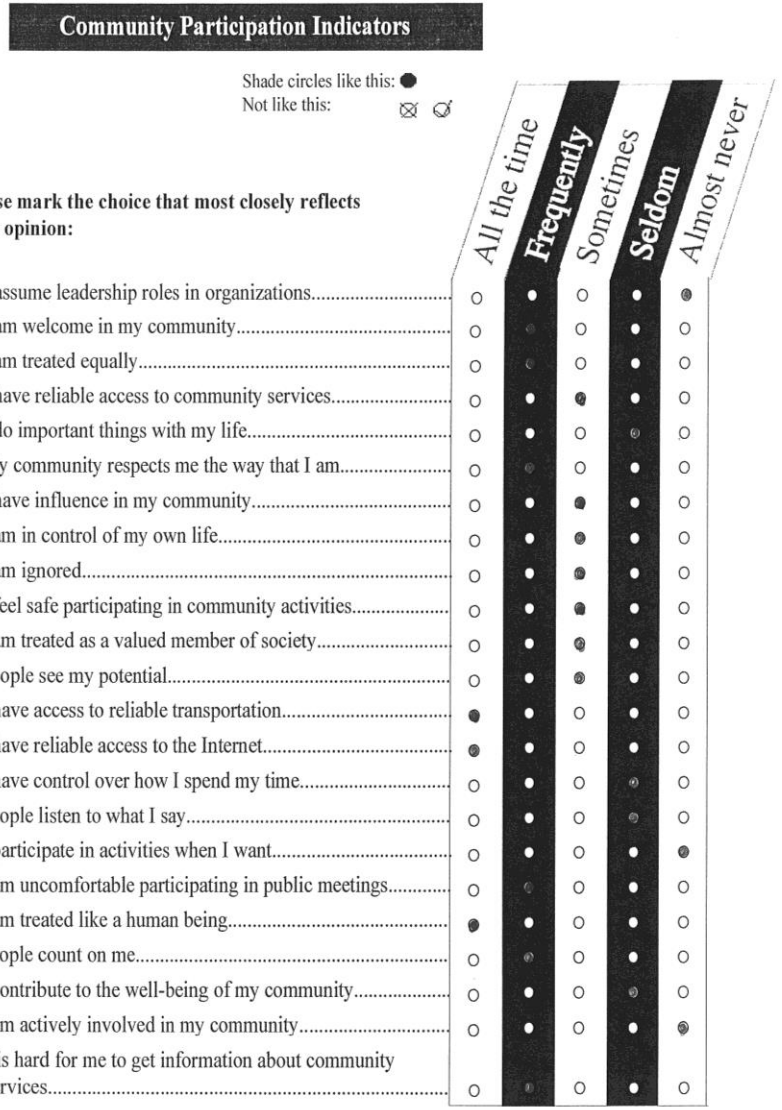


**Community Participation Indicators**

Shade circles like this: ●
Not like this: ⊗ ∅

**Please mark the choice that most closely reflects your opinion:**

| | All the time | Frequently | Sometimes | Seldom | Almost never |
|---|---|---|---|---|---|
| 1. I live my life the way that I want | ○ | ● | ○ | ● | ○ |
| 2. People try to put limits on me | ○ | ● | ○ | ● | ● |
| 3. I participate in a variety of activities | ○ | ● | ○ | ● | ● |
| 4. I am uncomfortable participating in community activities | ○ | ● | ● | ● | ○ |
| 5. I spend time doing things that improve my community | ○ | ● | ○ | ● | ● |
| 6. I participate in activities that I choose | ○ | ● | ○ | ∅ | ○ |
| 7. I spend time helping others | ○ | ● | ● | ● | ○ |
| 8. I count as a person in society | ○ | ∅ | ○ | ● | ○ |
| 9. I have the freedom to make my own decisions | ○ | ● | ● | ● | ○ |
| 10. I live my life fully | ○ | ● | ● | ● | ○ |
| 11. I regularly seek out new challenges | ○ | ● | ○ | ∅ | ○ |
| 12. I have reliable access to a telephone | ● | ● | ○ | ● | ○ |
| 13. I have a say on decisions in my community | ○ | ● | ○ | ● | ● |
| 14. I have choices about the activities I do | ○ | ● | ● | ● | ○ |
| 15. I actively pursue my dreams and desires | ○ | ● | ○ | ∅ | ○ |
| 16. I do things that are important to me | ○ | ● | ● | ● | ○ |
| 17. People have high expectations of me | ○ | ● | ● | ● | ○ |
| 18. I am able to go out and have fun | ○ | ● | ○ | ● | ● |
| 19. I contribute to society | ○ | ● | ○ | ∅ | ○ |
| 20. I have opportunities to make new friends | ○ | ● | ○ | ∅ | ○ |
| 21. I speak up for myself | ○ | ● | ● | ● | ○ |
| 22. People speak to me disrespectfully | ○ | ● | ○ | ● | ● |
| 23. I take responsibility for my own life | ● | ● | ○ | ● | ○ |
| 24. I have good job opportunities | ● | ● | ○ | ● | ○ |
| 25. People underestimate me | ○ | ● | ● | ● | ○ |



