

# Measuring Quality Outcomes in Michigan Nursing Facilities

John N. Morris, PhD, MSW  
IFAR, Hebrew SeniorLife, Boston  
Milbank Reforming States Group  
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**Key Policy Question:  
How can we improve the lives  
of persons residing in nursing  
facilities?**

# Keys to Quality Improvement

- Identify what we mean by quality
- Create a composite rank of facilities
- Profile the facilities quality distribution from poor to superior
- Select how best to intervene to turn around poor facilities
- Introduce best-practice programs to increase the number of average and superior facilities

# Defining Quality

- Process standards
  - Tender loving care – a mirror of life at home
  - Adherence to specified care protocols
- Environmental standards
  - Cleanliness, quality of food
  - Caregiver credentials
  - Caregiver staffing levels
  - Physical environment
- Person's satisfaction
- Person's status and how changes over time -  
Quality Indicators

# ALL ARE IMPORTANT!

- Unfortunately, correlation among these measures is low
- This holds for:
  - State survey results
  - Resident satisfaction surveys
  - Staffing levels
  - Resident change measures
- Problem with CMS Five-Star System

## Thus We Have To Make a Decision on How to Assess Quality

- For interRAI and for our team what matters is how the resident changes over time
- Measure this with facility-based Quality Indicators – QIs

## Why is the Resident in the Facility?

- For care
- To live as good a life as possible over their remaining life course
- No one came in to experience:
  - Premature functional loss
  - Confusion
  - Pain
  - Falls
  - Loneliness

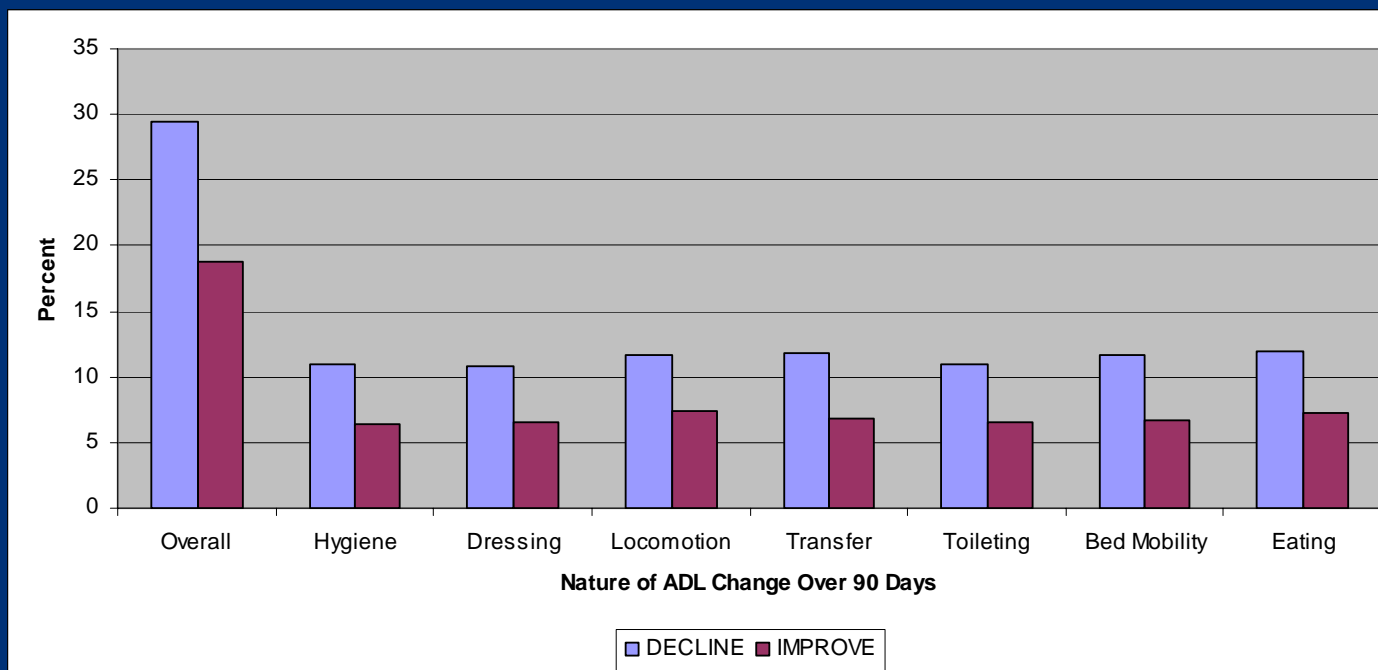
## **Our Goal is Clear – the US Congress Set the Tone**

- Once in a nursing facility the resident should expect staff to take every step possible to maximize:
  - the person's functional potential
  - quality of life

## But the Challenges are Many

- How do we measure quality – what is the most appropriate yardstick?
- What can we reasonably expect a facility to achieve?

