Vulnerable Patients and the Patient Experience

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Topics for Presentation

- Identifying the components of vulnerability.
- Measuring vulnerability using available data.
- Predicting vulnerability to reduce patient suffering.
- Predicting vulnerability to aid in population health management.

Components of Vulnerability

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Identifying Vulnerability to Suffering

Traditional Healthcare Focuses on the Remediation of Treatment Deficiencies.

Future Healthcare Must Focus on the Remediation of Controllable Vulnerability.

Redefine Patient Experience

- You can't separate the patient experience from what actually happens to the patient.
  - The patients' experience includes everything that touches or impacts them including clinical processes, practices to ensure safety, service delivery and outcomes of care.
  - Integrating these metrics leads to better knowledge of care and a single source of truth for improving care- prevents waste of efforts and prevents creating unintended consequences.

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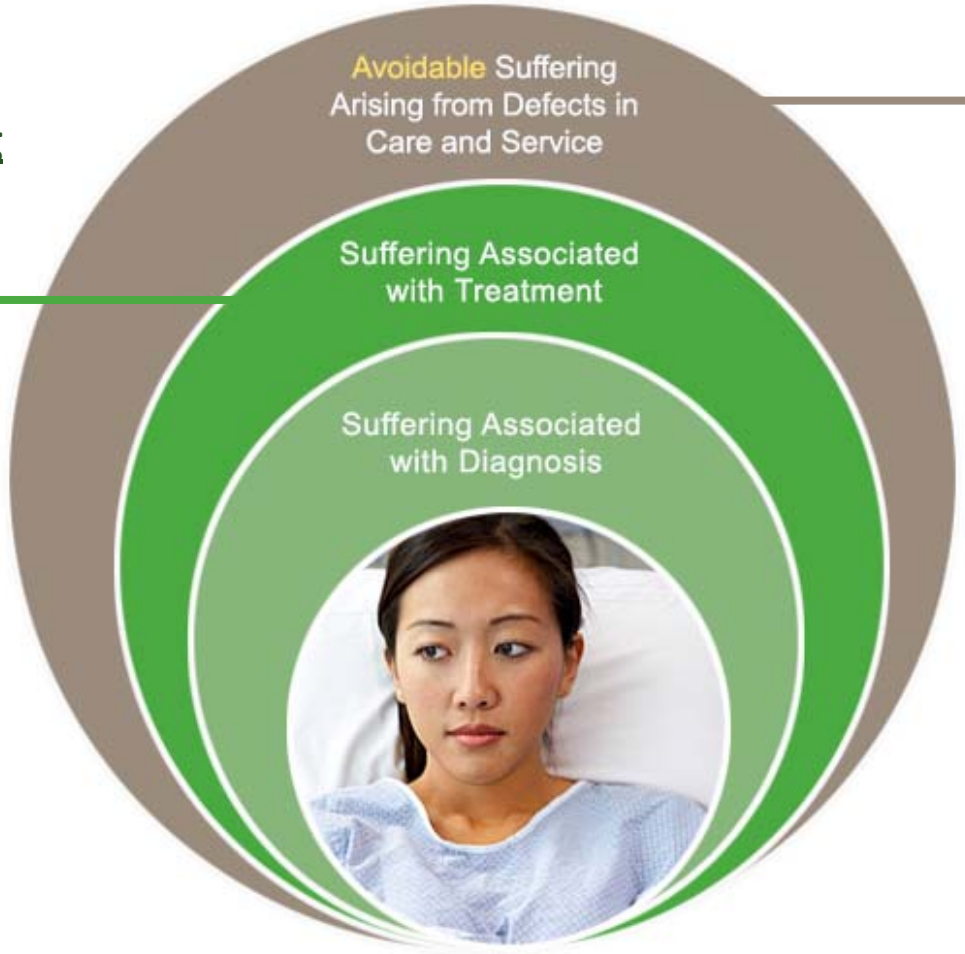
Measuring What Matters to Improve the Patient Experience

Inherent Suffering
Experienced even if care is delivered perfectly

OUR GOAL: Alleviate this suffering by responding to Inherent Patient Needs.



Avoidable Suffering
Caused by defects in the approach to deliver care

OUR GOAL: Prevent this suffering for patients by optimizing care delivery.

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Finding and Reducing Patient Suffering Through Treatment Remediation

What treatment deficiencies increase suffering/stress/anxiety?

- Wait
- Pain
- Confusion
- Frustration
- Anticipation

What treatment actions can reduce suffering/stress/anxiety?

- Proactive regular communication/contact
- Clear communication that reduces confusion and promotes understanding
- Connecting at a personal level

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Compassionate Connected Care™