**Community Participation Indicators**

Shade circles like this: ●
Not like this: ⊗ ∅

**Please mark the choice that most closely reflects your opinion:**

| | All the time | Frequently | Sometimes | Seldom | Almost never |
|---|---|---|---|---|---|
| 26. I assume leadership roles in organizations | ○ | ● | ○ | ● | ● |
| 27. I am welcome in my community | ○ | ∅ | ○ | ● | ○ |
| 28. I am treated equally | ○ | ∅ | ○ | ● | ○ |
| 29. I have reliable access to community services | ○ | ● | ● | ● | ○ |
| 30. I do important things with my life | ○ | ● | ○ | ∅ | ○ |
| 31. My community respects me the way that I am | ○ | ∅ | ○ | ● | ○ |
| 32. I have influence in my community | ○ | ● | ● | ● | ○ |
| 33. I am in control of my own life | ○ | ● | ● | ● | ○ |
| 34. I am ignored | ○ | ● | ● | ● | ○ |
| 35. I feel safe participating in community activities | ○ | ● | ● | ● | ○ |
| 36. I am treated as a valued member of society | ○ | ● | ● | ● | ○ |
| 37. People see my potential | ○ | ● | ● | ● | ○ |
| 38. I have access to reliable transportation | ● | ● | ○ | ● | ○ |
| 39. I have reliable access to the Internet | ● | ● | ○ | ● | ○ |
| 40. I have control over how I spend my time | ○ | ● | ○ | ∅ | ○ |
| 41. People listen to what I say | ○ | ● | ○ | ∅ | ○ |
| 42. I participate in activities when I want | ○ | ● | ○ | ● | ● |
| 43. I am uncomfortable participating in public meetings | ○ | ∅ | ○ | ● | ○ |
| 44. I am treated like a human being | ● | ● | ○ | ● | ○ |
| 45. People count on me | ○ | ∅ | ○ | ● | ○ |
| 46. I contribute to the well-being of my community | ○ | ● | ○ | ∅ | ○ |
| 47. I am actively involved in my community | ○ | ● | ○ | ● | ● |
| 48. It is hard for me to get information about community services | ○ | ∅ | ○ | ● | ○ |

# Evaluating the Rigor of Rehabilitation Outcome Assessments

- In addition to applying a framework like the ICF to organize your outcome assessments, you also need to know more about the rigor of assessment tools so you can evaluate whether they will allow you to document outcomes effectively & efficiently.
  - To do this, you need to know more about common criteria to evaluate the rigor of outcome assessments. Following is a brief overview of these criteria to evaluate the rigor of outcome measures, including
    - Validity & reliability
    - Interpretability indices
    - Clinical utility

# Introducing the Concepts of Reliability & Validity

- Reliability = consistency in measurement
- Validity = having the right instrument for the right situation

# Introduction to Interpretability indices

- Minimal Detectable Change (MDC)
  - Minimum amount of change, outside of error, that reflects the true change by a client between two time points (other than a variation in measurement) http://strokengine.ca/assess/definitions-en.html

- Minimal Clinical Important Difference (MCID)
  - Patient-derived scores that reflect changes in a clinical intervention that are meaningful for the patient. The goal is to improve the participation of clients in the judgment of the benefit of care received. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2716157/

# Introduction to Clinical utility

- Weigh the value of using the instrument with the cost:
  - Financial: initial investment and ongoing costs
  - Time: patient and clinician burden
  - Equipment: purchase, maintenance, storage
  - Space: shared or designated to administer properly
- Other factors:
  - Integration with clinical record systems
  - Comparability with other departments or facilities
  - Other stakeholder needs and preferences

# Finding rigorous outcome assessments

- As a rehabilitation professional, you are incredibly busy and don't always have the time to search for assessments or to figure out if they are rigorous ways to document outcomes. Fortunately, there are many online rehabilitation assessment databases that can help you do this more efficiently and effectively.

# Rehabilitation Measures Database

- One assessment database is the RMD (Rehabilitation Measures Database)


- http://www.rehabmeasures.org/default.aspx

# RMD Activity

- ACTIVITY: Go to the RMD database located at http://www.rehabmeasures.org/default.aspx and familiarize yourself with the search options. Try searching on assessments that measure PARTICIPATION and find one that would work with John and let you document some of his key participation goals and issues. Make sure to evaluate the rigor of the different available assessments so you can choose an effective tool to measure outcomes.

- ACTIVITY: Bookmark the RMD in your web browser so you can go back and do future searches.

# Other outcome assessment databases

- In addition to the RMD, there are a number of outcome assessment databases from which you can choose and evaluate the rigor of outcome assessment tools. Follow the links below to explore these and bookmark those most relevant to your practice.

http://strokengine.ca/

http://www.nihpromis.org/measures/measureshome

http://www.nihtoolbox.org/Pages/default.aspx

# Using Measures to Inform Goal Setting

Section II

# Client-Centered Goal Setting

- A major consideration in selecting outcome assessments is whether these assessments will highlight client goals, or how to utilize a client-centered practice approach that emphasizes:
  - The goal of the [client-]centered philosophy is to create a caring, dignified and empowering environment in which [clients] truly direct the course of their care and call upon their inner resources to speed the healing process

Matheis-Kraft, George, Olinger & York, 1990

# Client-Centered Goal Setting

- The basic assumptions of client-centered practice are that:
  - Clients/families know themselves best
  - Clients/families are different and unique
  - Optimal client functioning occurs within a supportive family and community context