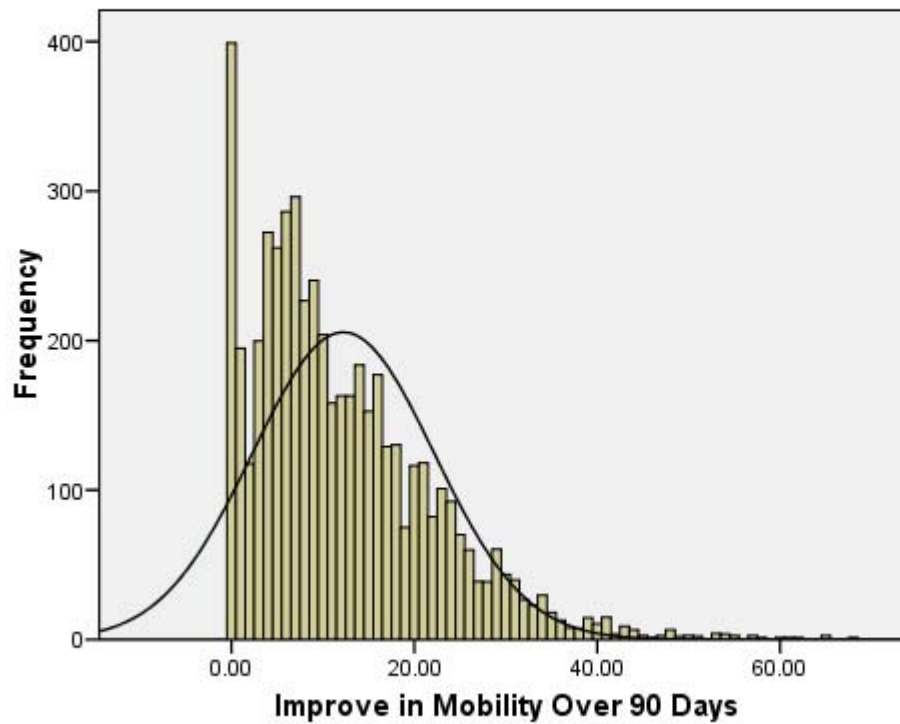
# High Decline Rates Are Not Inevitable!



## Inter-Facility Variability

- Even after adjusting for differences in residents served, inter-facility variability in outcome rates are enormous
- The next two graphs depict mobility change rates for facilities in Canada and the United States

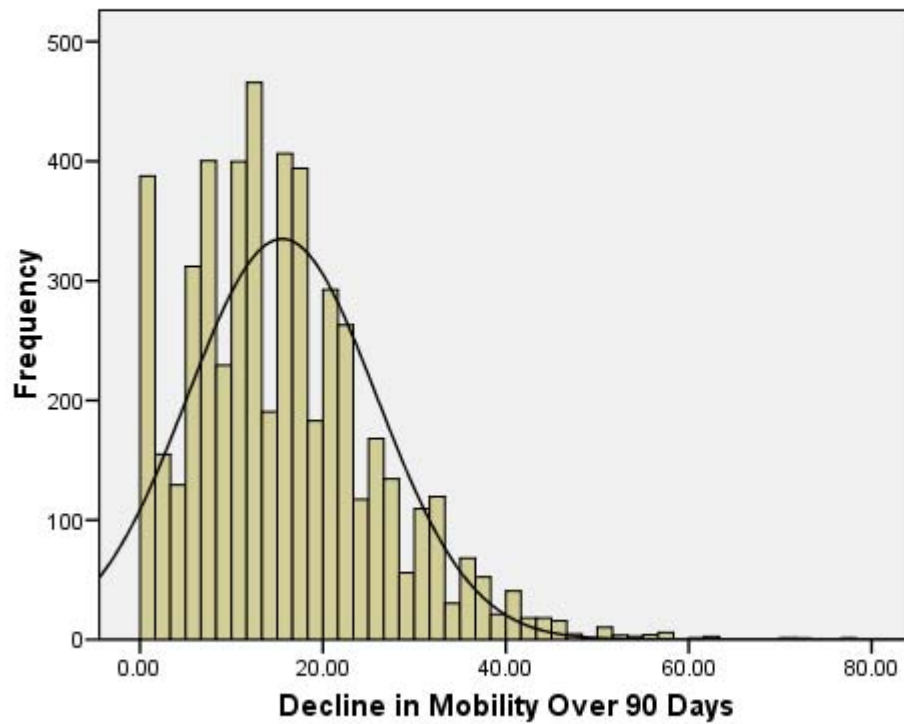
### Improve in Mobility Over 90 Days



Mean =12.23  
Std. Dev. =9.935  
N =5,120.8951

Cases weighted by weig

### Decline in Mobility Over 90 Days



Mean =15.54  
Std. Dev. =10.352  
N =5,217.9098

Cases weighted by weig

# Conceptual Issues Inherent in Applying Quality Measures

- Availability of resident-level measures – the MDS
- Process to identify key quality measures
- Agreement that the key measures are important
- Belief that facilities can alter person-specific outcomes in key areas

