

**PERSONS USING NURSING  
HOME SERVICES IN MICHIGAN:  
A COMPARISON OF DETROIT  
AND THE STATE OF MICHIGAN**

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**About this report:**

This report is designed to compare patients (short stay) and residents (long stay) utilizing Detroit nursing facilities and patients and residents utilizing such facilities throughout the state of Michigan. Data highlighted here come from the Minimum Data Set (MDS) 2.0.

Data for this report are from calendar year 2006 and provide information collected at both admission and at the annual assessment.

The data were analyzed at the University of Michigan (UM) under contract to the Detroit Area Agency on Aging to support work of the Nursing Facility Enhancement Project. The Michigan Department of Community Health granted permission to use the Long Term Care Data Archive maintained at UM to create these comparative profiles.

**How the report is organized:**

The report displays selected assessment items, as well as a variety of scales and indices. It contains information on the following domains: demographics, discharge potential, participation in assessment, disease diagnoses, health/mental health status, prior service use, summary status measures, resource use measures and resident assessment protocols.

On the left side of each page, the reader will find a short description of each domain. On the right side of each page the reader will find the data highlighted to show major differences between the Detroit and the State of Michigan samples.

**Demographics:**

This section provides information on demographics including: race, gender, age, and prior living arrangement. The values in the table represent the percent of patients (admission) and residents (annual) with that particular characteristic.

<b>Key: Size of Difference,</b>	<b>≤10%</b>	<b>≤5%</b>	<b>≥5%</b>	<b>≥10%</b>
<b>Detroit vs. Statewide</b>				

<b>DEMOGRAPHICS</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
Persons Served				
Gender (% female)	65.4%	56.1%	75.0%	62.2%
Marital Status (% married)	30.1%	22.1%	17.6%	10.1%
Payment Source (% Medicaid)	28.7%	49.6%	83.8%	87.5%
Referred/Admitted From				
Private Home w/ No Home Services	3.9%	3.4%	10.6%	6.3%
Private Home w/ Home Services	2.1%	1.1%	4.7%	1.6%
Bd & Care/Assisted Living/Grp Home	2.3%	1.0%	7.1%	2.1%
Nursing Facility	4.9%	9.8%	17.5%	19.4%
Acute Care Hospital	85.1%	82.9%	56.2%	66.4%
Psychiatric Hospital/MR/DD Facility	0.7%	0.3%	1.8%	1.3%
Rehabilitation Hospital	0.6%	0.6%	1.0%	1.3%
Other	0.4%	0.8%	1.1%	1.5%
Living Arrangement				
Lived Alone	36.9%	24.2%	27.9%	18.4%
Lived In other Facility	6.5%	9.1%	15.6%	17.9%
Age				
Less than 18 years	0.1%	0.1%	0.0%	0.0%
18 to 24 years	0.1%	0.1%	0.0%	0.0%
25 to 34 years	0.3%	0.7%	0.2%	0.2%
35 to 44 years	0.9%	2.2%	0.9%	1.6%
45 to 54 years	3.4%	9.1%	3.2%	7.3%
55 to 64 years	7.1%	14.1%	6.2%	14.8%
65 to 74 years	16.4%	19.4%	11.0%	17.8%
75 to 84 years	37.8%	30.4%	30.4%	26.9%
85 to 94 years	30.5%	20.8%	39.8%	26.0%
95 + years	3.5%	3.0%	8.3%	5.5%
Average Age	79.1	73.9	81.9	76.1
Race				
White	85.4%	25.0%	83.8%	19.7%
Black	12.9%	73.8%	14.2%	79.0%
Other	1.4%	1.2%	1.7%	1.1%
Autonomy				
Legal Guardian	5.0%	15.6%	21.8%	46.5%
Other Legal Oversight	1.3%	0.3%	2.9%	0.9%
Durable Power of Attorney/Health Care	26.2%	3.0%	41.9%	3.6%
Durable Power of Attorney/Financial	15.3%	1.7%	27.9%	2.6%
Family Member Responsible	44.3%	54.4%	56.8%	45.8%
Person Responsible for Self	55.1%	42.9%	21.8%	14.6%
None of the Above	5.8%	2.4%	3.5%	2.8%
All Above Missing	41.0%	52.3%	0.0%	0.0%

**Discharge potential:**

These data reflect answers to questions 1a and 1b in Section Q of the MDS. The individual is asked directly about their preference to return to the community. Family members and/or significant others are asked about their support for such a preference.