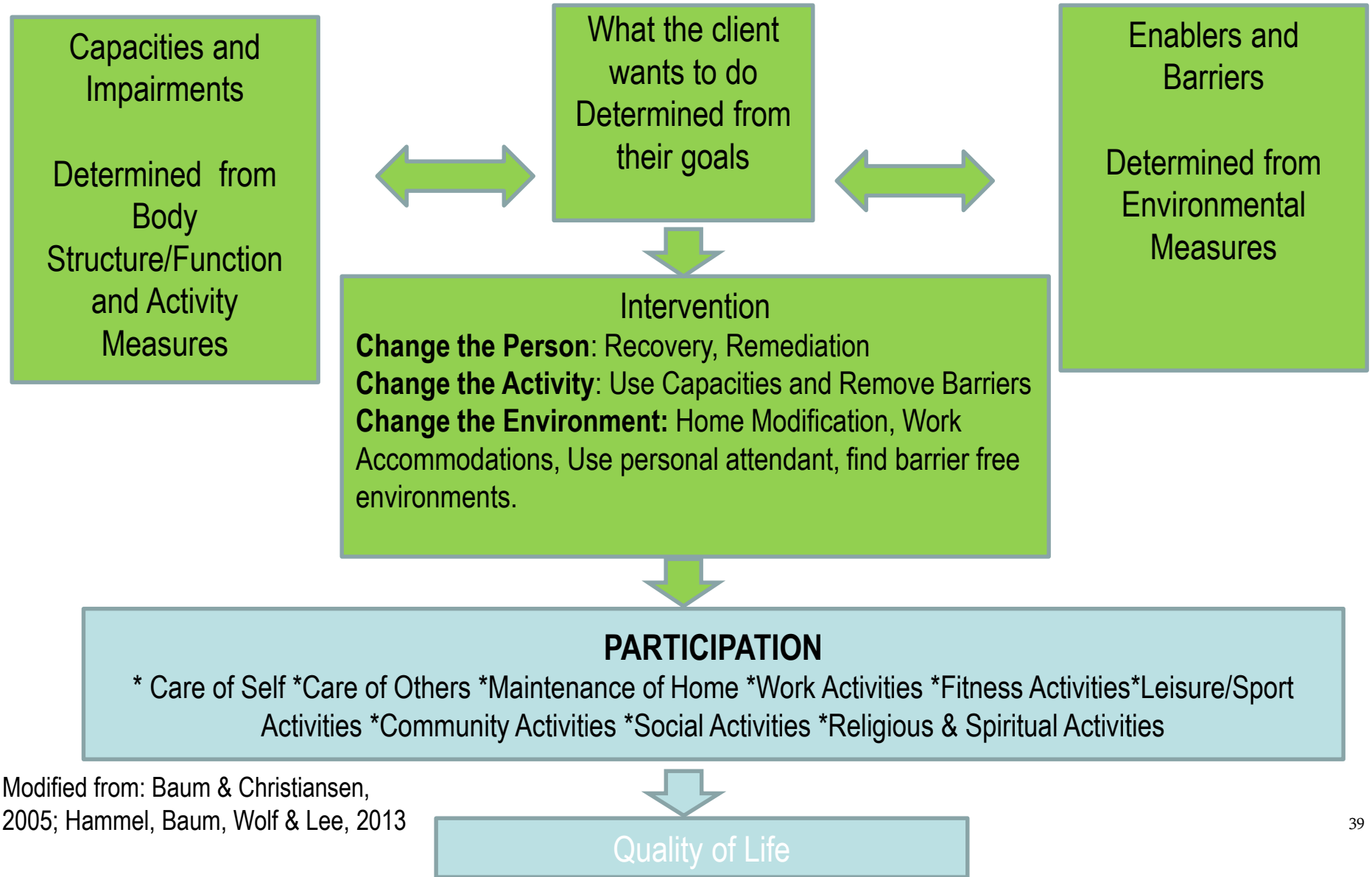
Law, Baptiste & Mills, 1995

# Client-Centered Goal Setting

- Clients who set goals achieve better outcomes that those who do not, which may be due to:
  - Setting goals focuses a person's attention and directs his/her efforts
  - Establishing challenging, but realistic goals leads to greater effort and persistence
  - Challenging goals leads to higher performance vs. just encouraging the person to do their best.
  - Setting goals prompts the person to apply or develop their skills to achieve the goal.
  - Goal achievement requires on-going feedback that recognizes the person's progress toward the goal.

Locke & Latham, 2002

# Using a Client-centered Approach to Enable Participation




Modified from: Baum & Christiansen, 2005; Hammel, Baum, Wolf & Lee, 2013

# Goal Setting: Using client-centered assessments to set goals

- There are several assessments that use client-centered goal setting, and let you compare the client's goals and perceptions to your goals as a therapist or to those of family members/significant others in their lives. These are very useful for gaining rapport with clients, to identify what is most important to them, as well as to document outcomes related to client-centered goals.
- The Canadian Occupational Performance Measure (COPM) is an example of a widely used client-centered assessment (Law et al 1998). *Canadian Occupational Performance Measure* (3rd ed.) Ottawa, ON: CAOT Publications ACE).

# Goal Setting: Using client-centered assessments to set goals

- Activity:
  - Find the COPM in the RMD (Rehabilitation Measures Database) and review its use (http://www.rehabmeasures.org/default.aspx )
  - Click HERE to watch an OT administering the COPM to John

# Goal Setting: Using client-centered assessments to set goals

- Activity (continued):
  - Look at the next slide to view the actual assessment form for more details on John's goals.
  - Answer the following questions:
    - What were John's most important goals to him? Which areas of the ICF do these goals correspond to?
    - How could you use the COPM to document client goals to John, his wife, and the funder of his rehabilitation?
    - How could you use John's COPM goals to plan your intervention?
    - How could you use the COPM to show changes in outcomes over time from the client perspective?

# Canadian Occupational Performance Measure initial assessment results for John

**STEP 1: IDENTIFICATION OF OCCUPATIONAL PERFORMANCE ISSUES**

To identify occupational performance problems, concerns and issues, interview the client, asking about daily activities in self-care, productivity and leisure. Ask clients to identify daily activities which they want to do, need to do or are expected to do by encouraging them to think about a typical day. Then ask the client to identify which of these activities are difficult for them to do now to their satisfaction. Record these activity problems in Steps 1A, 1B, or 1C.

**STEP 2: RATING IMPORTANCE**

Using the scoring card provided, ask the client to rate, on a scale of 1 to 10, the importance of each activity. Place the ratings in the corresponding boxes in Steps 1A, 1B, or 1C.

