

# Implementation and uses of outcome measurements (OMs) in physical therapy

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# Welcome and Introduction

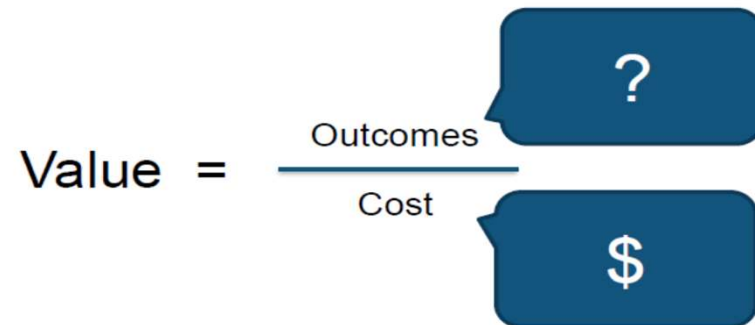
- ❖ Introduction to OMs
- ❖ Implementation and uses of OMs in across rehabilitation setting and in Saudi Arabia
- ❖ Benefits of using OMs in research and clinical practice
- ❖ Barriers and facilitators to use OMs in field of physical therapy
- ❖ Classification and types of OMs
- ❖ Selecting and choosing an OMs
- ❖ Use of ICF in the context of OMs.
- ❖ Integrating OMs into clinical practice

# Introduction to OMs

**“If you can’t measure it, you can’t manage it.  
If you can’t manage it, you can’t improve it**

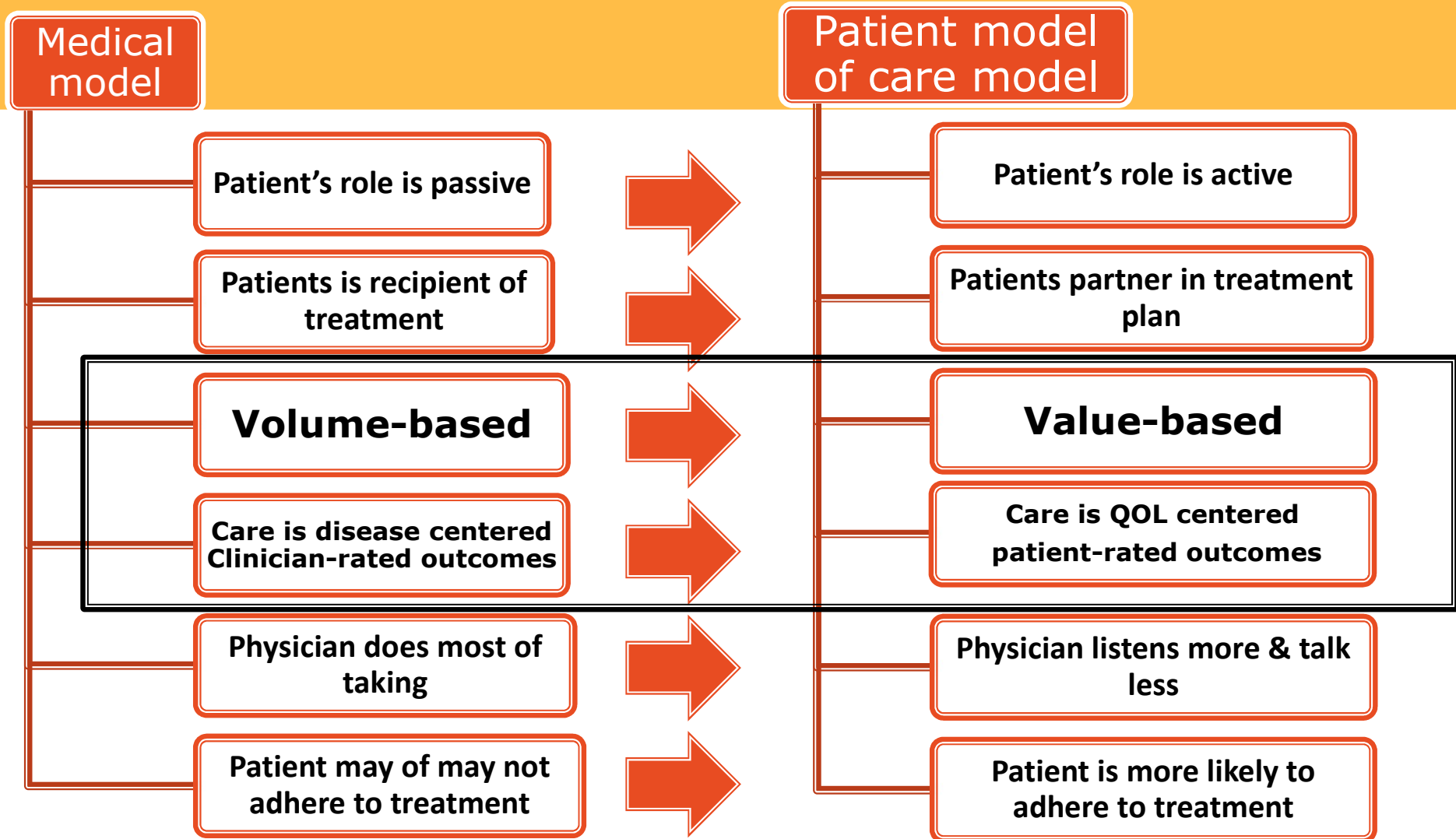
**“Shift From Fee For Service To Value Based Care**