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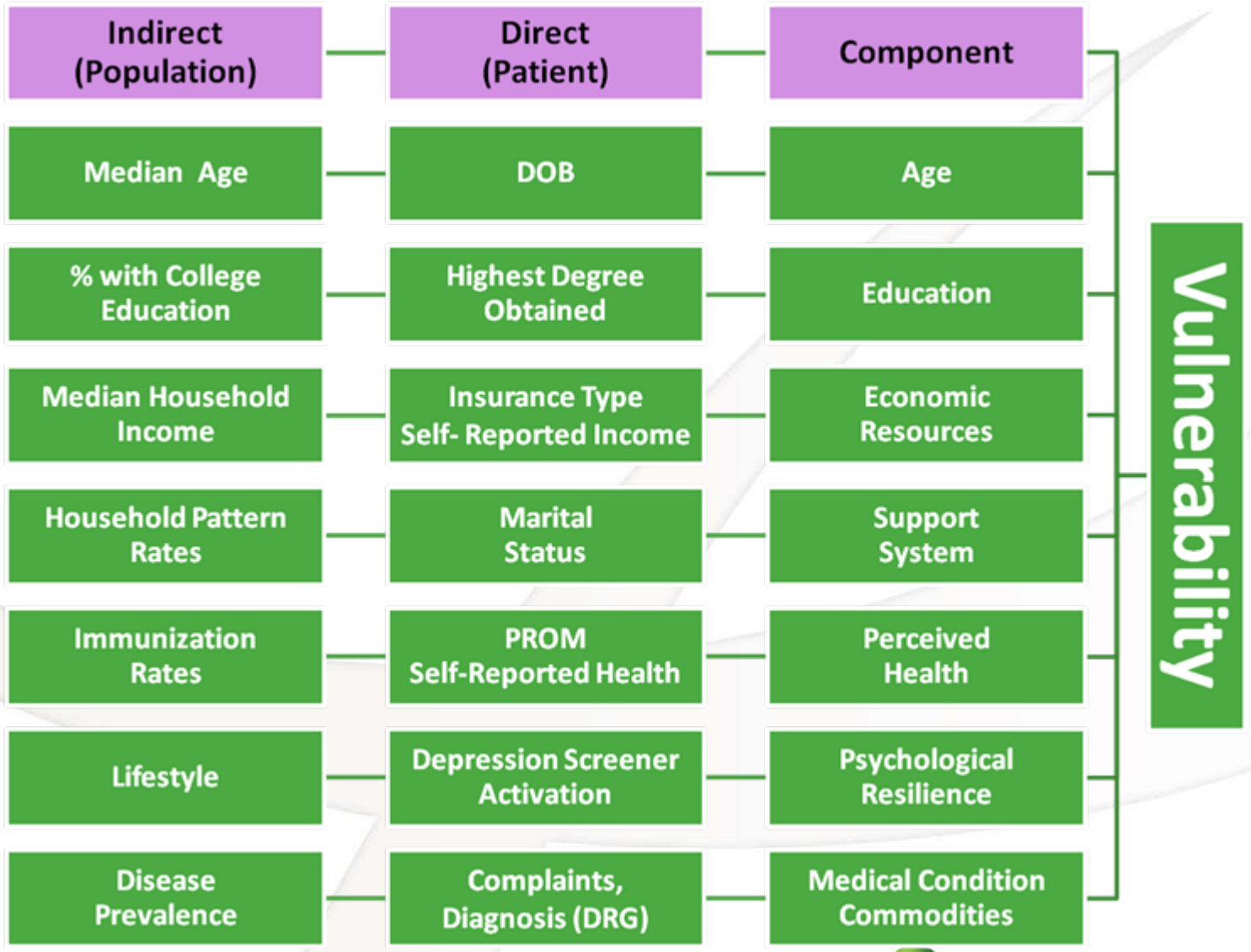
Reducing Suffering through Predicting Vulnerability

- Effective treatment of the patient requires knowledge of pre-existing vulnerabilities.
- Vulnerability propensity can be modeled using direct and indirect measures.
- Vulnerability risk at the patient and population level can begin to be predicted from available measures when appropriate and robust models are built from populations where more complete measure sets are available.

Vulnerability

Finding Direct or Indirect Measures



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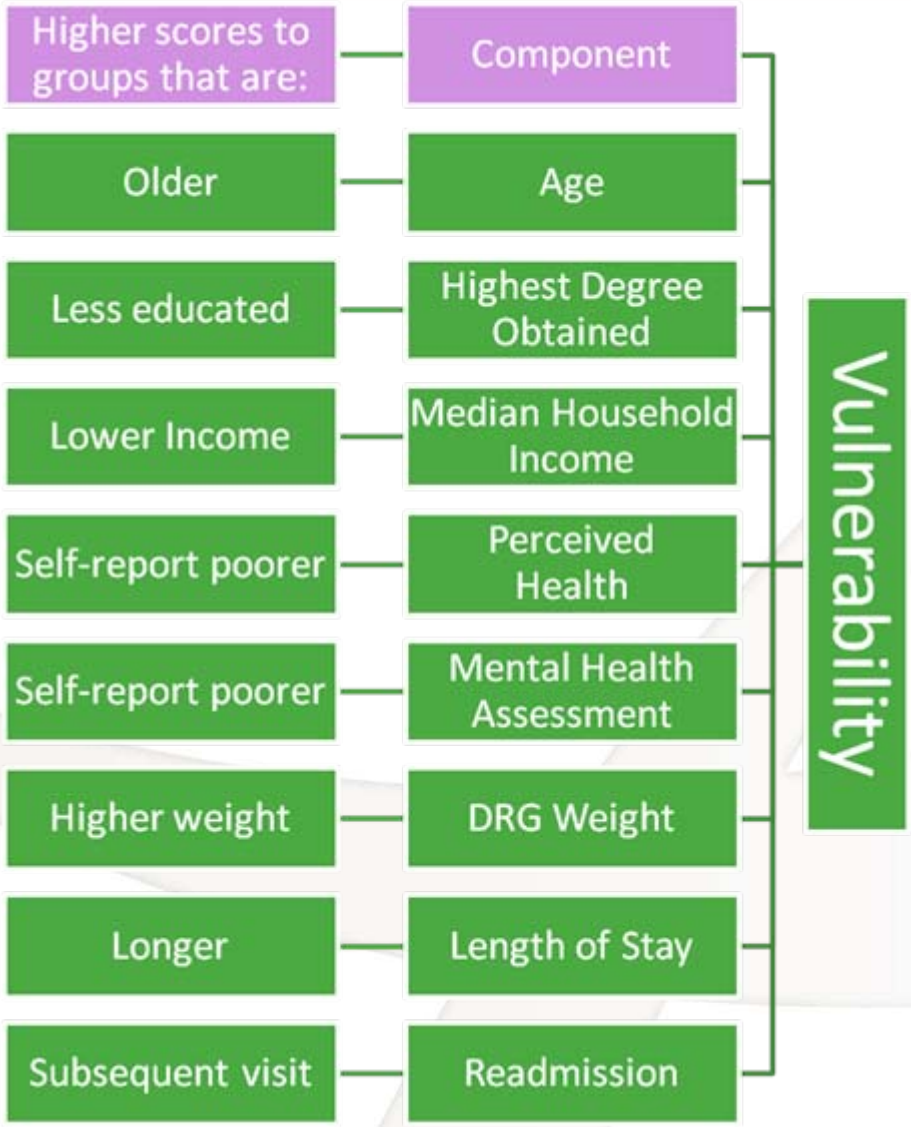
Building a Vulnerability Index
Measurement Using Available Data



- Variable categories assigned a value.
- Creating the right categories and weights are ongoing efforts.
- Index varies from 0 to 24 where 0 represents low vulnerability.