**STEP 1A: Self-care**

| | | IMPORTANCE |
|---|---|---|
| **Personal Care** (e.g., dressing, bathing, feeding, hygiene) | Shaving | 10 |
| | Showering | 10 |
| | getting dressed | 10 |
| **Functional Mobility** (e.g., transfers, indoor, outdoor) | driving | 10 |
| | Walking around inside house | 10 |
| | getting into the shower | 10 |
| **Community Management** (e.g., transportation, shopping, finances) | Walking to the store | 3 |
| | going to restaurants | 10 |
| | going to movies | 5 |

**STEP 1B: Productivity**

| | | |
|---|---|---|
| **Paid/Unpaid Work** (e.g., finding/keeping a job, volunteering) | check the mail | 10 |
| | phone calls / messages | 10 |
| | Computer work | 10 |
| **Household Management** (e.g., cleaning, laundry, cooking) | laundry | 10 |
| | Cooking | 10 |
| | Making the bed | 5 |
| **Play/School** (e.g., play skills, homework) | helping kids with homework | 10 |
| | taking kids to school | 10 |
| | playing drums | 5 |

**STEP 1C: Leisure**

| | | IMPORTANCE |
|---|---|---|
| **Quiet Recreation** (e.g., hobbies, crafts, reading) | | |
| | | |
| | | |
| **Active Recreation** (e.g., sports, outings, travel) | | |
| | | |
| | | |
| **Socialization** (e.g., visiting, phone calls, parties, correspondence) | | |
| | | |
| | | |

**STEPS 3 & 4: SCORING - INITIAL ASSESSMENT and REASSESSMENT**

Confirm with the client the 5 most important problems and record them below. Using the scoring cards, ask the client to rate each problem on performance and satisfaction, then calculate the total scores. Total scores are calculated by adding together the performance or satisfaction scores for all problems and dividing by the number of problems. At reassessment, the client scores each problem again for performance and satisfaction. Calculate the new scores and the change score.

| | Initial Assessment: | | | Reassessment: | |
|---|---|---|---|---|---|
| | OCCUPATIONAL PERFORMANCE PROBLEMS: | PERFORMANCE 1 | SATISFACTION 1 | PERFORMANCE 2 | SATISFACTION 2 |
| 1. | Communication | 1 | 1 | | |
| 2. | Using Computer @work | 5 | 1 | | |
| 3. | dressing -UB | 5 | 5 | | |
| 4. | driving | 1 | 1 | | |
| 5. | helping kids i homework | 5 | 1 | | |

**SCORING:**

Total score = Total performance or satisfaction scores / # of problems

| | PERFORMANCE SCORE 1 | SATISFACTION SCORE 1 | PERFORMANCE SCORE 2 | SATISFACTION SCORE 2 |
|---|---|---|---|---|
| | 11/26 | 9/26 | / | / |
| = | = 65% | = 35% | = | = |

CHANGE IN PERFORMANCE = Performance Score 2 [ ] – Performance Score 1 [ ] = [ ]

CHANGE IN SATISFACTION = Satisfaction Score 2 [ ] – Satisfaction Score 1 [ ] = [ ]

# Goal Setting: Comparing client to family & stakeholder goals

- In addition to the client and your goals as a rehabilitation professional, you also need to take into account other stakeholder goals too. These may include assessing goals of:
  - Family
  - Friends & important social supports
  - Caregivers (formal, informal)
  - Employers, teachers, supervisors
  - Case managers & coordinators in positions to support client goals
  - Other rehabilitation team members
  - Funders, systems and provider goals

# Goal Setting: Comparing client to family & stakeholder goals

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  - Caregivers (formal, informal)
  - Employers, teachers, supervisors
  - Case managers & coordinators in positions to support client goals
  - Other rehabilitation team members
  - Funders, systems and provider goals

# Goal Setting: Comparing client to stakeholder goals

- To document stakeholder goals you could have a family member look at the client's COPM goals and also have family rate them from their perspective on importance, performance and satisfaction and then compare to the client's ratings
- You could also choose other assessments that specifically document family and/or caregiver perceptions of issues over time, such as the Caregiver Strain Index (see RMD for more details: http://www.rehabmeasures.org/default.aspx

# Goal Setting: Comparing client to stakeholder goals

- ACTIVITY:
  - How might you gather and use family goals in your treatment with John?
  - How and when would share client & family goals with other rehabilitation team members and why would it be important for them to know about these?
  - You want to do a self report of goals with John and his wife tells you he can't do that by himself after the stroke, and she'll do it as a proxy instead. Is it OK to use this kind of proxy data? Why or why not? What are the pros and cons to using proxy data in your outcome toolbox?

# Goal Setting: Setting rehabilitation intervention goals

- In addition to understanding client and stakeholder goals, you also need to document specific rehabilitation goals as a professional for a number of important reasons, including:
  - To show client status at specific points in time (intake, weekly progress)
  - To predict client recovery or to plan interventions
  - To document client outcomes and change over time
  - To proactively do discharge planning from time of intake forward, and to ensure effective services across the continuum of care
  - To proactively order needed assistive technologies or equipment, or to plan ahead on environmental modifications to transition home
  - To make referrals to other professionals and services or for long term supports and community resources

# Goal Setting: The Science behind Goal Measurement

- From an outcomes measurement perspective, goals are measured for several reasons, including to:
  - Measure status at a point in time (discrimination)
  - Predict recovery and plan treatment (prediction)
  - Measure change in outcomes over time (evaluation)
- You'll learn more about these measurement principles in Module 3