**Era of Assessment  
And Accountability**

$$\text{Value} = \frac{\text{Outcomes}}{\text{Cost}}$$
The diagram shows the equation Value = Outcomes / Cost. The word 'Outcomes' is positioned above the fraction line, and 'Cost' is below it. To the right of 'Outcomes' is a blue speech bubble containing a white question mark. To the right of 'Cost' is a blue speech bubble containing a white dollar sign.

**Shift From physician-centered care to patient-centered care**

# Introduction to OMs



# Introduction to outcome measurements (OMs)

**OMs** are process undertaken to establish or quantify patients status on a defined aspect of performance or health status based on standardized evaluation process.

## **Outcome measure**

is **qualitative or quantitative** tool used to assess a patient's current status

# OMs: Review of Literature

- A comprehensive review of the literature about routine use of OMs by physical therapists

The current situation regarding the awareness and use of OM's by physical therapists in Saudi Arabia

# Use of OMS in Physiotherapy Practice in Canada from 1998 to 2001

## The most common 5 OMs used

Range of motion

Manual muscle test

Visual analogue scale

Berg balance scale

Goal setting

## Percentage of PTs who used OMs

In 1991 was 34%

In 1992 was 42%

In 1998 was 43%

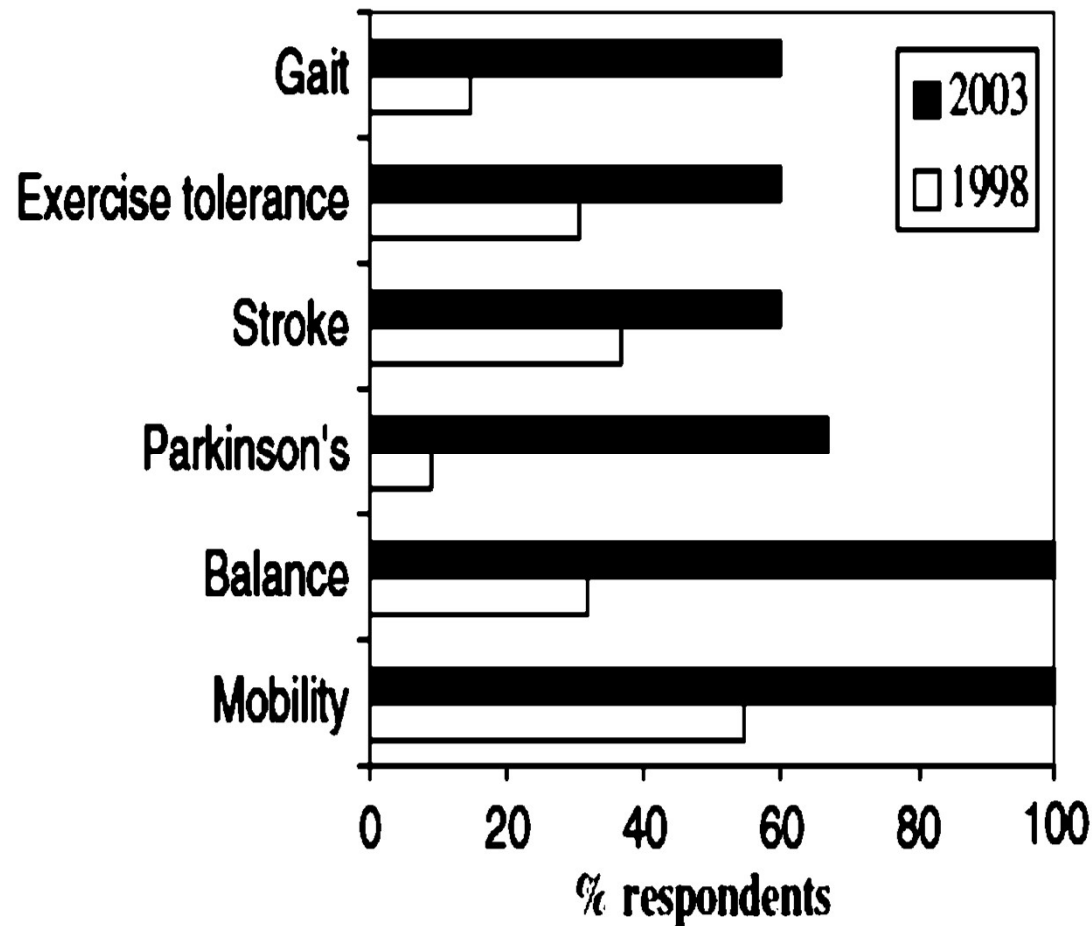
## Most common clinical setting

At admission (83-90%)

At admission and discharge (63-85%)

More often (38-68%)

# Use of OMS in Physiotherapy Practice in Ireland from 1998 to 2003



Increase of 50% to 70%  
in use OMs

In 2003; 100% now use  
OMs in assessing mobility  
and balance, compared to  
30-50% in 1998.



# Use of OMs in rehabilitation centers in the UK

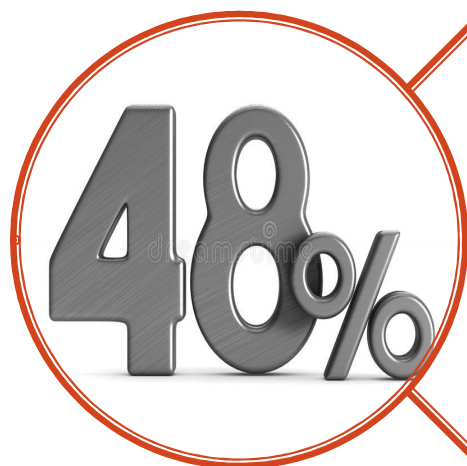
**Table 1** Most frequently used instruments in each category and number of centres using them