**Participation in Assessment:**

MDS protocols place a high expectation on the individual's participation in the assessment and care planning process. Similarly, family member and/or significant others are expected to participate to provide a full picture of the patient or resident.

<b>Key: Size of Difference,</b>	<b>≤10%</b>	<b>≤5%</b>	<b>≥5%</b>	<b>≥10%</b>
<b>Detroit vs. Statewide</b>				

<b>DISCHARGE POTENTIAL</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
Prefers to return to community	73.9%	53.8%	7.7%	8.1%
Support person positive towards discharge	70.4%	44.1%	2.7%	2.6%

<b>PARTICIPATION IN ASSESSMENT</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Person	95.2%	93.0%	91.1%	88.7%
Family	55.0%	40.3%	43.0%	34.5%
Significant Other	10.0%	7.8%	5.6%	4.7%

**Disease Diagnoses:**

Data in this section reflect conditions that currently affect the person's health status and are documented in the clinical record by a physician.

<b>Key: Size of Difference,</b>	<b>≤10%</b>	<b>≤5%</b>		<b>≥5%</b>	<b>≥10%</b>
<b>Detroit vs. Statewide</b>					

<b>DISEASE DIAGNOSES</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
<b>Heart/Circulation</b>				
Cerebrovascular Accident (stroke)	16.6%	26.2%	22.5%	31.1%
Congestive Heart Failure	28.3%	24.2%	28.6%	18.6%
<b>Neurological</b>				
Alzheimer's	9.1%	5.0%	22.2%	11.6%
Dementia other than Alzheimer's	25.9%	32.0%	48.9%	57.7%
Parkinson's Disease	4.7%	2.8%	7.8%	4.8%
Tramatic Brain Injury	0.6%	1.0%	0.8%	1.0%
Multiple Sclerosis	0.8%	0.9%	2.3%	1.5%
Hemiplegia/Hemiparesis	6.0%	8.0%	9.5%	9.0%
Paraplegia	0.5%	1.0%	0.9%	1.7%
Quadriplegia	0.3%	0.5%	0.9%	1.2%
<b>Musculo-Skeletal</b>				
Hip Fracture	7.3%	3.3%	1.7%	1.5%
Osteoporosis	16.5%	4.8%	26.1%	9.9%
Missing Limb (e.g. amputation)	1.9%	3.6%	1.9%	3.5%
Arthritis	35.8%	21.1%	44.0%	23.3%
<b>Other Diseases</b>				
Cancer (not including skin cancer)	10.4%	12.1%	5.2%	5.9%
Diabetes	32.6%	37.8%	28.2%	31.0%
Emphysema/COPD/Asthma	25.3%	21.5%	21.2%	18.8%
Renal Failure	12.0%	18.8%	8.1%	12.2%
HIV Infection	0.2%	1.4%	0.1%	0.3%
Viral Hepatitis	0.3%	1.1%	0.2%	0.9%
Tuberculosis	0.1%	0.1%	0.0%	0.0%

### **Health/Mental Health Status:**

End stage disease: person has six or fewer months to live.

Falls: five or more in the last 90 days.

Pain: one of more periods of pain each day over the last seven days.

Weight Loss: either 5% unintended weight loss in the last 30 days or 10% in the last 80 days.

Pressure Ulcers: percent of one or more stage 1 or higher decubitus ulcers.