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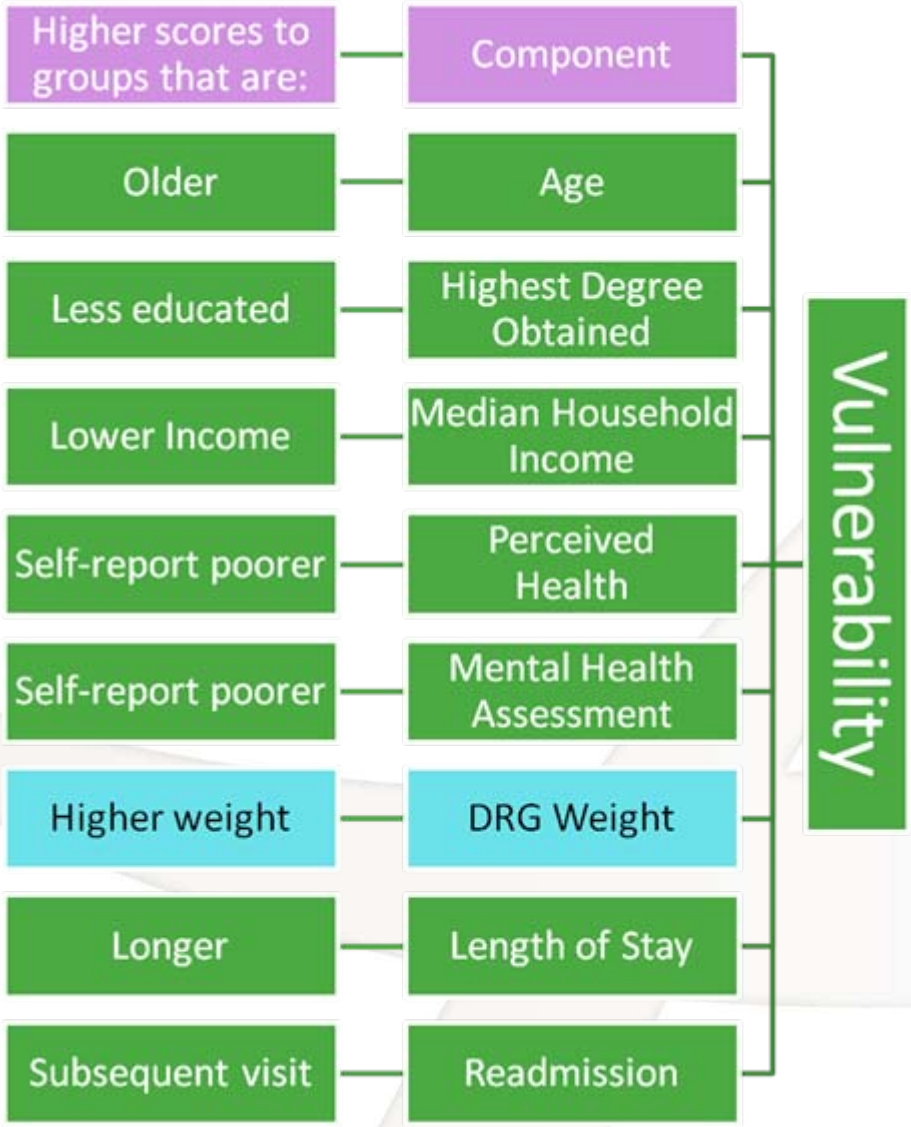
Building a Vulnerability Index

Measurement Using Available Data – Scoring Example



Example of value assignment for Index using DRG weight variable

- 5th Quintile (4)
- 4th Quintile (3)
- 3rd Quintile (2)
- 2nd Quintile (1)
- 1st Quintile (0)