Category	Most popular instruments	No of centres using the instrument		Moderately popular instruments	No of centres using the instrument	
		2004/05 (n = 71)	(1996/97) (n = 140)		2004/05 (n = 71)	1996/97 (n = 140)
Mobility (n = 50) 70%	10-m walk test <sup>13</sup> Rivermead Mobility Index <sup>14</sup>	36 (50%) 13 (18%)	44 (31%) 9 (5%)	H&S mobility grades <sup>15</sup> SIGAM grades <sup>16</sup>	7 (9%) 6 (8%)	
Upper limb function (n = 22) 30%	Nine-Hole Peg Test <sup>17</sup>	23 (32%)	18 (13%)	Frenchay Arm Test <sup>18</sup>	5 (7%)	
Dependency (n = 59) 83%	Barthel Index <sup>19</sup> FIM/UK FIM±FAM <sup>6</sup> NPDS/NPCNA <sup>8,20</sup>	42 (59%) 33 (45%) 21 (28%)	95 (68%) 46 (33%)	Health Assessment Questionnaire (HAQ) <sup>21</sup>	3 (4%)	16 (11%)
Extended ADL (n = 6) 8%	Frenchay Activities Index <sup>22</sup>	4 (5%)	5 (4%)	Nottingham EADL scale <sup>23</sup> BICRO-39 <sup>24</sup>	1 (1%) 1 (1%)	14 (10%)
Client-centred outcomes and participation (n = 22) 30%	Canadian Occupational Performance Measure <sup>9</sup>	14 (19%)		London Handicap Scale <sup>25</sup>	3 (4%)	9 (5%)
General health (n = 11) 15%	General Health Questionnaire <sup>26</sup>	7 (9%)	13 (9%)	EuroQol <sup>27</sup> SF-36 <sup>28</sup>	1 (1%) 1 (1%)	9 (5%)
Depression/mood (n = 28) 40%	HADS <sup>29</sup>	25 (35%)	7 (5%)	Beck Depression Inventory <sup>30</sup>	3 (4%)	
Pain (n = 25) 35%	Visual analogue scale	21 (29%)		McGill Pain Score <sup>31</sup>	2 (3%)	

# Use of OMs in Australian rehabilitation environments

Measure	LBP <i>n</i> (%)	WAD <i>n</i> (%)	SCL <i>n</i> (%)	NMD <i>n</i> (%)	TBI <i>n</i> (%)	Stroke <i>n</i> (%)	ULA <i>n</i> (%)	LLA <i>n</i> (%)	Burns <i>n</i> (%)
ROM	279 (85.1)	195 (85.5)		171 (85.1)				115 (89.1)	56 (84.8)
MMT	220 (67.1)	143 (62.7)	93 (78.2)	151 (75.1)				100 (77.5)	
FIM <sup>TM</sup>	88 (26.8)		73 (61.3)	96 (47.8)	74 (50.7)	108 (51.4)	16 (28.1)	74 (57.3)	19 (28.8)
MBI			23 (19.3)	45 (22.4)	34 (23.3)	59 (28.1)		32 (24.8)	12 (18.2)
COPM	36 (11.0)			30 (14.9)			11 (77.5)	21 (16.3)	8 (12.1)
SF-36	49 (14.9)	22 (9.6)				17 (8.1)			
BBS				56 (27.9)	25 (17.1)	67 (31.9)			
MP-S	81 (24.7)	52 (22.8)					11 (77.5)		
VAS	216 (65.9)	156 (68.4)	34 (28.6)					43 (33.3)	
RBM					39 (26.7)	43 (20.5)			

# Use of OMS in among 1,000 members of APTA



48%

## The most common OMs used

ODI (41.3%)

LEFS (18.8%)

DASH (18.3%)

BBS (7.9%)

**52% of Physical therapists reported not using standardized OMs.  
49% of these indicated no future plans to use standardized OMs**

# Use of OMs among Physiotherapy Practice in KSA, 2017

## The most common OMs used

43% used NRP+VAS

35% used FIM.