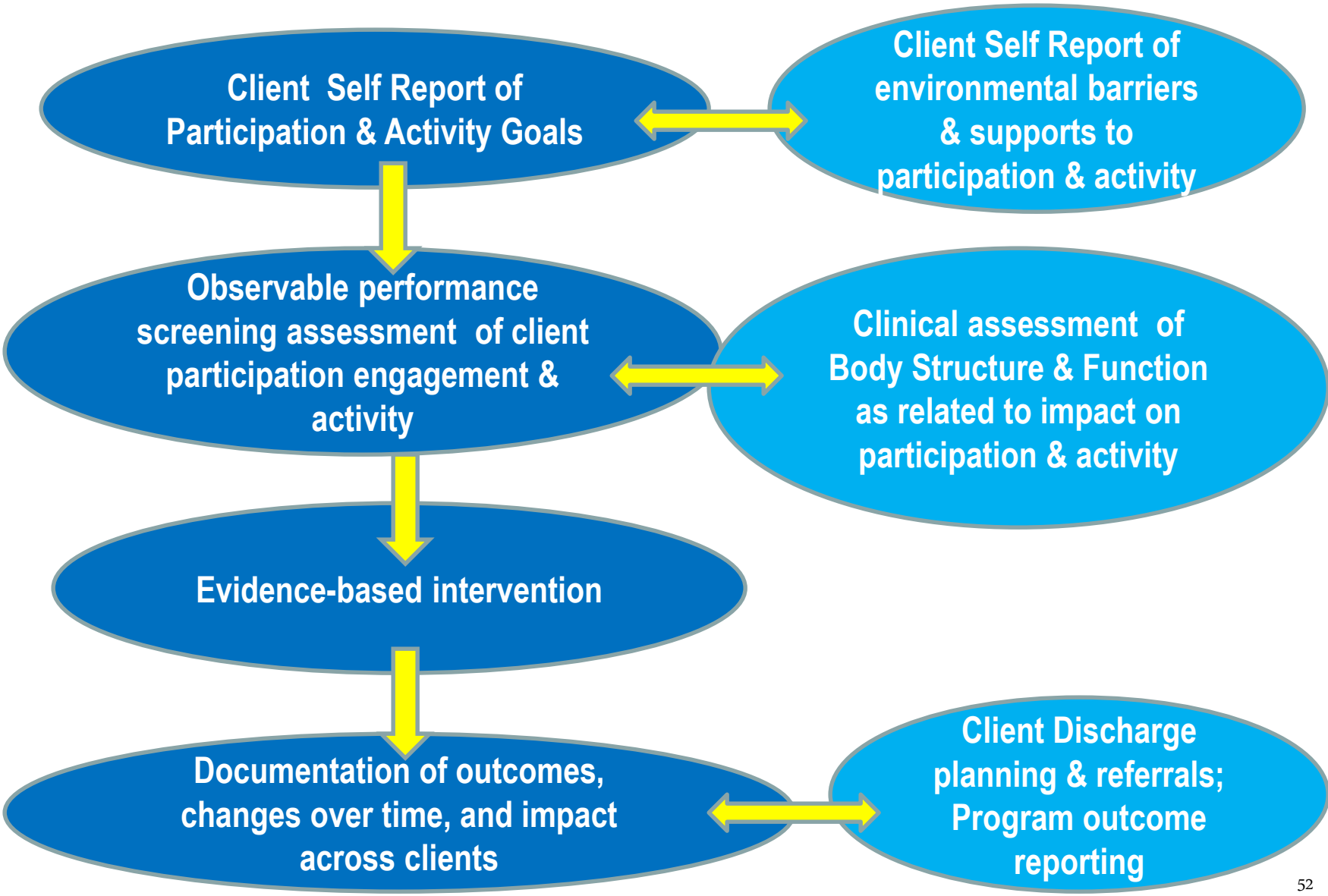
# Goals to Intervention Planning

Section III

# Intervention Planning

- After assessing goals, the next step is to plan effective interventions.
- Rehabilitation outcomes measures can also be used to plan evidence-based interventions, and to then measure the impact of those interventions.
- The Person-Environment-Occupation-Participation (PEOP) model (Baum & Christiansen, 2005), coupled with the ICF (WHO, 2001), offer a guiding framework and sequence for doing so (see next slide for model).

# The Elements of Evidence-based intervention planning



# Evidence-based intervention planning

- There are also a number of research measurement issues related to using outcomes in intervention planning. One important one is:
  - Observing performance vs. using self report measures

# Using Self Report Measures in Intervention Planning

- Increasingly, rehabilitation has developed and been recommending the use of self report measures, that is assessments reflecting the client or consumer's perspective on their own confidence or satisfaction in specific areas of performance and outcomes.
- This is especially evident in the trend to validate Patient-Reported Outcome Measure (PROM) tools for use in rehabilitation. These may also be known as:
  - Self report, subjective vs. objective
  - Client-centered practice, goal setting & outcomes
  - Consumer-directed outcomes & programming
  - Community-based participatory research (CBPR) & Patient-Centered Outcomes Research (PCORI)

# Definitions Related to Patient-Reported Outcome Measures

- **Patient-reported outcome (PRO):** Self report of the status of a patient's health condition that comes directly from the patient (or in some cases a caregiver).
  - TO ASSESS INDIVIDUAL STATUS & SET GOALS

- **PRO measure (PROM):** A validated instrument, scale, or single-item measure used to assess the PRO as perceived by the patient.
  - TO DOCUMENT INDIVIDUAL OUTCOMES OVER TIME

- **PRO-based performance measure (PRO-PM):** A performance measure or system that is based on PROM data aggregated for a health care entity.
  - TO DOCUMENT SERVICE/PROGRAM OUTCOMES ACROSS PEOPLE
    TO DOCUMENT IMPACT & EFFECTIVENESS

(Tinetti & Basch, 2013)

# Comparing Patient-report to Clinician Observation: The Need for Both

- Common misconceptions about Patient-reported Outcome Measures: They are not:
  - more valid than self report (SR) measures.
  - more reliable than SR measures
  - objective, and patient-report is not subjective

- *"Patient reported and clinician rated measures may only be weakly correlated. Therefore, the two types of measures may reflect different attributes of the construct. It is important to administer both when possible to make an accurate determination of the patient's ability and recommendations for care." (Robinson et al, 2011)*

# An example of a PRO

- The Canadian Occupational Performance Measure (COPM) that you looked at earlier is a good example of Patient-Reported Outcome (PRO)
  - Started as a client self report on a 10 point scale:
    - Client identifies issues & goals in three areas of functioning
      - Self Care,
      - Productive,
      - Leisure
    - Client self reports on each goal on 1-10 scale of:
      - Performance
      - Satisfaction with Performance
      - Goal Importance/Prioritization

# COPM: Going from PRO to PRO-M

- The Canadian Occupational Performance Measure (COPM) also has been validated as a PRO-measure (PROM) over many years across thousands of clients across Canada
  - Validated to show changes over time and goal attainment (performance, satisfaction) from client perspective
  - Could also be used to compare to family/significant other or clinician ratings
    - See Canadian Occupational Performance Measure (COPM) (Law et al,1998). *Canadian Occupational Performance Measure* (3rd ed.) Ottawa, ON: CAOT Publications ACE).