# Technical Issues

- Access the computerized MDS quarterly assessments – Relatively easy State access to Medicaid DUA
- Transform these person-level data into facility level QIs --
  - define “bad” and “good”
  - introduce risk adjustment
  - decide how “different” is different
- Establish the relationship among quality indicators
- Create a summary Quality Composite

# Risk Adjustment of QIs

- Necessary to compare “apples to apples”
- Account for bias due to variations in facility admission practices
- Three ways to adjust
  - Stratification
  - Exclusions
  - Regression-based adjustment
    - Individual risk factors (covariates)
    - Direct stratification

## History of QIs

- Development goes back two decades
- In most recent cross-national work, interRAI created standardized versions of 80+ NF QIs
- Through analysis and deliberations, set has been reduced to 19 measures

# interRAI Quality Indicators based on MDS

- For nursing facilities -- 19 key measures
- Let us look at the measures

## Functional QI Items

QI Measure	
ADLs	X
Locomotion	X
Falls	X
Cognition	X
Communication	X

# Clinical QI Items

QI Measure	
Continence	X
Behavior	X
Infection	X
Pain	X
Mood	X
Behavior	X
Pressure Ulcer	X

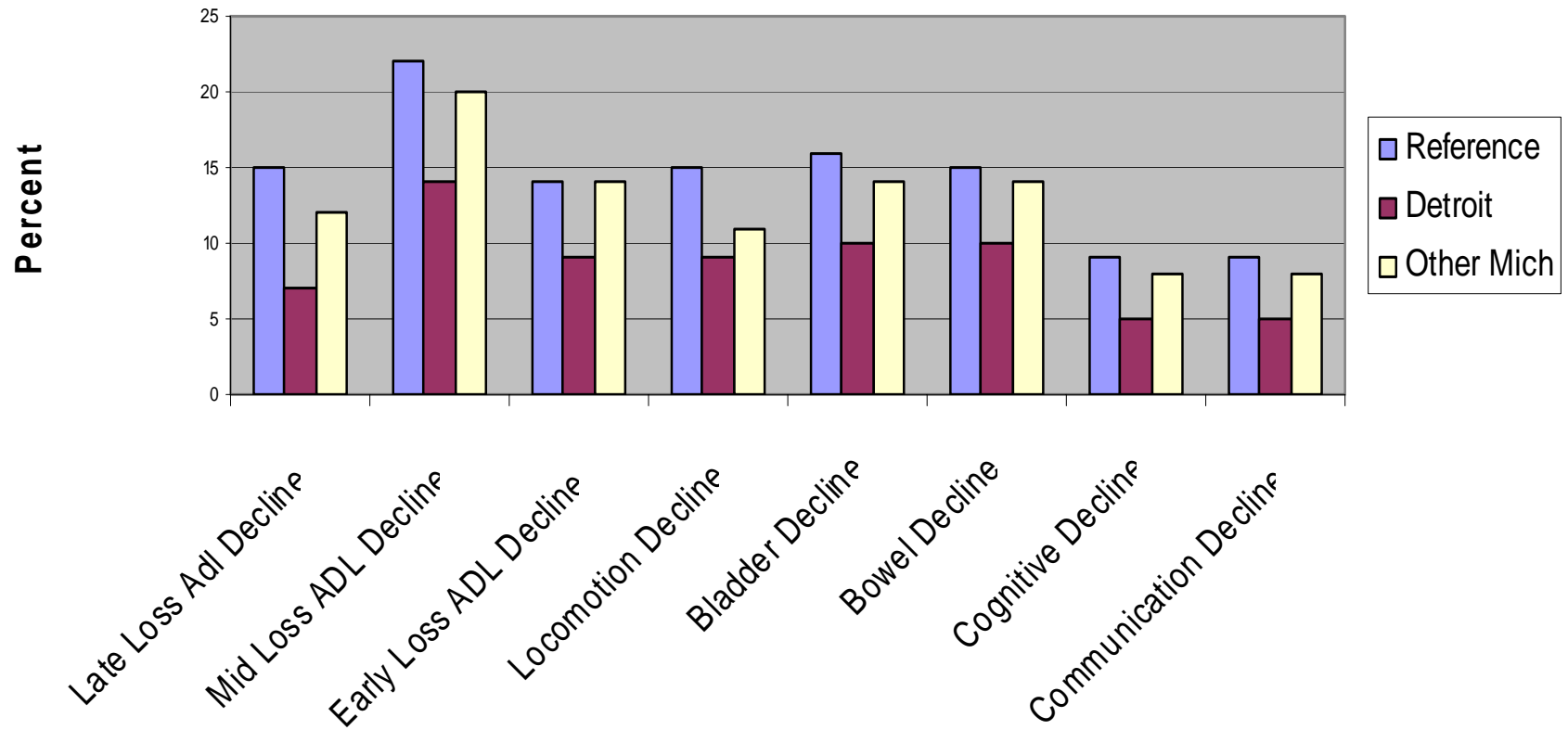
## Utilization QI Items

QI Measure	
Catheter	X
Feeding tube	X
Restraint	X

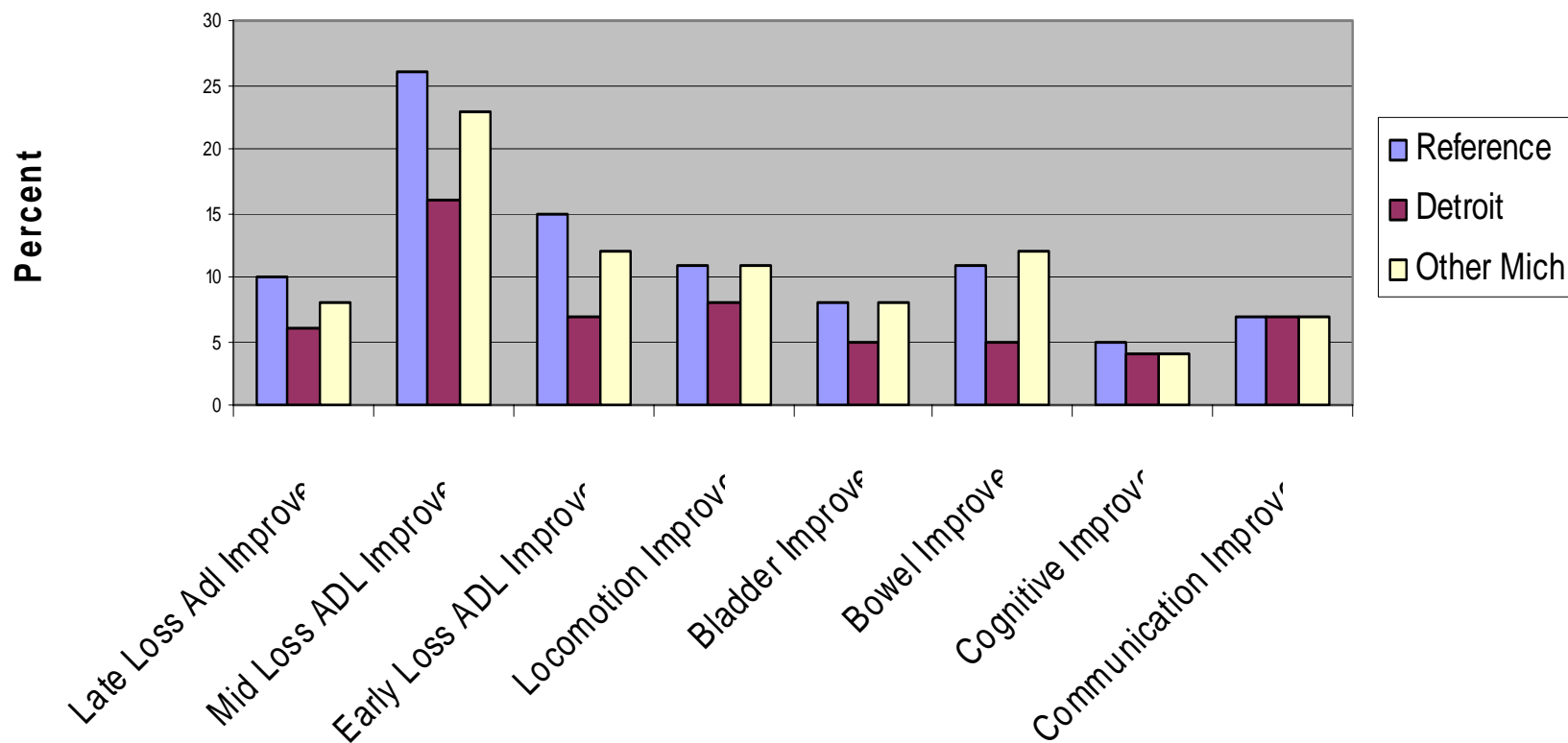
# Let us Look at Rates of Change In Nursing Facilities

- First we will look at the individual QIs
- We contrast Michigan facilities against the interRAI cross-national standard
- With exceptions – Detroit facilities look pretty good