Bladder Incontinence: daily episodes of incontinence with some control, e.g., during the day, or always incontinent.

Bowel Incontinence: incontinent two or three times a week, or always incontinent.

Suctioning: includes nasopharyngeal or tracheal aspiration over last two weeks.

Ventilator or Respirator: include any person who used or was being weaned off this equipment in the last two weeks. This group does not include BIPAP or CPAP devices.

Comatose: no discernable consciousness in last seven days.

### **Treatments and Procedures**

Alcohol/Drug Treatment Program: participation within the facility within the last two weeks.

Alzheimer's/Dementia Special Care Unit: participation within the facility during the last two weeks.

Hospice Care: participation within the facility during the last two weeks.

Training in Community Skills: involvement in group or individual activities to attain goals for community living; may include training family or other caregivers.

### **Indicators of Depression**

A person is classified as having each listed condition if the behavior was exhibited at least once in the last seven days prior to assessment.

### **Behavioral Symptoms**

A person is classified as having a listed symptom if the behavior at least once within the last seven days.

Changes in Behavior Symptoms: symptoms have worsened as compared to 90 days ago.

### **Prior Service Use**

Emergency Room Visits: any ER use without an overnight stay in the last 90 days.

Prior Nursing Home Placement: any nursing facility stay within the last five years.

Prior Use of Home Care: any home care service use within the last five years.



## **Summary Status Measures**

### **ADL Hierarchy**

The ADL Hierarchy is derived from the ADL items in the assessment that conceptually measure early ADL loss (dressing, hygiene), intermediate ADL loss (transfer, locomotion, and toileting), and late ADL loss (bed mobility, eating). For each of these areas, potential difficulty is scored using a 0-4 scale from independence to total dependence. The Hierarchy combines these ADLs into a single comprehensive scale (from 0 to 6) based on the degree of losses and performance level coding.

### **Cognitive Performance Scale (CPS)**

The CPS (Morris, Fries, Morris, 1999) is a hierarchical index used to rate the person's cognitive status. It has been validated against the Mini Mental State Examination (MMSE).

Intact	(equivalent to average MMSE of 25)
Borderline Intact	(equivalent to average MMSE of 22)
Mild Impairment	(equivalent to average MMSE of 19)
Moderate Impairment	(equivalent to average MMSE of 15)
Moderate/Severe Impairment	(equivalent to average MMSE of 7)
Severe Impairment	(equivalent to average MMSE of 5)
Very Severe Impairment	(equivalent to average MMSE of 1)

### **Communication Scale**

The communication scale is a cognitive functioning outcome and assesses the person's ability to understand and be understood by others. Each item is scored on a 4 point scale (0-3). Combined, this summated scale has a range of 0-6 with increasing values indicating poorer communication ability.

### **Pain Scale**

The pain scale is used to examine prevalence of pain. The scale was originally derived from the pain items in the nursing facility Minimum Data Set (MDS). It has been validated against the Pain Visual Analog Scale (VAS). The pain scale examines the frequency and intensity of pain shown by an individual.

### **Depression Rating Scale (DRS)**

The DRS is used to screen for depression. It is derived from mood and behavior items and has been validated against the Hamilton Depression Rating Scale and the Cornell Scale for Depression, both of which have been tested and validated in geriatric populations in nursing homes.