# Using Observable Performance AND Patient-Reported Outcomes Together

- As an example, let's return to our case client, John. Earlier you saw his self report on his goals and his performance and satisfaction with them in the COPM.
- Now click HERE to watch the Executive Functioning Performance Test (EFPT) (Baum et al, 2008) being administered that lets you compare self report to observable performance in context.

# EFPT data-1 (self report)

On the following slides, you'll find more EFPT performance data from this assessment.

**PRE-TEST QUESTIONS**

***Do you cook?*** (1= Yes) *2= No*
***Do you use the stove to cook meals?***
(1= Yes) *2= No*
***Have you recently made oatmeal on the stove?*** *1= Yes 2= No*

***Will you be able to make oatmeal?***
(0= by yourself.)
*1= with verbal guidance*
*2= with physical assistance*
*3=I won't be able to do this task*

***Do you use the phone on a regular basis?*** (1= Yes) *2= No*
***How many times a week do you use the phone?*** 4-5 times / wk
***What is the phone number you call in an emergency?*** 911
(1= correct) *2= incorrect*

***Will you be able to make a phone call . . .***
(0= by yourself.)
*1= with verbal guidance*
*2= with physical assistance*
*3=I won't be able to do this task*

***Do you take medication?*** (1= Yes) *2= No*
***Can you tell me where you keep your medications?*** (1= Yes) *2= No*
***When do you take your medicine?*** 2 times / day
(1=morning)
*2=afternoon*
*3=evening*
(4=before bed)
*5=more than once a day*
*_ other times ex. 2x week*

***Will you be able to take the medicine?***
(0= by yourself.)
*1= with verbal guidance*
*2= with physical assistance*
*3=I won't be able to do this task*

***Do you pay your bills?*** *1= Yes* (2= No)
***Does someone help you with your bills?*** (1= Yes) *2= No*
*Have you ever used a checkbook?* (1=Yes) *2=No*
***Do you know how to use a checkbook?*** (1= Yes) *2= No*

Note: If they have NEVER used a checkbook and they say they do not know how to use one, avoid the bill paying task (Form E) as you will be cuing because of lack of knowledge, not lack of processing.

***Will you be able to pay the bills?***
*0= by yourself.*
*1= with verbal guidance*
(2= with physical assistance)
*3=I won't be able to do this task*
*The tasks I am about to ask you to do may involve some movements that may be difficult for you. Please ask me for help if you need it.*

# EFPT data-2 (actual task)

Executive Function Performance Test (EFPT): Form D

| TASK: Taking Medication | Independent 0 | Verbal Guidance 1 | Gestural Guidance 2 | Verbal Direct Instruction 3 | Physical Assistance 4 | Do For Participant 5 | Score |
|---|---|---|---|---|---|---|---|
| INITIATION: *beginning the task.* | | | | | | | |
| Upon your request to start, participant moves to table to gather tools/materials for taking medication. | ✓ | | | | | | 0 |
| EXECUTION: *carrying out the actions of the task through the use of organization, sequencing, and judgment.* | | | | | | | |
| **Organization**: *arrangement of the tools/materials to complete the task.* Participant retrieves the items needed (medicine bottle, instructions, pills, glass), crackers. | | ✓ | | | | | 1 |
| **Sequencing**: *execution of steps in appropriate order.* Participant performs steps in appropriate sequence, e.g., reads the directions on the pill bottle, opens pill bottle, pours pills into hands or onto table, chooses correct number of pills according to prescription, puts unused pills back into bottle, puts pills into mouth, swallows, and puts cap back on bottle. Participant does not confuse steps, e.g., puts cap on before takes pills out and counts them. | | ✓ | | | | | 1 |
| **Judgment & Safety**: *avoidance of dangerous situation.* Participant prevents or avoids danger, e.g., takes correct pills, counts and takes correct number of pills, doesn't put water too near to the edge of table, doesn't pour water outside of the cup, eats the cracker to have food | | ✓ | ✓ | | | | 2 |
| COMPLETION: *termination of task.* | | | | | | | |
| Participant knows he/she is finished, e.g., moves away from the task, doesn't open pill bottle and play with pills, etc. | ✓ | | | | | | 0 |

Task Score 4 Time 4min 58sec.

# EFPT data-3 (summary & clinical implications)

**EFPT Summary Score Sheet**

| TASKS *Add from the total on each task sheet* | | |
|---|---|---|
| **Task** | **Total Task Score** | **Time** |
| **Cooking** | 8 | 20 min: 41 sec |
| **Telephone** | 2 | 8: 15 |
| **Medication** | 4 | 4 : 58 |
| **Bills** | 9 | 17 : 40 |
| **TOTAL** | | |

| CONSTRUCTS *Must review all 4 task sheets to count totals; the highest in each construct goes on this form* | | | | | |
|---|---|---|---|---|---|
| **CONSTRUCT** | **Cook** | **Telephone** | **Meds** | **Bills** | **TOTAL SCORE** |
| **Initiation** | 0 | 0 | 0 | 0 | 0 |
| **Organization** | 3 | 1 | 1 | 2 | 7 |
| **Sequencing** | 2 | 1 | 1 | 4 | 8 |
| **Judgment & Safety** | 3 | 0 | 2 | 3 | 8 |
| **Completion** | 0 | 0 | 0 | 0 | 0 |
| **TOTAL Construct Score** (*should match total task score, if not recheck*)**:** | | | | | |