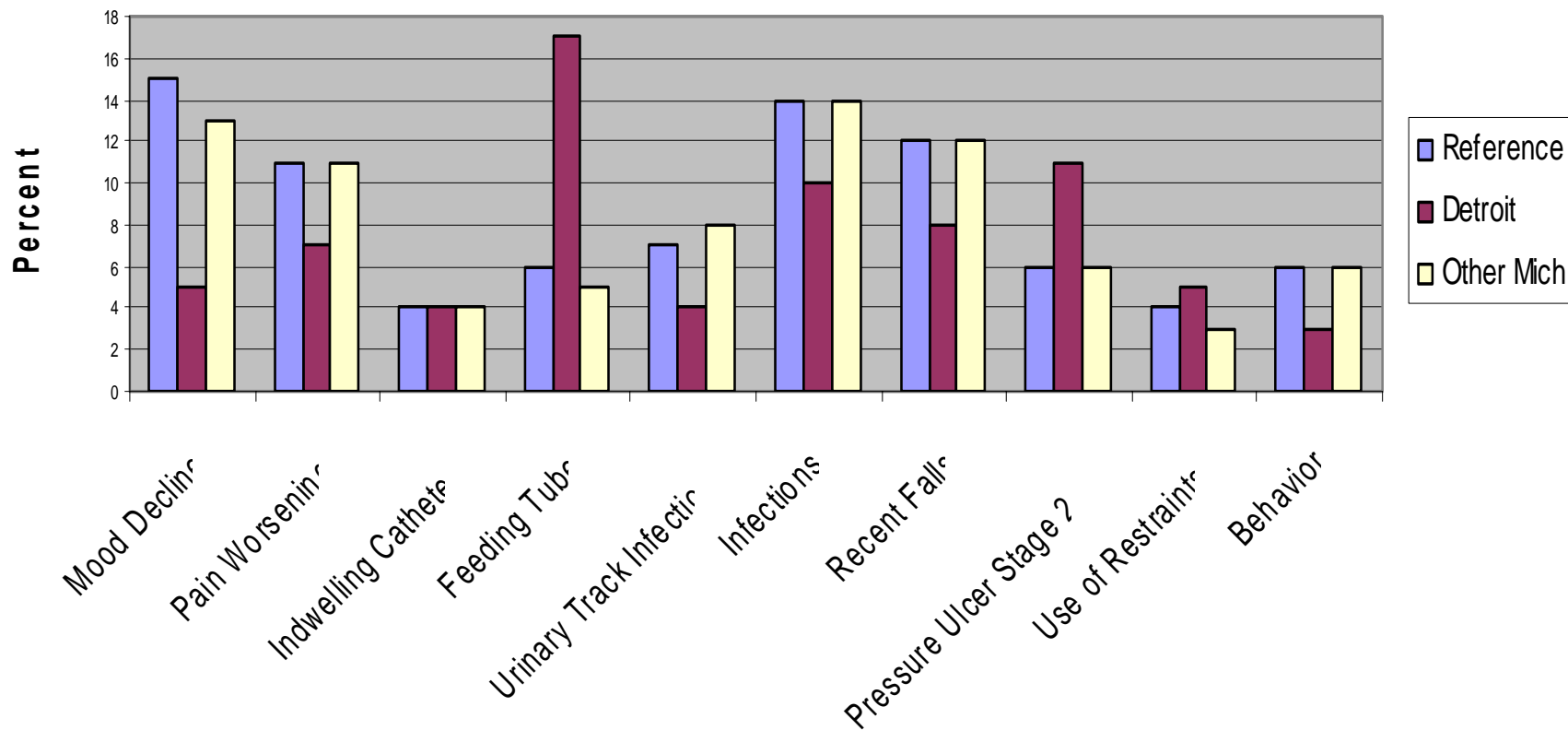
FUNCTIONAL DECLINE QIs -- High is Bad



FUNCTIONAL IMPROVEMENT QIs -- High is Good



### CLINICAL DECLINE QIs -- High is Bad



# Multi-Dimensionality of QIs

- Facilities that perform well in one dimension may perform at a more average or even poor level in other dimensions
- How do we identify the “best” facilities?
  - If a facility does poorly in one dimension is the facility poor?
  - If it does superbly in multiple dimensions, is it best?

# Composite Quality Measure for Nursing Facilities

- Functional QIs -- two bundles
  - Functional improvement
  - Functional decline
- Clinical complexity – no bundling