31% used BBS

22% used ODI

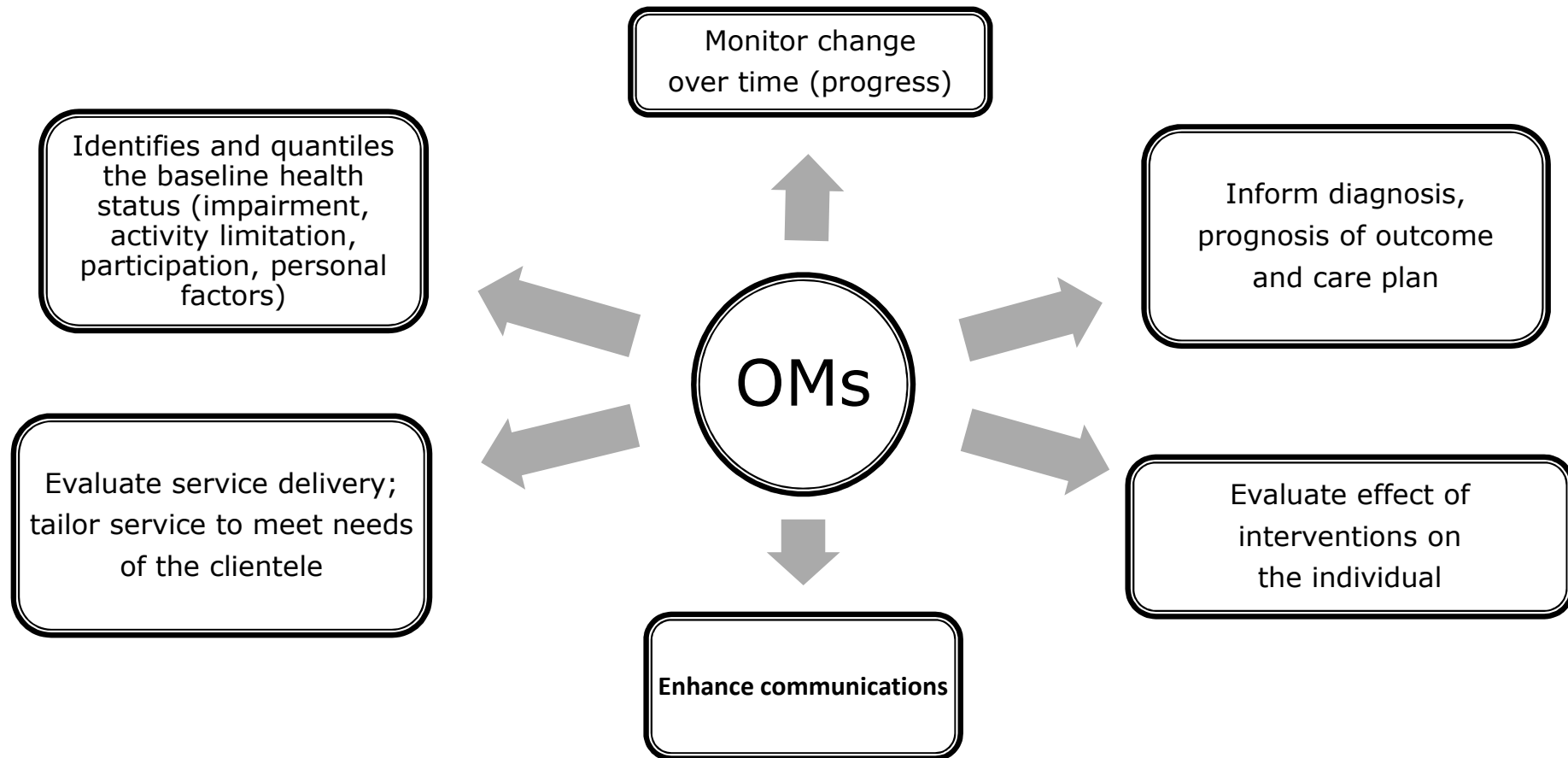
17% used 6MWT &TUG

5% used RMDI &KOOS

## Percentage of PTs who used OMs were

111/180 (62%) of therapists  
used OMs in practice