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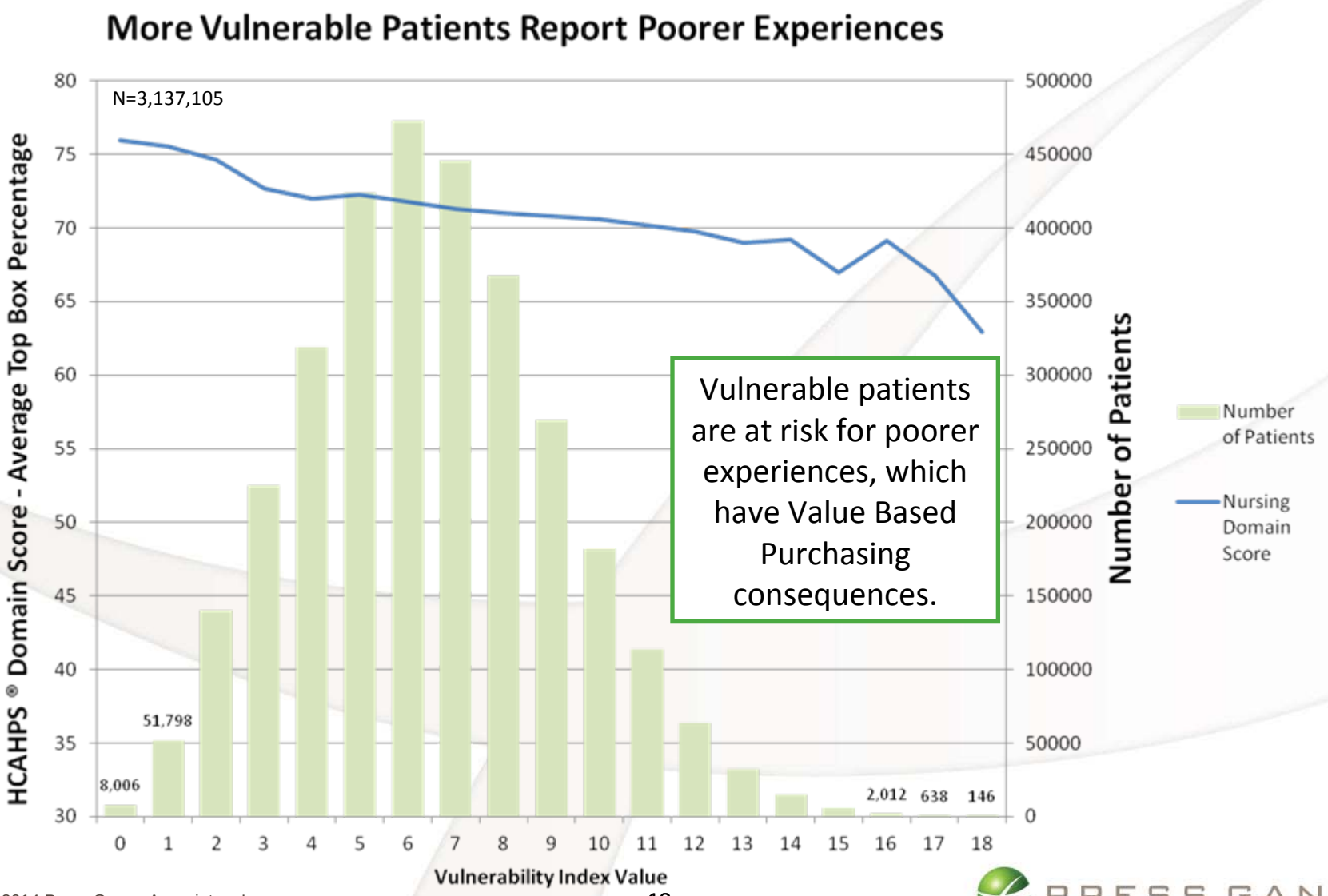
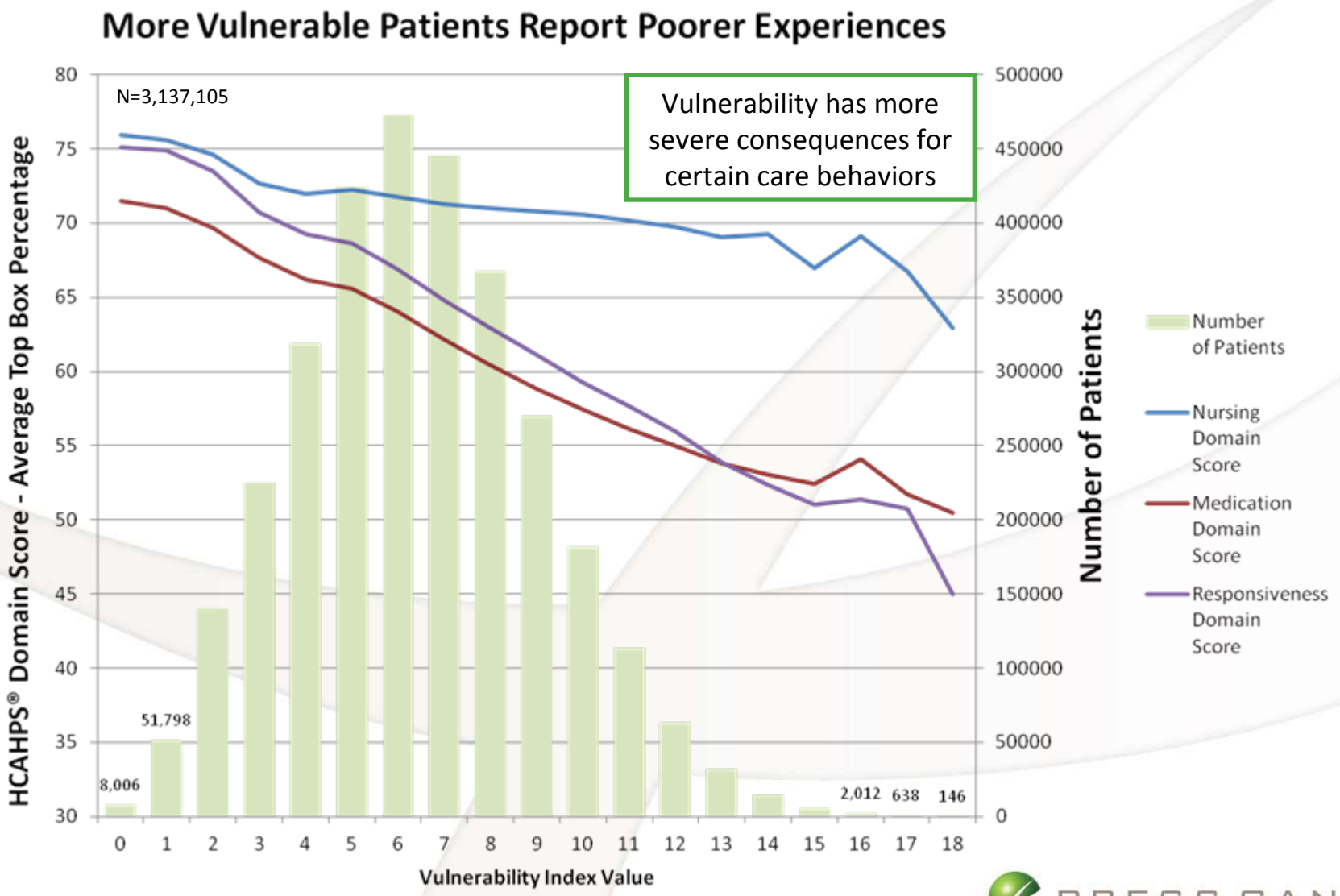
Vulnerability and Patient Experiences