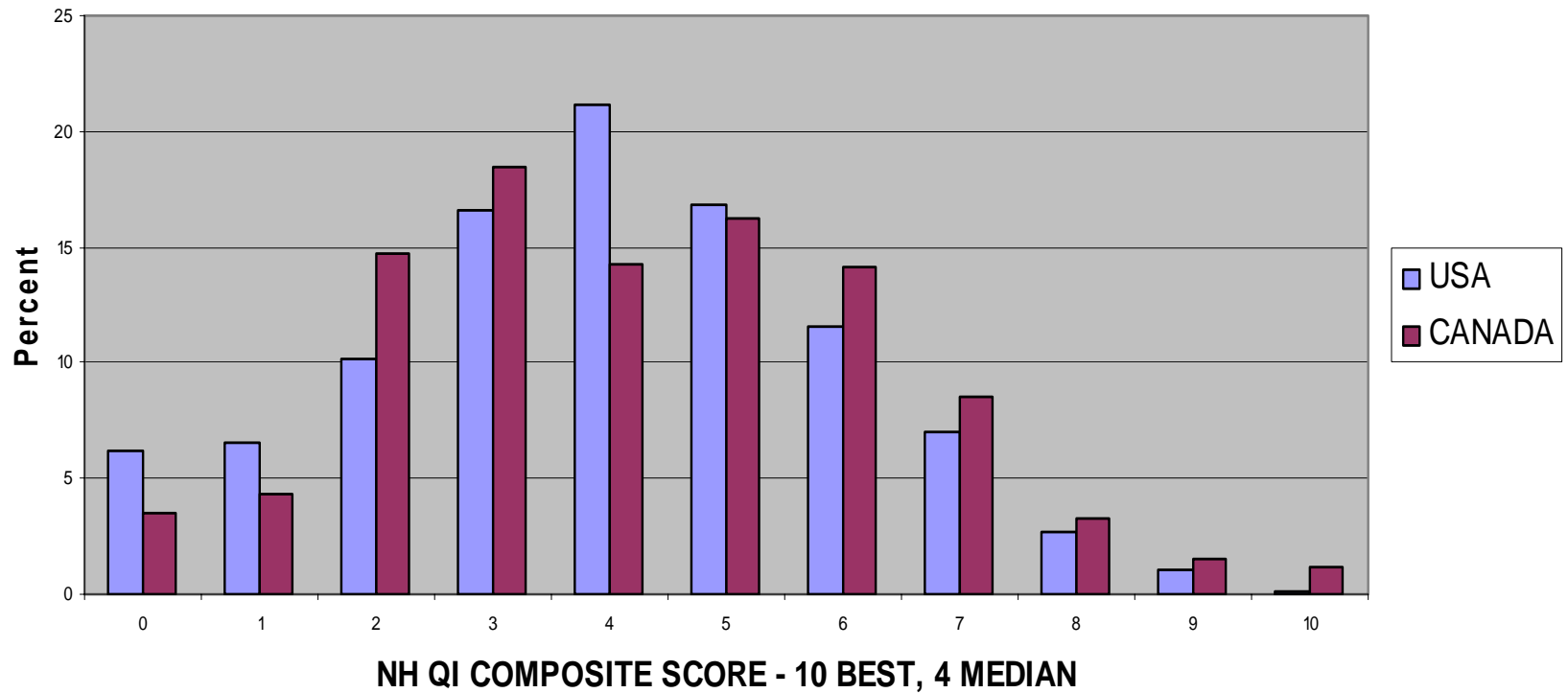
# Creating The QI Composite

- 8 functional change QIs -- (employing both decline and improvement variants)
- 11 clinical complexity QIs – e.g., incontinence, pain
- 80% of composite score from functional measures
- 20% of composite score is from clinical complexity measures

## Distributional Properties of NH QI Composite

- The next table is based on data from 2 Canadian provinces and 5 US states
- Data are weighted

