

# Collecting Data with Strategic Planning Value Improving Actuarial Projections

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# Learning Points

1. **Needs**
2. History
3. Desired future
4. Influencing outcomes
5. Relationship with COLLAGE
6. Summary and next steps

# Why collect actuarial data?

1. Understand what services are current used
2. Project trends in future service usage
3. Estimate costs associated with services
4. Quantify cost/benefit of protocols that influence service usage

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# A Brief Summary of Actuarial Models for CCRC

Dates	Projection Methodology	Data Source
Before 1979	"Sample of 1"	Use another CCRCs experience
1979 to 1985	Location changes	Modify similar data
1985 to 2010	Location/ADL changes	CCRC experience rated
2011+	Defined health/functional status	?COLLAGE?

# 1<sup>st</sup> and 2<sup>nd</sup> Gen Models

1. Referred to as “location models”
2. ILU and Intermediate/Skilled NUR to mid-80s
3. ILU, ALU, NUR from mid-80s to 2000
4. ILU, ILU homecare, ALU, NUR, and dementia from 2000 to now

# Challenges with Location Models

1. Services among locations not consistent
2. ILU now provide homecare, assisted
3. ALU and NUR may both have dementia
4. Data biased by transfer practices
5. **Does location really matter anymore?**

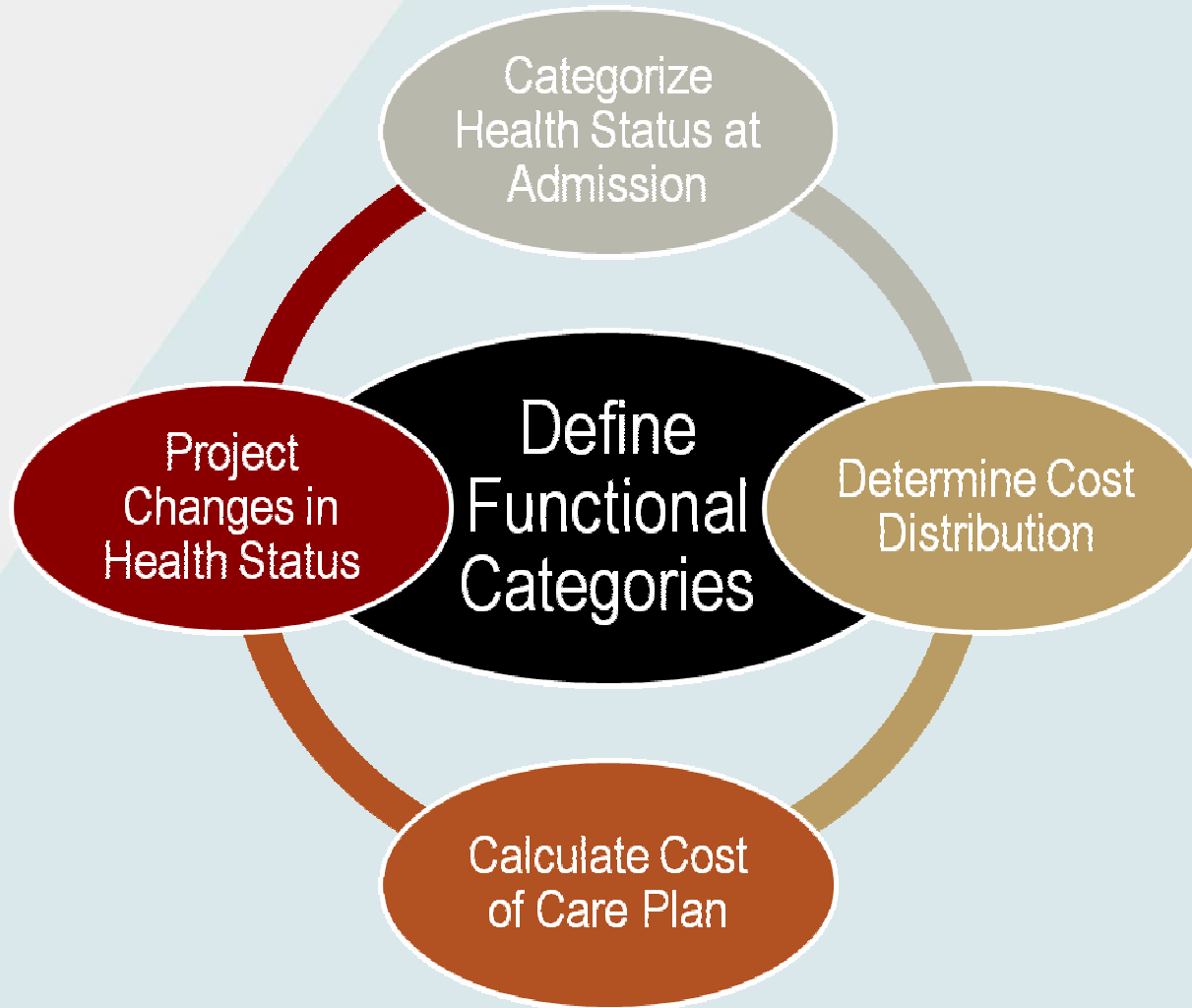
**Service Location Doesn't Matter  
but  
Health Status Does**