Vulnerability and Patient Experiences



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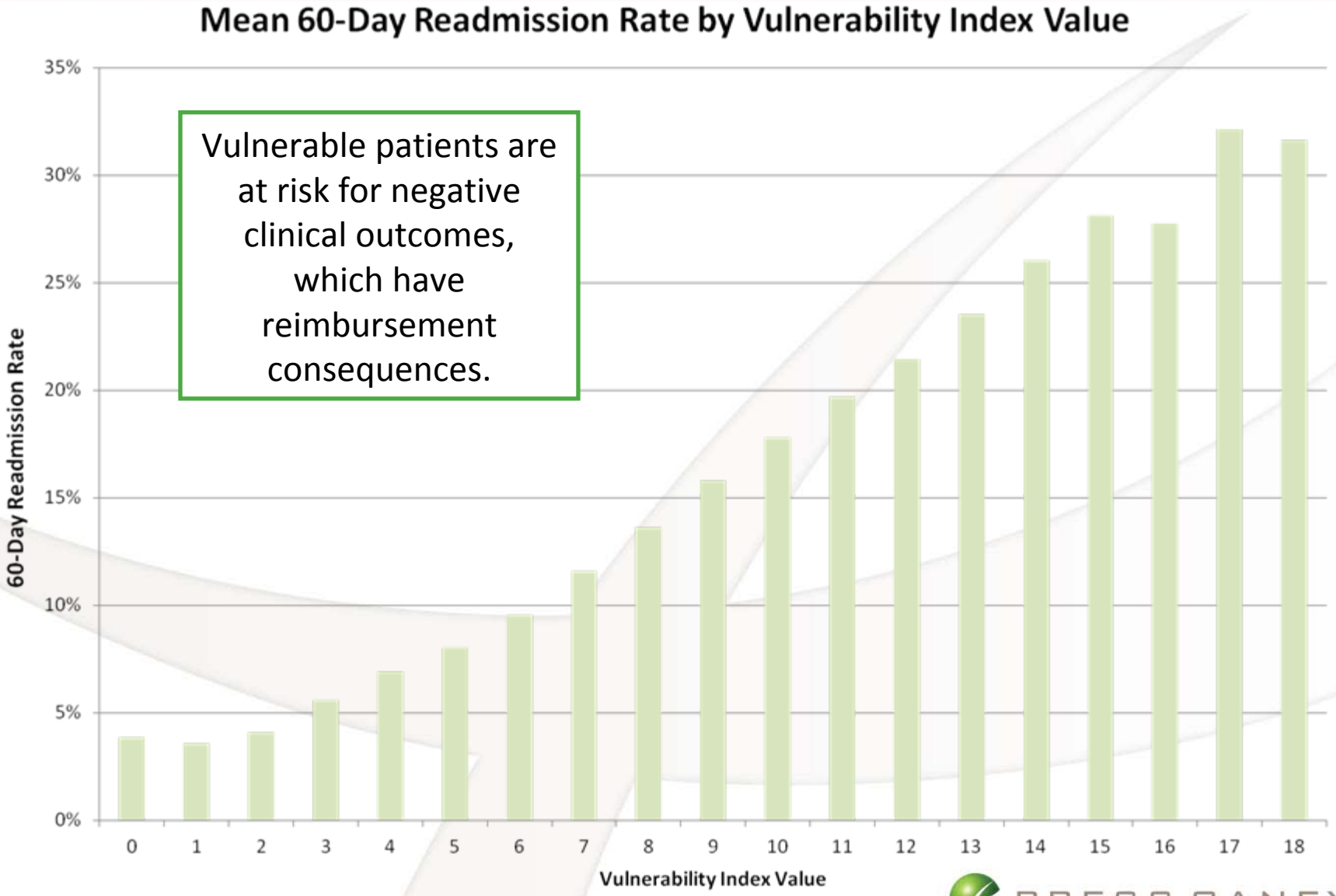
Vulnerability and Clinical Consequences



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Population and Community Patterns

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Understanding Patients and their Communities

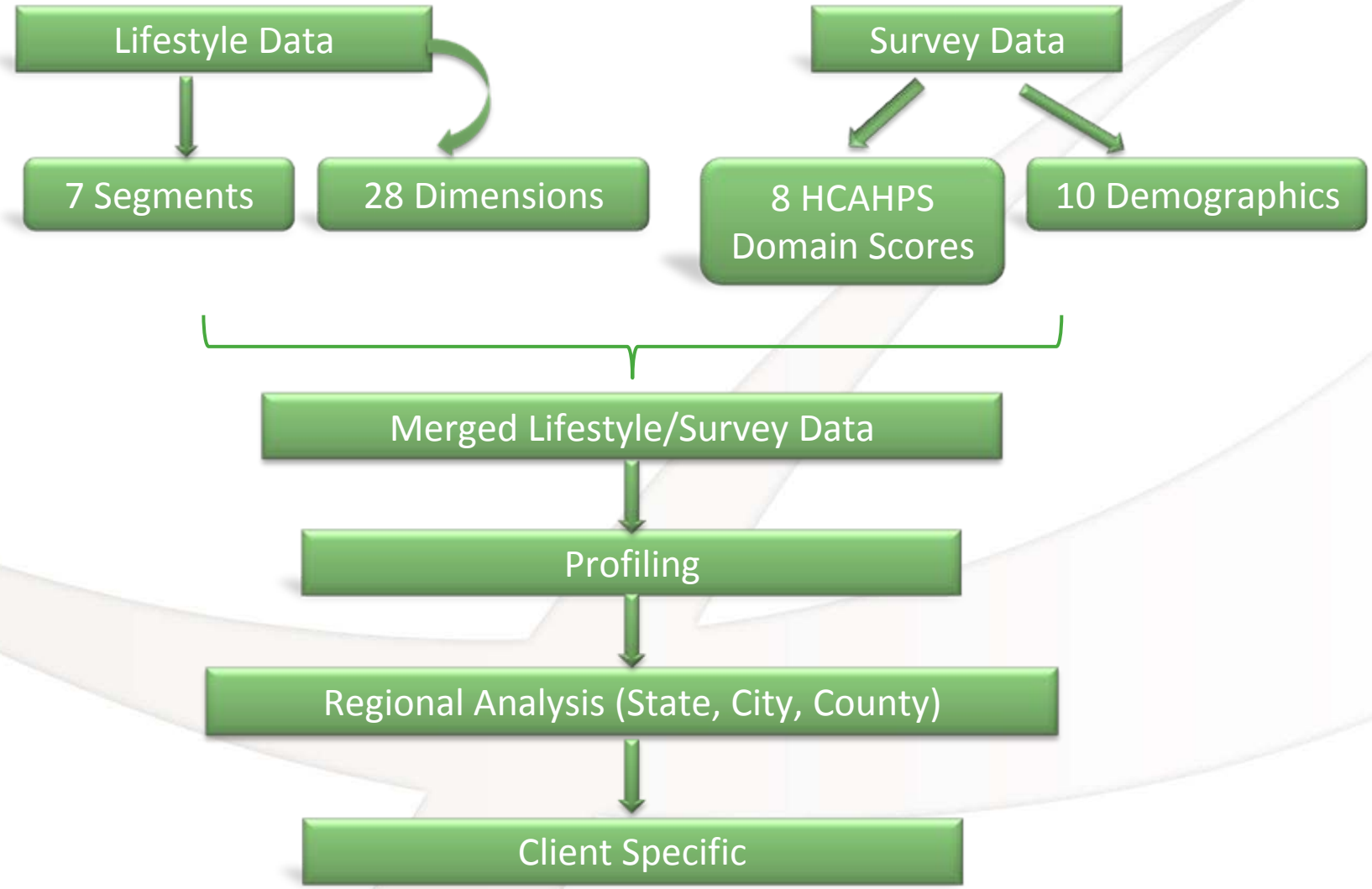
Community characteristics can drive both behavior and profile vulnerability

- **Project objectives include:**
  - Create a segmentation schema that takes advantage of publically available data.
  - Demonstrate how segments differ in vulnerability risk.
  - Provide a view of patients that capitalizes upon known patient experience and lifestyle information.