# Benefits of Using OMs Clinicians and Patients



# Benefits of Using OMs

## Organization and health system

### Health system

- Performance assessment
- Value for money

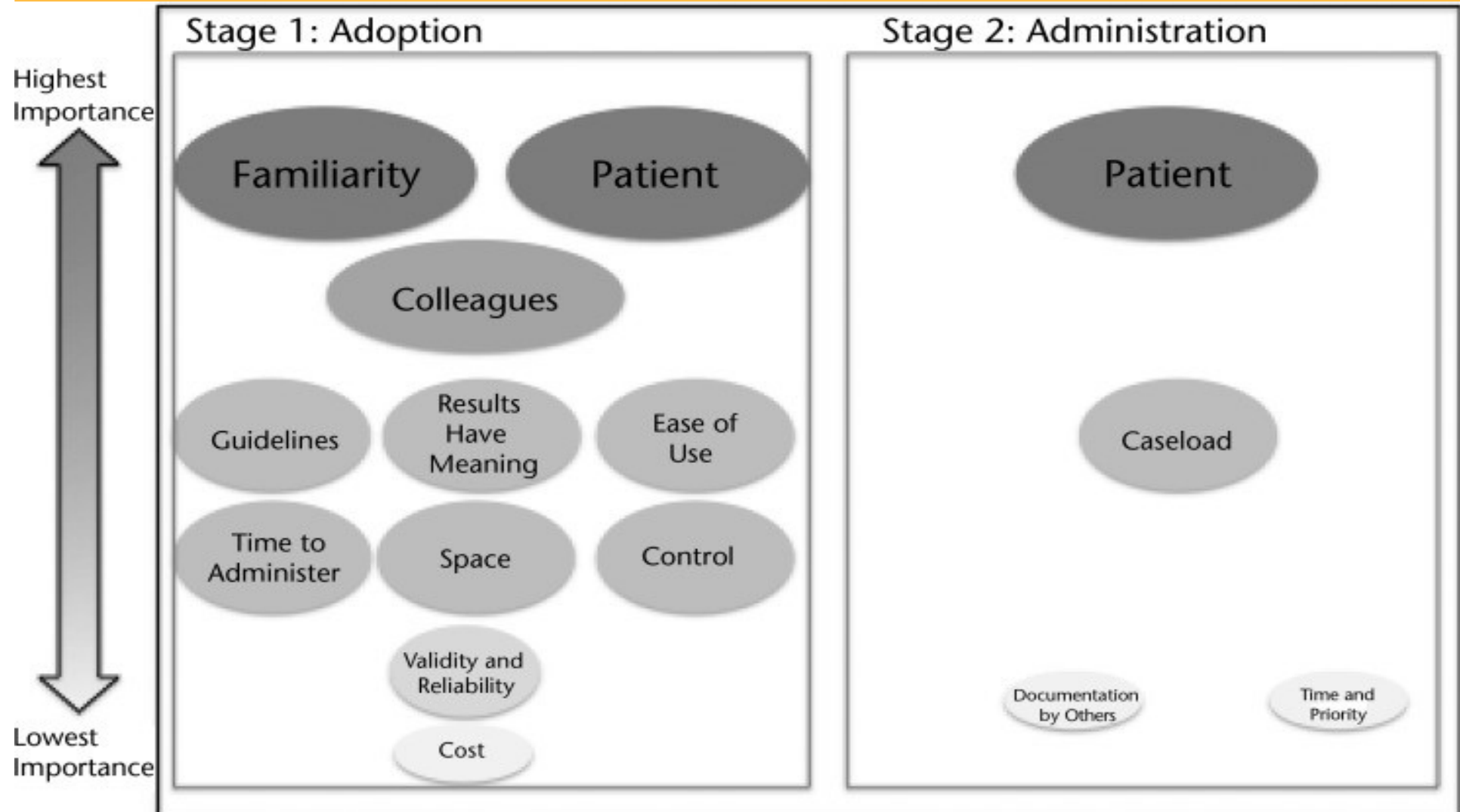
### Health care provider organization

- Benchmarking