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# 4<sup>th</sup> Gen CCRC Actuarial Model



# Illustrative Health Status and Cost Assumptions

Health Status	Projection Methodology	Costs/day
#1	Able to live independently	\$10
#2	Independent with some homecare	\$30
#3	1 or 2 ADLs or needs Assisted Living	\$120
#4	3 or more ADLs or needs Nursing Care	\$250

# BASELINE:

## \$3,000/day Initially for 300 Cohort

Health Status	Health Status Distribution	Costs/day
#1	100%	\$10
#2	0%	\$30
#3	0%	\$120
#4	0%	\$250

# BASELINE:

## \$8,850/day in Year=n

Health Status	Health Status Distribution Year=10	Costs/day
#1	80%	\$10
#2	10%	\$30
#3	5%	\$120
#4	5%	\$250

# What-if You Can Influence Health

## \$6,420/day; a 27% reduction

Functional Status	Health Status Distribution	Costs/day
#1	85%	\$10
#2	10%	\$30
#3	2%	\$120
#4	3%	\$250

## For this Illustration Practical Implications Are:

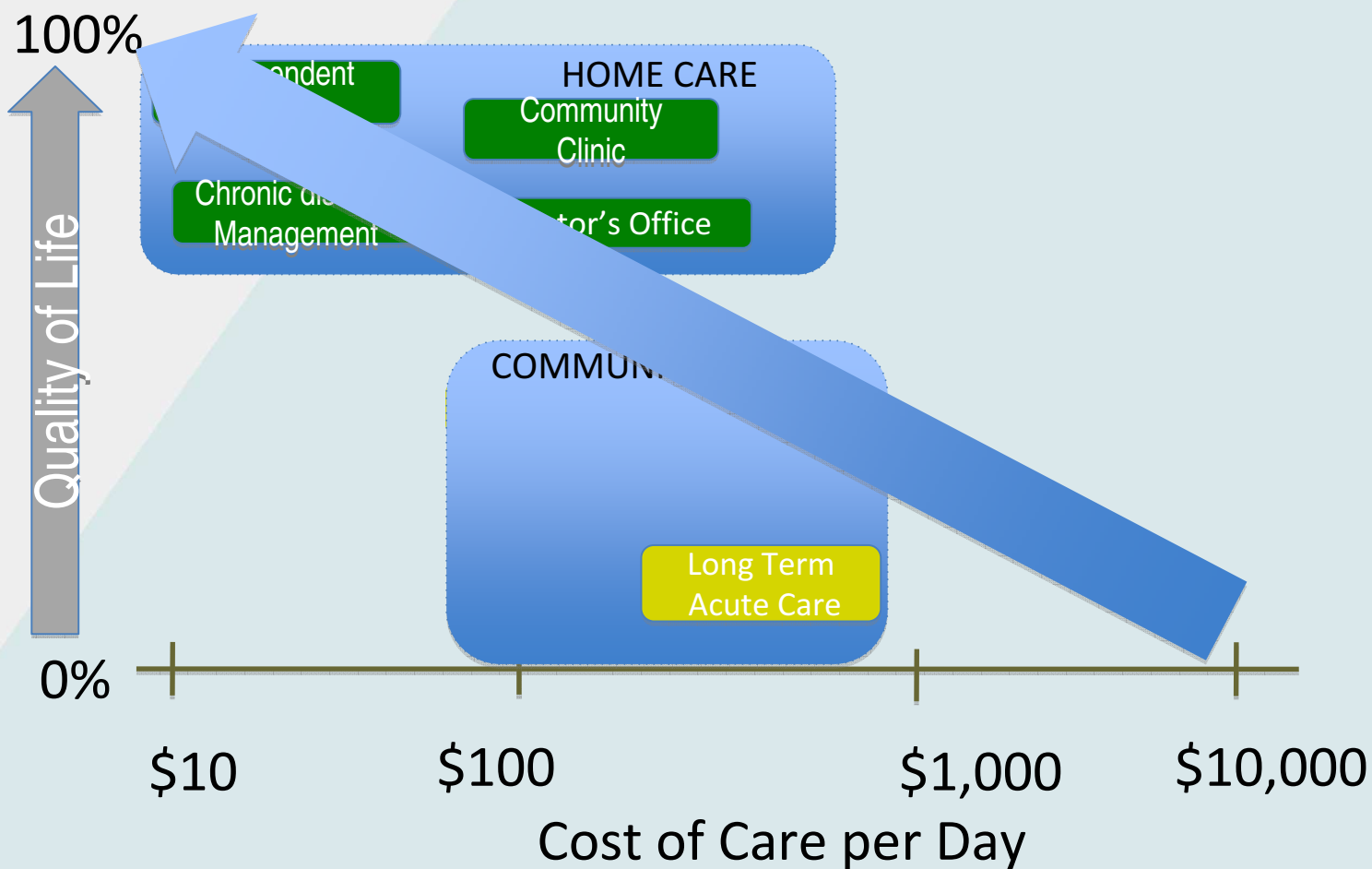
1. Protocols that shift health status by 5%
2. Saves \$8.10/day/resident, or \$886K annually
3. So long as protocols cost less than \$886K, there is a positive financial benefit
4. **With good actuarial data, we can determine this value proposition**

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# A Value Proposition for CCRCs



# Factors that We Might Influence

1. Physical status and level of disability
2. Mental status and level of disability
3. Polypharmacy

# Want to Reduce High Cost Chronic Conditions

1. 125M in 2000
2. Grow >1% annually