Data Sources and Processes

Data	Description
Lifestyle Data (Cluster Population)	• 37,394,270 zip+4 communities • 28 dimensions - cluster variables • 7 segments - one classification variable
Survey Response Data	• 07/01/2012-06/30/2013 • 2,117,417 inpatient (IN) surveys • 89.2% with zip+4 code
Merged Data (Reporting Population)	• 1,787,316 observations • Assign each Press Ganey responders to a community segment
Profile Variables	• 10 patient demographics • 8 HCAHPS domain scores • 25 lifestyle dimensions
Regional Example (MA)	• 56,376 observations • Cover all 7 segments
Client Example (Memorial Hermann)	• 3,161 observations • Cover all 7 segments

Process Flow



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Press Ganey Lifestyle Variables

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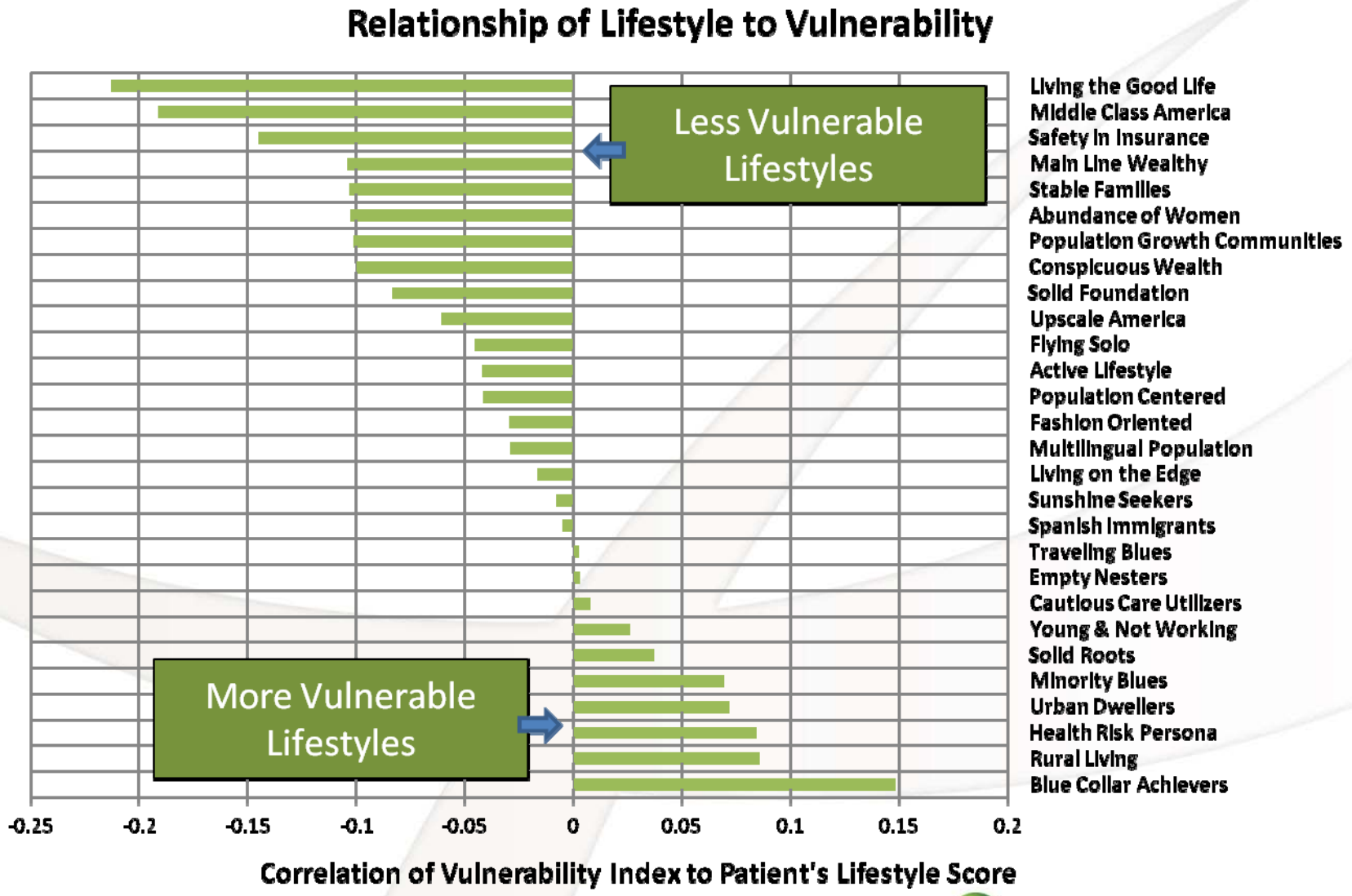
28 Lifestyle Variables

28 Lifestyle Variables	
Living the Good Life	Solid Foundation
Health Risk Persona	Abundance of Women
Living on the Edge	Minority Blues
Solid Roots	Rural Living
Safety in Insurance	Conspicuous Wealth
Cautious Care Utilizers	Traveling Blues
Spanish Immigrants	Population Growth Communities
Flying Solo	Urban Dwellers
Stable Families	Main Line Wealthy
Empty Nesters	Fashion Oriented
Blue Collar Achievers	Young & Not Working
Sunshine Seekers	Multilingual Population
	Middle Class America

Vulnerability Propensity Varies by Lifestyle



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Press Ganey's Community Segments