- Quality improvement

Barriers to use of standardized outcome measures



# Factors influencing Use of OMs





# Facilitators to use OMs

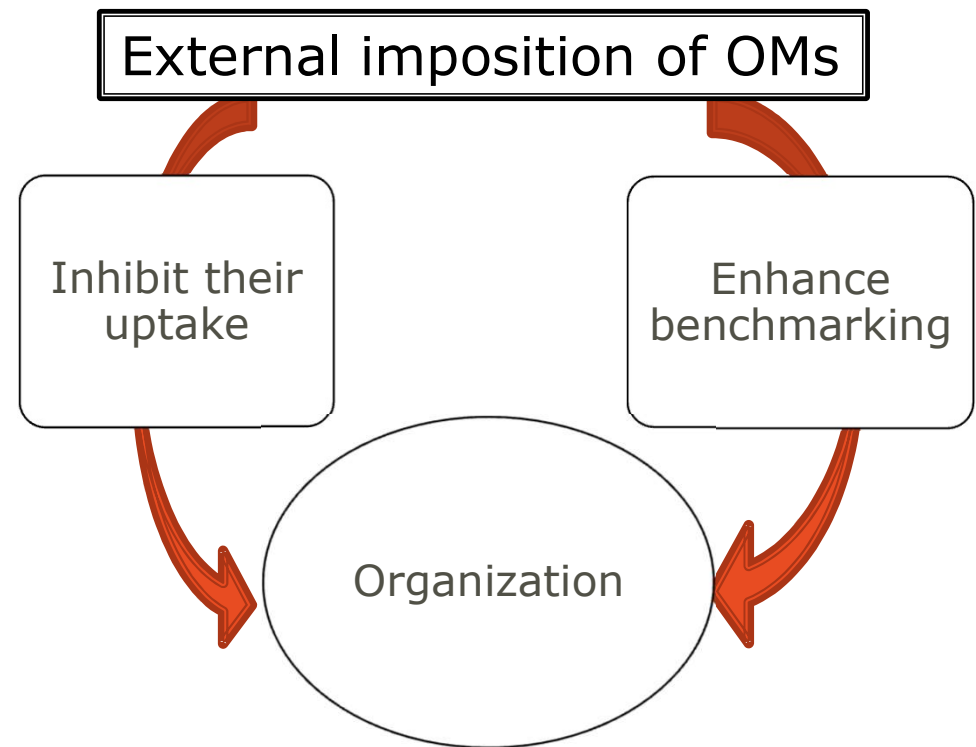
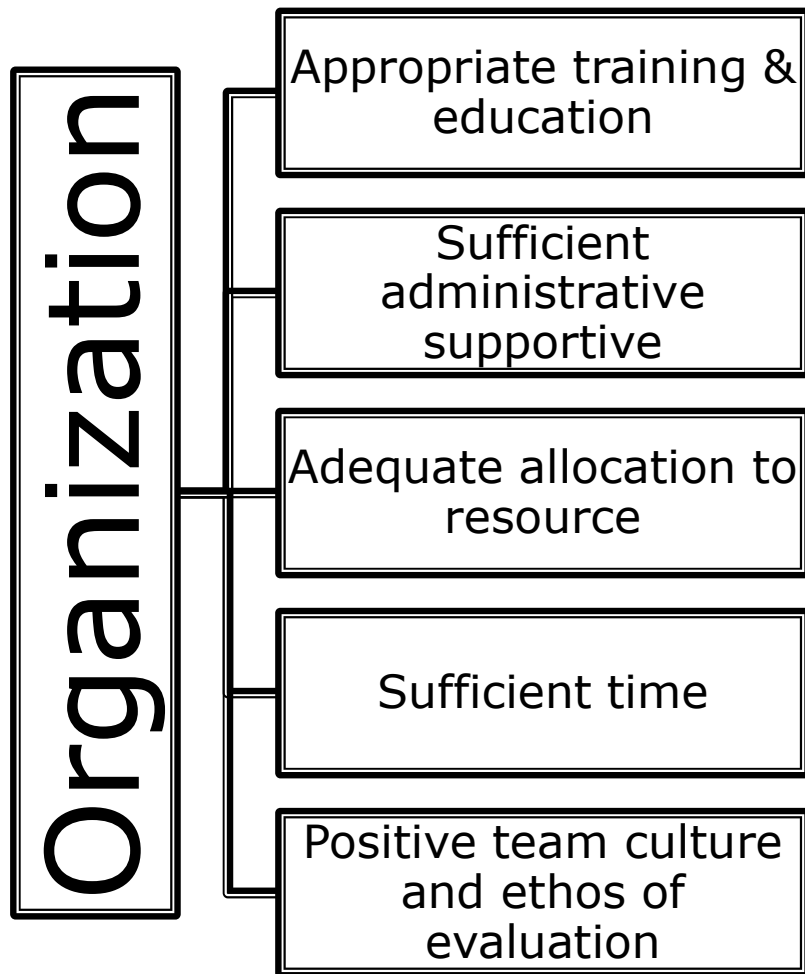