| PRE-TEST SELF EFFICACY *Person's Report* | | | |
|---|---|---|---|
| | No Help | Help | Can't Do |
| Cook | (0) | 1 | 2 |
| Telephone | (0) | 1 | 2 |
| Medication | (0) | 1 | 2 |
| Bills | 0 | (1) | 2 |

| ACTUAL PERFORMANCE *Administrator's Experience* | | | |
|---|---|---|---|
| | No Help | Help | Can't Do |
| Cook | 0 | (1) | 2 |
| Telephone | 0 | (1) | 2 |
| Medication | 0 | (1) | 2 |
| Bills | 0 | 1 | (2) |

| POTENTIAL AWARENESS PROBLEM | | |
|---|---|---|
| | **Yes** | **No** |
| Accurately estimated need for help (if 100% match between pre-test and actual performance). *If no, please specify:* | ☐ | ☒ |
| Overestimated need for help | ☐ | ☐ |
| Underestimated need for help | ☒ | ☐ |
| **# Estimated Incorrectly:** 4 **of 4** (*If greater than 1 of 4, mark* yes *below.*) | | |
| **Possible Awareness Problem:** ☒ **Yes** ☐ **No** | | |

# Evidence-based intervention planning: Comparing performance & patient-reported outcomes

- ACTIVITY : Review the case study self report and objective performance data about John from the EFPT.
  - Which issues did the client report were of greatest concern to him?
  - What activity performance issues did you observe with John?
  - What were the differences between self report and performance? Might there be awareness or judgment issues affecting the client's ratings and performance?
  - What is the value of doing both performance and self-report assessments when planning interventions?

# Case Example 2: Comparing Observable Performance to Patient Report Outcome Measures

## Two tests chosen to determine fall risk

Berg Balance Scale:

- Clinician Rated
- 14 item static and dynamic balance measure
- Items include sitting to standing, standing balance, turning, stepping onto a stool, reaching to the floor, etc.
- Score < 45 indicates fall risk

Activities Specific Balance Confidence (ABC) Scale:

- Patient Reported
- 16 questions that determine a patient's confidence in their balance during specific activities
- "How confident are you that you can maintain your balance and remain steady when you...."
  - Walk inside
  - Walk outside
  - Pick things up
  - Etc
- Scores < 67% indicates a risk for falling

# Case Example 2: Comparing Patient-report to Clinician Rated Measures

Berg Balance Scale results:

- Score of 41/56
- Indicates at risk for falls
- Sample Item: Reaching to Floor

  4) able to pick up slipper safely and easily

  3) able to pick up slipper but needs supervision

  2) unable to pick up but reaches 2-5cm (1-2 inches) from slipper and keeps balance independently

  1) unable to pick up and needs supervision while trying

  0) unable to try/needs assist to keep from losing balance or falling

  Click HERE to see a video of a client performing an item from the BBS

# Case Example 2: Comparing Patient-report to Clinician Rated Measures

Activity-Specific Balance Confidence Scale results:

- The score on this self report assessment of 74% indicates the patient perceives he is NOT at risk of falls
  - Example answers are below: **"How confident are you that you can maintain your balance and remain steady when you...."**
    - bend over and pick up a slipper from the front of a closet floor? ***90%***
    - walk up or down stairs? ***100%***
    - are bumped into by people as you walk through the mall? ***80%***
    - stand on a chair and reach for something? ***30%***
    - walk outside on icy sidewalks? ***30%***

# Case Example 2: Comparing Patient-report to Clinician Rated Measures

- ACTIVITY: Answer the following questions about this case:
  - Is there a mismatch between the patient's self report of confidence in his balance and his actual abilities?
  - If so, what would you do clinically to work on this self awareness issue in your intervention with this client?
  - As a clinician, why is it important to document both self report and actual performance outcomes?