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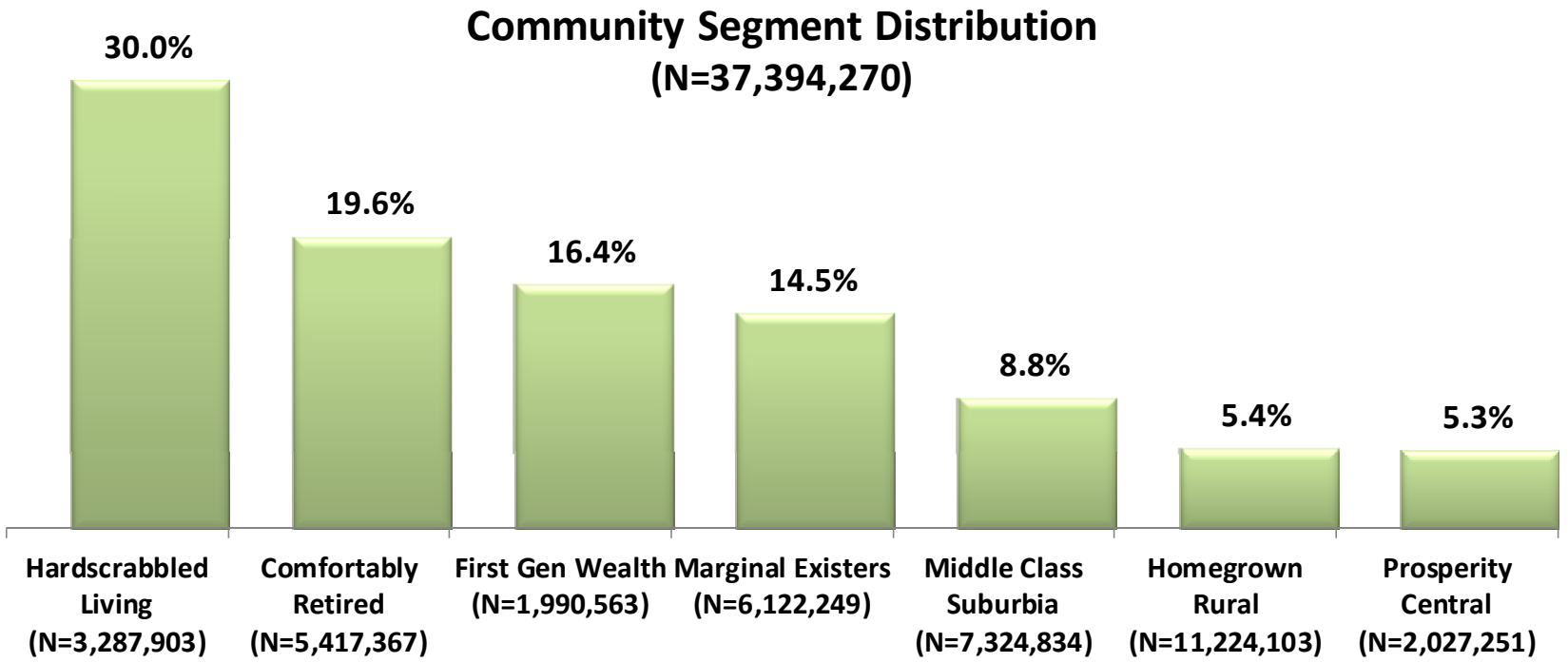
Community Segment Descriptions

Segment	Comment
Hardscrabbled Living	This primarily first generation, Spanish speaking segment are lower waged blue collar workers. They primarily are living in the non-rural areas of the South and commute longer for work.
Comfortably Retired	This multi-lingual segment is generally older and not working. They live in communities where the sun shines often. They are well-to-do financially.
First Gen Wealth	This single-oriented segment tends to have money and likely to be found in urban settings with long commute time. In general, they are first generation lacking solid roots and in good health status.
Marginal Existers	This segment resides primarily in urban settings. They are most likely living alone and are living a bit on the edge financially. They are most likely under-insured and at put their health at risk.
Middle Class Suburbia	This segment is noted for its stable and growing families and middle class suburban lifestyle. This population is less likely to be a minority and reside in communities that are quickly expanding in population.
Homegrown Rural	This rural segment is more male oriented and is known for its hard working and blue collar backgrounds. Primarily older, these empty nesters are less likely to be Hispanic and are health risk prone.
Prosperity Central	This primarily conspicuous wealth segment is noted for "living the good life" and resides not far away from metropolitan. They tend to be less minority and matured life stage.

Community Segments – National Model

With more than 37M records processed, we generated seven distinct community-based segments.