# Facilitators to use OMs

Achieving successful use of standardized OMs in clinical practice appear to be multi-level that require information and collaboration between

- ❖ Organizations,
- ❖ Individuals

# Facilitators to use OMs



# Facilitators to use OMs

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## Individual

Positive attitude and responsibility

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Academic degrees and clinical setting exposure

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Education and training about OMs

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Social interaction within work place

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Convinced of the benefits of the use of measurement instruments

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Patients: require objective instruments to evaluate the treatment process

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# Classification and types of OMs

# Classification and types of OMs

OMs used in clinical practice are divided into four categories:



- Self-report measures  
(generic, disease specific)
- Performance-based measures
- Observer-reported measures
- Clinician-reported measures

# Classification and types of OMs

## Clinician-reported outcome (ClinRO):

is based on a report that comes from a trained health-care professional after observation of a patient's health condition. A ClinRO measure involves a clinical judgment or interpretation of the observable signs, behaviors, or other physical manifestations thought to be related to a disease or condition. ClinRO measures cannot directly assess symptoms that are known only to the patient (e.g., pain intensity)

## Observer-reported outcome (ObsRO):

is a measurement based on an observation by someone other than the patient or a health professional. This may be a parent, spouse, or other non-clinical caregiver who is in a position to regularly observe and report on a specific aspect of the patient's health.

# Classification and types of OMs

Performance outcome (PerfO):

is a measurement based on a task(s) performed by a patient according to instructions that is administered by a health care professional. Performance outcomes require patient cooperation and motivation.

Patient-reported outcome (PRO):

is a measurement based on a report that comes from the patient about the status of a patient's health condition without amendment or interpretation of the patient's report by a clinician or anyone else.



# Performance based OMs X self reported OMs

	Performance based OMs	Self report OMs
<b>Purpose</b>	Assess actual performance in a particular environment at a specific point in time  Determine current level of function	Gather information on patients opinions/perceptions of the impact of the health condition
<b>Patients</b>	Perform a set of movements or tasks.	patient's perception,
<b>Data collection Methods</b>	Timing, distance, force , power , strength, Observation of performance Rating level of independence/difficulty	Interview Questionnaire
<b>Benefit</b>	Allows observation of task performance Less likely to have missing data	Can assess constructs not observed during performance (e.g., fear of falling) Can assess activities not observed clinically)
<b>Limitation</b>	Equipment required, environmental factors, fatigue, motivation, and learning effects, measure inaccuracy	Cognitive and communication ability Language and educational level Patient may miss or misinterpret items or over-/underestimate ability
<b>Example</b>	Functional Independence Measure 10-meter walking test, Time up and go test	Activities-specific Balance Confidence Scale Test Modified Fatigue Impact Scale Test Motor Activity Log

# Performance based OMs X self reported OMs

	Generic	Diseases-specific
<b>Purpose</b>	Assess overall health status across a broad spectrum of norms /and or diseases	Gather information about the impact of a specific health condition
<b>Population</b>	General population (healthy and non-healthy) Applicable across individuals with differing condition health conditions	Used for patients with a specific health
<b>Benefit</b>	Allow comparison to normative populations	More sensitive & provides insight into the relationships among body function/structure impairments, activity limitations, and participation
<b>Limitation</b>	Ceiling and floor effects more likely	Does not allow comparisons across different groups of patients
<b>Example</b>	Functional Independence Measure Short form-36	ODI , KOOs, Boston Carpal Tunnel Questionnaire, WORC

# Selecting and choosing an OMs