<b>Key: Size of Difference,</b>	<b>≤10%</b>	<b>≤5%</b>	<b>≥5%</b>	<b>≥10%</b>
<b>Detroit vs. Statewide</b>				
<b>SUMMARY STATUS MEASURES</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
ADL Hierarchy				
Independent	2.0%	2.7%	5.5%	3.1%
Supervision	5.1%	5.7%	7.3%	8.6%
Limited Assistance	19.0%	18.5%	15.6%	18.5%
Extensive Assistance I	17.8%	18.2%	29.7%	29.7%
Extensive Assistance II	28.6%	20.3%	13.8%	11.5%
Dependent	21.7%	21.7%	16.3%	16.1%
Total Dependence	5.9%	12.8%	11.9%	12.5%
Cognitive Performance Scale				
Intact	38.5%	30.0%	9.8%	9.6%
Borderline Intact	11.2%	10.9%	7.6%	9.8%
Mild Impairment	16.6%	16.3%	15.1%	15.8%
Moderate Impairment	20.9%	24.5%	36.6%	36.7%
Moderately Severe Impairment	6.0%	9.4%	11.2%	14.1%
Severe Impairment	3.5%	3.2%	10.2%	6.5%
Very Severe Impairment	3.2%	5.8%	9.4%	7.5%
Communication Scale				
Clear	64.9%	59.7%	37.6%	41.4%
Adequate	11.0%	8.4%	13.4%	11.5%
Minimal Difficulty	10.6%	12.6%	18.3%	19.2%
Somewhat Difficult	3.1%	3.6%	6.0%	5.7%
Moderate Difficulty	7.0%	9.6%	13.9%	14.6%
Highly Impaired	1.2%	2.0%	3.1%	3.2%
Severely Impaired	2.3%	4.0%	7.6%	4.4%
Pain				
No Pain	34.4%	46.6%	66.4%	74.2%
Mild Pain	33.4%	30.2%	25.0%	19.5%
Moderate Pain	26.3%	19.6%	8.0%	5.6%
Severe Pain	5.9%	3.7%	0.6%	0.8%
Depression Rating Scale				
No Depression	62.1%	73.1%	58.8%	69.8%
Mild Depression	30.7%	21.9%	32.6%	26.1%
High Depression	7.2%	5.0%	8.6%	4.0%

## **Resource Use Measures**

Clusters of similar individuals can be identified by their needs for assistance using the RUG-III case mix algorithm. RUG-III is predictive of the cost of caring for an individual and is used in the Medicare Skilled Nursing Facility Prospective Payment System.

RUG-III incorporates three dimensions in describing and classifying a person. The first dimension includes seven clinical categories. These are listed in order of generally decreasing resource use:

Special Rehabilitation  
Extensive Care Services  
Special Care  
Clinically Complex  
Impaired Cognition  
Behavior Problems  
Reduced Physical Functions

After being assigned to a clinical category, persons are subcategorized according to their late-loss ADL function (e.g. performance in toileting, eating, transfer). Persons in Reduced Physical Function E are the most physically dependent requiring total assistance with all four ADLs as well as needing a two person transfer; conversely, persons in Reduced Physical Function A are the least physically dependent and can perform all four ADLs independently.

The average case mix measures the case mix across all persons in the given sample.

<b>Key: Size of Difference, Detroit vs. Statewide</b>	≤10%	≤5%	≥5%	≥10%
<b>RESOURCE USE MEASURES</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
RUG III-HC				
Special Rehabilitation	68.1%	57.5%	2.3%	1.7%
Extensive Services	15.6%	13.4%	1.9%	2.0%
Special Care	4.8%	7.7%	7.5%	8.0%
Clinically Complex	6.4%	14.6%	24.3%	24.8%
Impaired Cognition	1.7%	2.0%	18.3%	23.6%
Behavior Problems	0.1%	0.1%	0.4%	0.8%
Reduced Physical Functions - E	0.5%	0.4%	9.4%	2.5%
Reduced Physical Functions - D	1.6%	2.0%	23.8%	22.4%
Reduced Physical Functions - C	0.3%	0.4%	1.9%	1.7%
Reduced Physical Functions - B	0.4%	0.5%	3.1%	4.0%
Reduced Physical Functions - A	0.6%	1.4%	7.1%	8.2%
Case Mix				
Average Case Mix	2.01	1.77	0.77	0.75

## **Resident Assessment Protocols (RAPs)**

RAPs address major topics of concern for an individual and are designed to assist the assessor in considering these issues systematically in care planning activities with the person and family. Essentially, RAPs promote understanding of what should be addressed in care planning, why it should be addressed and how it should be addressed.