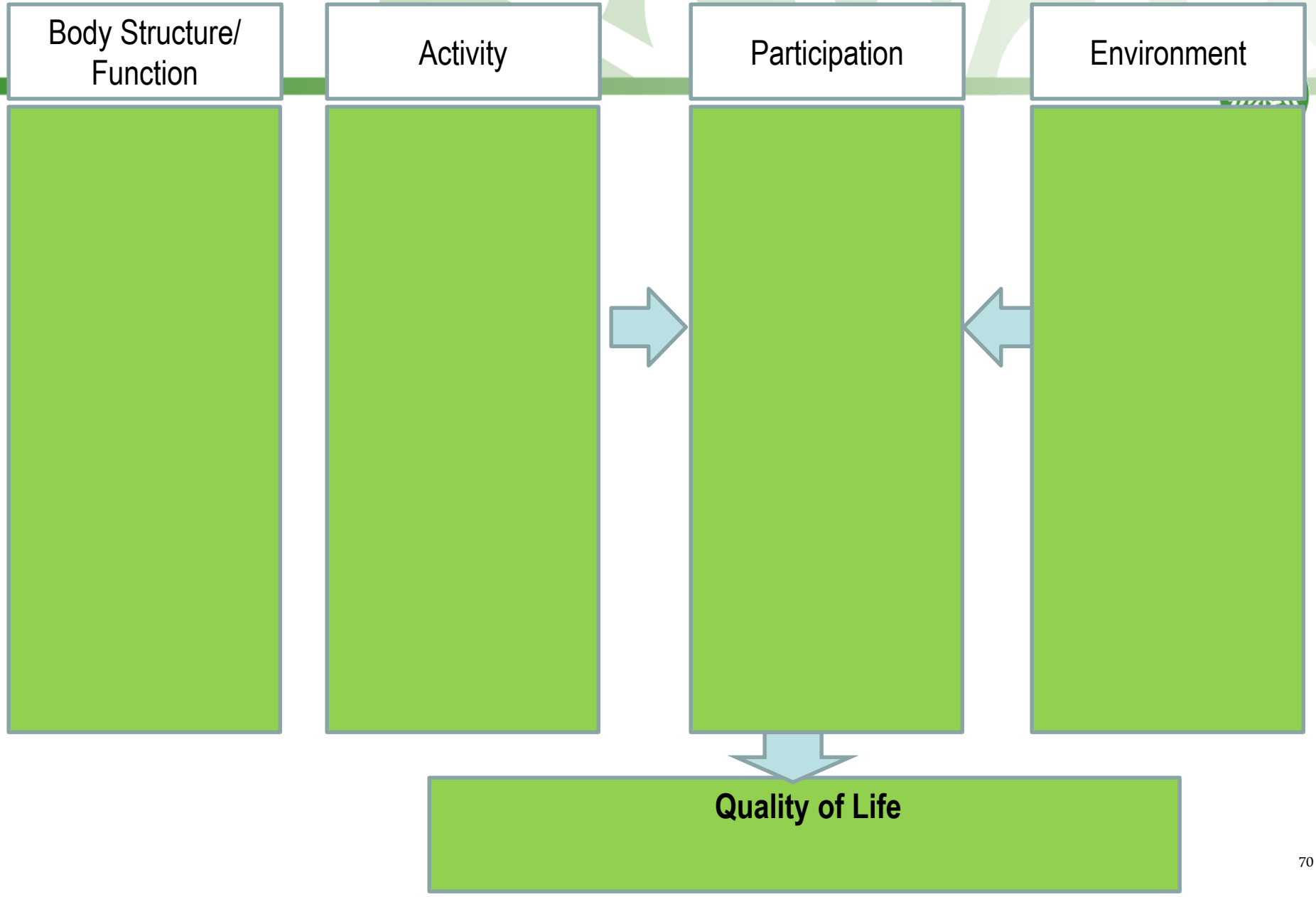
# Evidence-based Intervention Planning: Measuring Change over Time

- In addition to thinking about observable performance vs. self report measures, there are also a number of key questions you should be asking yourself about how to document outcomes and measure change over time. They include:
  - How will you record and document clinical changes over time?
  - Are your assessment tools sensitive to measuring change? What are the best ways to determine meaningful change (e.g., MDC/MDIC)?
  - How will you use outcome measures to inform discharge planning and referrals to next level of care, other professionals, and community resources?
- You will learn more about these concepts in Module 3

# Outcome Assessment & Intervention Planning: Making an Action Plan in your Practice

- Summary Activity:
  - Now that you've examined outcome-based assessment and intervention planning, you're ready to make an action plan to incorporate outcome assessments into your future practice.
  - Use the worksheet on the following page to develop an outcome plan for one of the following rehabilitation groups, and share it with the other teams
    - Stroke inpatient rehabilitation
    - TBI inpatient rehabilitation
    - SCI inpatient rehabilitation
    - Multiple Sclerosis inpatient rehabilitation

# ICF Outcome Assessment Toolbox Worksheet



# What's Next:

- Module 3 gives you critical information to understand and apply measurement principles.
- Module 4 summarizes ways to support you in developing your outcome plan in your practice, and strategizing the challenges to doing so.

# Questions and Discussion

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# References


- Baum CM. The John Stanley Coulter Memorial Lecture. Fulfilling the promise: Supporting participation in daily life. Arch Phys Med Rehabil 2011; 92(2):169-175.
- Baum C, Edwards DF. Activity Card Sort. 2nd ed. Bethesda, MD: American Occupational Therapy Association; 2008.
- Heinemann AW, Lai JS, Magasi S, Hammel J, Corrigan JD, Bogner J, Whiteneck GG. Measuring Participation Enfranchisement. Arch Phys Med Rehabil 2011; 92:564-71.
- Matheis-Kraft C, George S, Olinger MJ, York L .Patient-driven healthcare works. Nursing Management 1990; 21:124-128.
- Law M, Baptiste S, Mills J. Client-centered practice: What does it mean and does it make a difference? Can J Occup Ther 1995; 62:250–257.

# References


- Locke, EA & Latham, GP. Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. American Psychologist, 2002; 57:705–717.
- Baum CM & Christiansen CH. Person-environment-occupation-performance: An occupation-based framework for practice. In C. H. Christiansen, C. M. Baum, & J. Bass-Haugen (Eds), Occupational therapy: Performance, participation, and well-being (3rd ed., pp. 242-266). Thorofare, NJ: SLACK; 2005.
- Hammel J, Baum C, Wolf T, & Lee D. Community participation outcomes of a self management program for people with stroke. 2013 National Occupational Therapy Research Summit Paper Abstract. Chicago IL; May, 2013.

# References


- Law M, Baptiste S, Carswell A, McColl MA, Polatajko H, & Pollock N. Canadian Occupational Performance Measure. 3rd ed. Ottawa, ON: CAOT Publications ACE; 1998.
- Baum CM, Connor LT, Morrison T, Hahn M, Dromerick AW, & Edwards DF. Reliability, validity, and clinical utility of the Executive Function Performance Test: A measure of executive function in a sample of people with stroke. American Journal of Occupational Therapy 2008; 62(4):446-455.
- Tinetti ME & Basch E. Patients' Responsibility to Participate in Decision Making and Research Patient-Centered Research and Decision-Making. JAMA 2013; 309(22):2331-2332.

# References


- Robinson CA, Shumway-Cook A, Ciol MA, Kartin D. Participation in community walking following stroke: subjective versus objective measures and the impact of personal factors. Phys Ther Dec 2011; 91(12):1865-1876.
- World Health Organization. International Classification of Functioning, Disability and Health (ICF). Geneva: WHO; 2001.

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