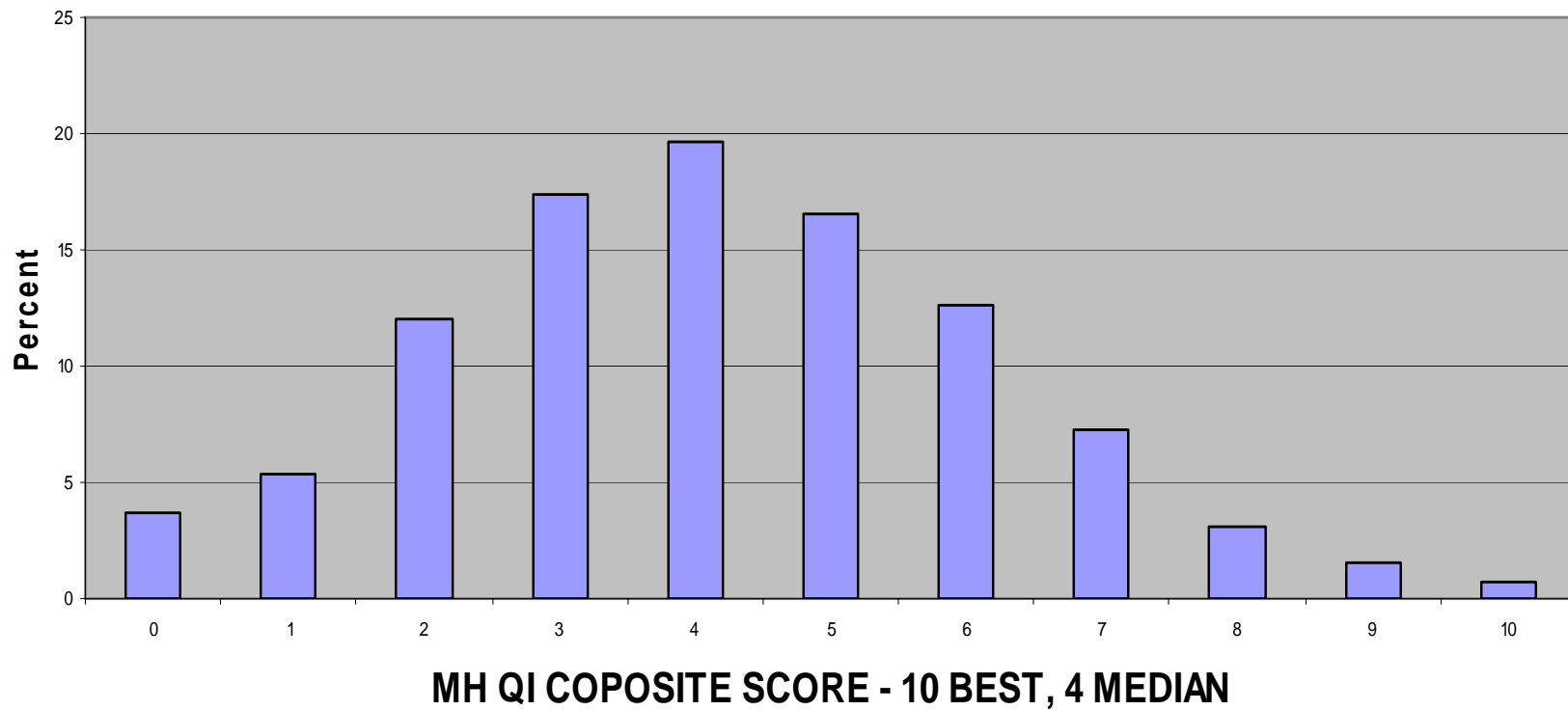
### NH QI COMPOSITE - USA AND CANADA



# A True International Standard

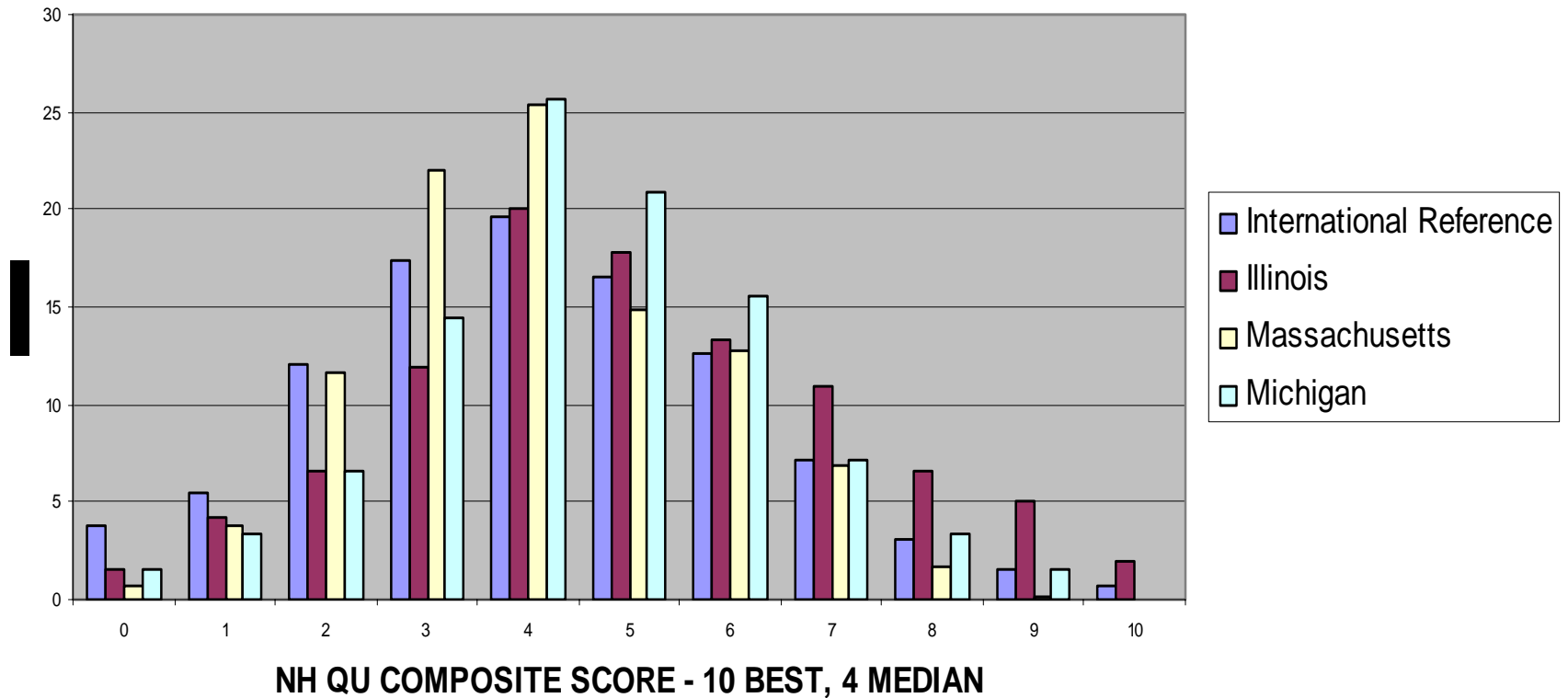
- Given the cross-country relative equivalency in rates, interRAI has adopted this North American Distribution as its International Standard