RAP “triggers” are specific combinations of questions/items from the assessment that identify potential problems and existing health risks. In the accompanying chart, the data reflect the percentage of persons who triggered each RAP. Triggering a RAP does not mean that the person actually has a given problem; rather, the trigger indicates a need for further evaluation.

### **Functional Performance**

ADL/Rehabilitation Potential: Identifies individuals with the potential for greater independence in self care.

### **Sensory Performance**

Communication: Detects problems in receiving/sending verbal/non-verbal messages.

Visual Function: Guides the evaluation of individuals with vision problems.

### **Mental Health**

Cognitive Loss: Identifies persons who have potentially correctable communication problems.

Behavior: Identifies individuals with behavioral symptoms distressing to themselves or to others.

Depression and Anxiety: Detects people who show signs of sadness, anxiety and/or depression.

Delirium: Identifies individuals who have symptoms that may be markers for a treatable illness/condition.

Psychosocial Wellbeing: Detects person whose quality of life is at risk or problematic.

Activity Patterns: Targets person who may benefit from further exploration of their leisure preferences.

### **Health Problems**

Feeding Tubes: Examines the need for and alternatives to the use of nasogastric and nasointestinal tubes.

Dehydration Risk: Detects dehydration or factors which could lead to dehydration.

Falls: Detects risk of falling and provides guidance to minimize risk and limit injury.

Nutrition: Detects malnutrition and risk of malnutrition.

Oral Health: Detects oral health problems that cause pain, inability to speak or eat, etc.

Pressure Ulcers: Identifies individuals at risk of developing skin breakdown.

### **Service Oversight**

Psychotropic Drugs: Identifies individuals taking psychotropic drugs who need further medical review.

### **Restraints**

Physical Restraints: Identifies persons whose freedom of movement is restricted by materials/equipment.

### **Continence**

Urinary Incontinence: Detects potentially reversible causes of incontinence.

<b>Key: Size of Difference,</b>	<b>≤10%</b>	<b>≤5%</b>	<b>≥5%</b>	<b>≥10%</b>
<b>Detroit vs. Statewide</b>				
<b>RESIDENT ASSESSMENT PROTOCOLS</b>	<b>Admission Statewide</b>	<b>Admission Detroit</b>	<b>Annual Statewide</b>	<b>Annual Detroit</b>
Sample Size	68,608	4,569	24,168	2,310
Functional Performance				
ADL/Rehab Potential	99.5%	99.0%	99.3%	99.0%
Sensory Performance				
Communication Disorder	40.8%	41.6%	69.3%	63.9%
Visual Evaluation	26.1%	28.2%	48.5%	44.5%
Mental Health				
Cognition	62.7%	70.5%	90.0%	90.6%
Behavior	15.2%	16.7%	28.5%	28.2%
Depression/Anxiety	45.6%	32.9%	48.9%	37.8%
Delirium	14.5%	4.2%	9.7%	4.8%
Psychosocial Well-being	29.9%	14.0%	30.4%	17.2%
Activity Patterns	13.8%	11.0%	10.5%	8.7%
Health Problems				
Feeding Tubes	5.5%	14.3%	5.6%	12.6%
Dehydration Risk	63.7%	52.3%	50.8%	37.8%
Falls Risk	69.8%	50.8%	72.1%	54.2%
Nutrition	59.4%	54.9%	75.2%	77.9%
Oral Health/Dental Care	55.0%	70.7%	37.9%	50.6%
Pressure Ulcer Risk	83.8%	81.8%	77.8%	75.2%
Service Oversight				
Psychotropic Drugs	46.2%	34.8%	61.5%	46.8%
Restraints				
Physical Restraints	2.0%	3.3%	6.4%	6.6%
Continence				
Urinary Incontinence	58.4%	65.0%	78.9%	75.3%