3. That's 46M more by 2030

Rand Corp, Oct 2000



# Diabetes and Seniors

1. Prevalence increases with age
2. ~50% occur when over 55
3. Type 2 risk increases with age
4. 8.6M over 60 have diabetes
5. **Can we minimize or delay incidence?**

# Diabetes' Impact

1. Heart disease and stroke
2. Blindness
3. Kidney disease
4. Nerve disease

# Dementia and Seniors

1. Global cost is 1% of global GDP and growing
2. Double by 2030 and triple by 2050
3. Cost likely to rise faster than prevalence
4. **Can we reduce the incidence?**

# ED and Nursing Home Residents

1. 8% have visited in past 90 days
2. Of those, 40% may have been preventable
3. Falls are correlated to preventable visit
4. Are likely to be taking more meds
5. **Can we reduce this cost?**

# How Do We Get to the Value Proposition for CCRCs

1. More extensive data collection
  - ✓ Costs
  - ✓ Utilization
2. Detailed and scientific analysis
3. Design and measure protocols to drive outcomes



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# COLLAGE and their Members

1. Can be the data source for actuarial 4<sup>th</sup> gen
  - ✓ Consistency
  - ✓ Database size
  - ✓ Flexibility in defining health status categories

# 4<sup>th</sup> Gen Can Apply to Specific Locations

Functional Status	Cost Center A	Cost Center B	Cost Center C
#1	90%		
#2	10%	50%	10%
#3		40%	30%
#4		10%	60%

# Data Mining to Define Health Status & Related Cost Distributions



# The Potential is Great, but Unrealized To-date