### NH QI COMPOSITE - INTERNATIONAL REFERENCE



# Inter-State Comparison

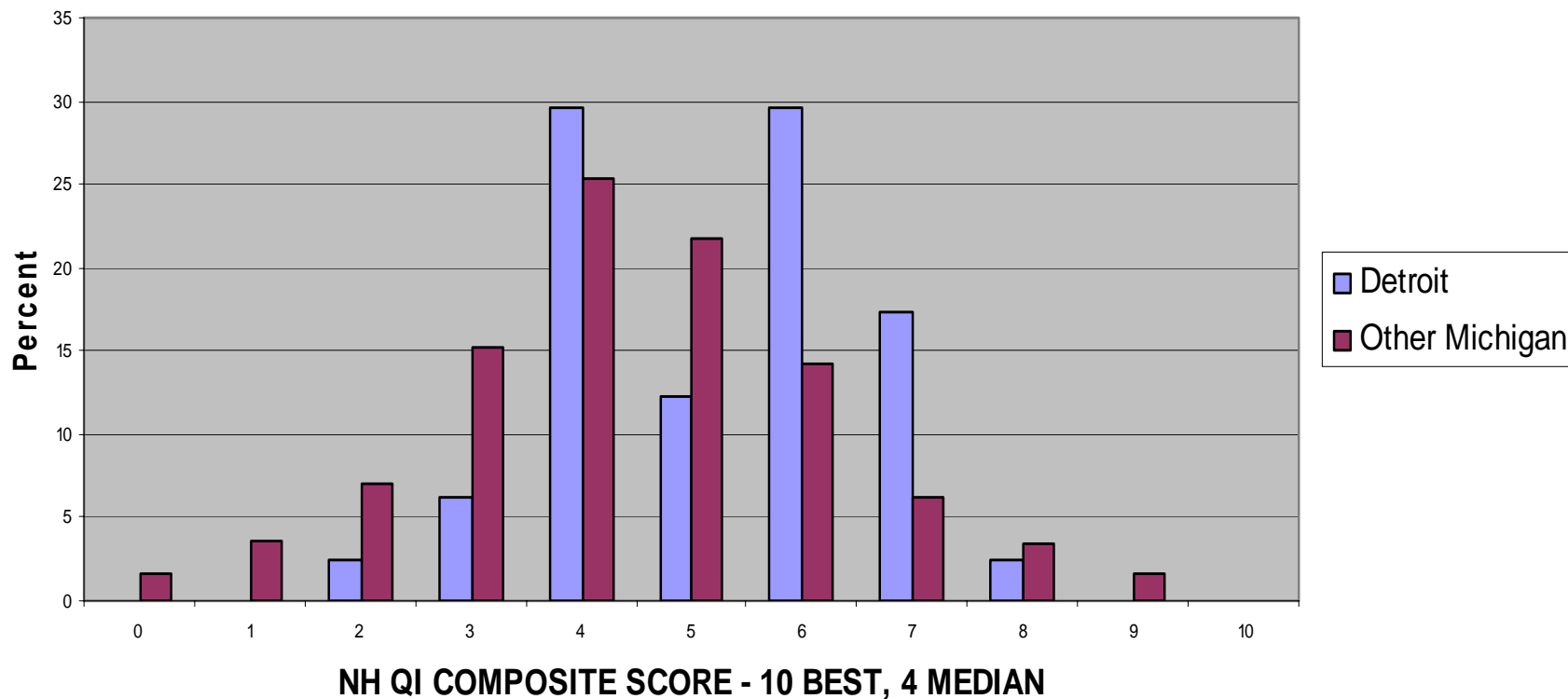
### NH QI COMPOSITE - US STATES



# Detroit vs Rest of Michigan

- Detroit has higher proportion of better scoring facilities

NH QI COMPOSITE - DETROIT AND OTHER MICHIGAN NHs



# Uses of NF QI Composite

- Facility -- Continuous Quality Improvement (CQI)
- Regulatory monitoring and oversight
  - Acknowledge good care
  - Work with troubled facilities to stimulate improvement

# Best-Practice Facility Improvement Program

- Introduce QI-based quality assurance program
- Select one, and later a second, problem QI area
- Introduce best-practice based improvement program

# Best-Practice Protocols

- Step-by-step QI approach to CQI
- Training of administrative, licensed and non-licensed staff on best-practice protocols -- including
  - Resident self-care
  - Mobility
  - Pain
  - Depression
  - Delirium
  - Bowel
  - Incontinence
  - Falls

# Selecting Improvement Areas

- Select improvement target – two options
  - Identify the care area that is most problematic
    - ADLs, Bladder, Mood, and Restraint use
  - Identify the care area where improvement would most quickly improve the facility's overall QI Composite score
    - ADLs, Bladder, Pain, Falls
- Target residents for intervention

# Best-Practice Program Review

- QI performance thresholds are met – e.g., rate of ADL decline decreases to a specified level
- Multiple best-practice protocols introduced
- Review for transference of effects

# Review

- Reviewed a strategy for using MDS to create a dynamic NF Quality Composite
- Through this mechanism, we identify:
  - facilities in trouble
  - care areas that are most problematic
  - a corrective quality improvement approach