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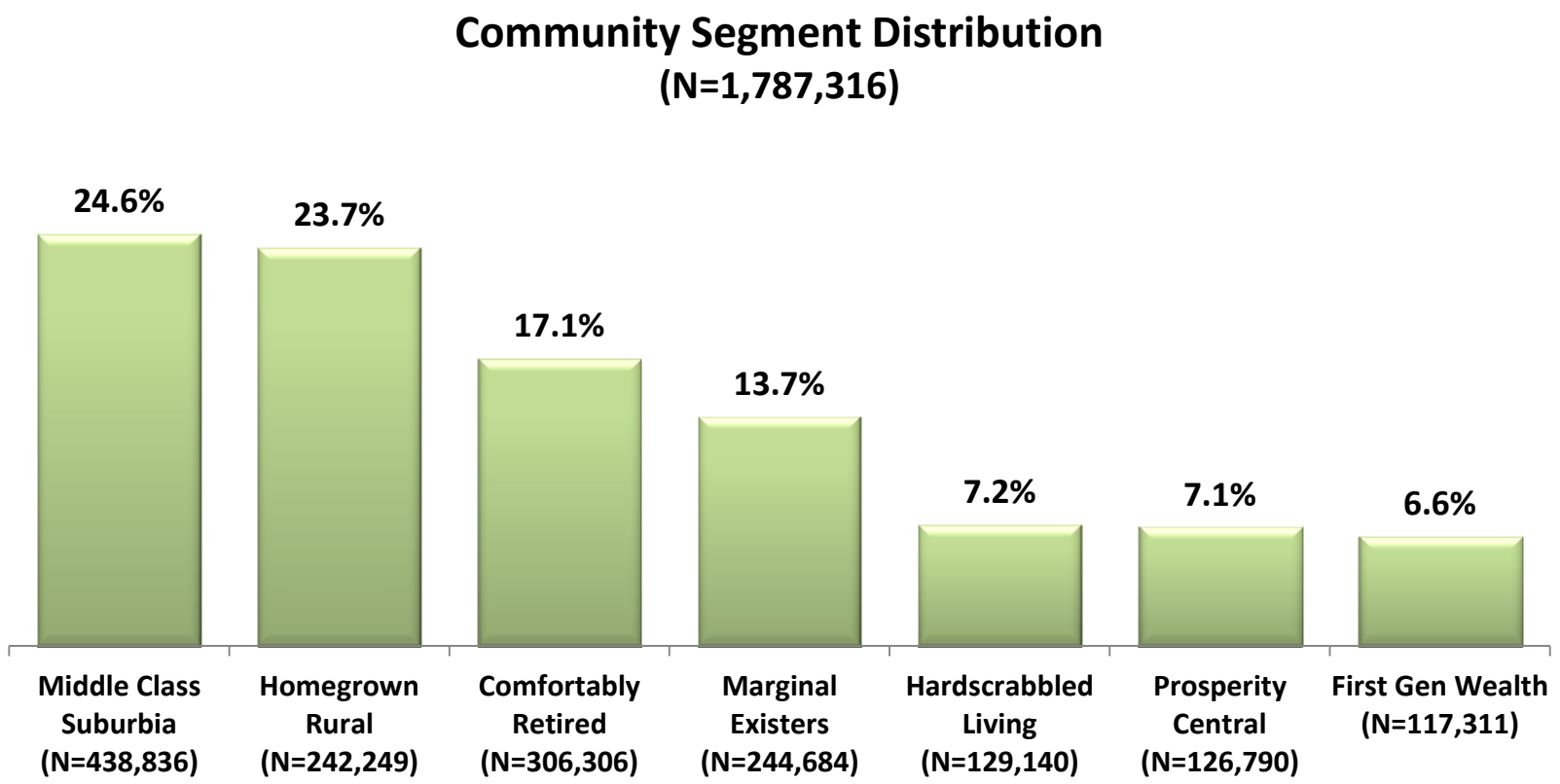
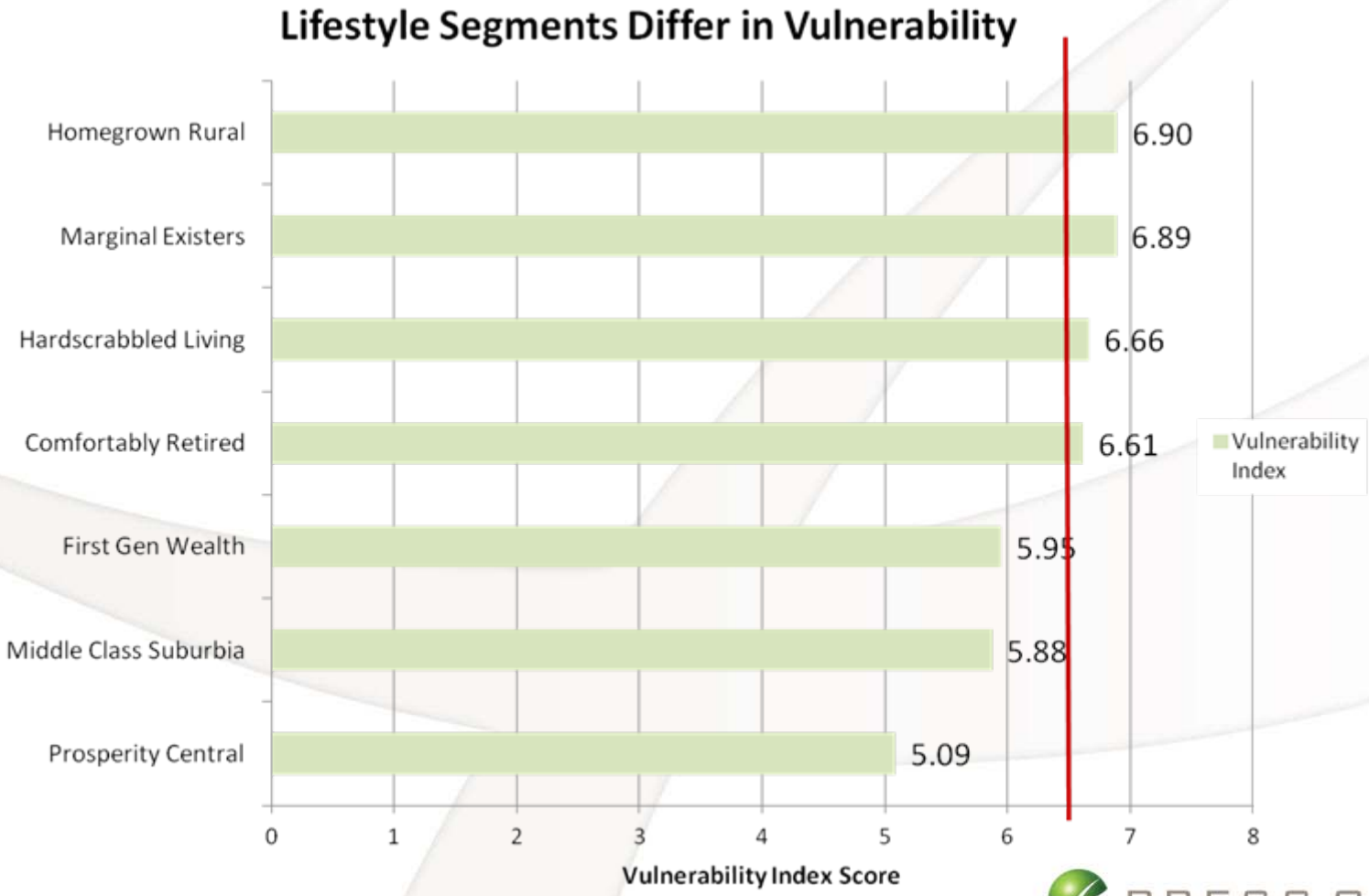
Community Segments – Press Ganey Model

- Utilizing the same modeling approach, we applied the model to all Press Ganey survey recipients with Zip+4 information.



Vulnerability in Community Segments

- We applied the community model to the vulnerability data.



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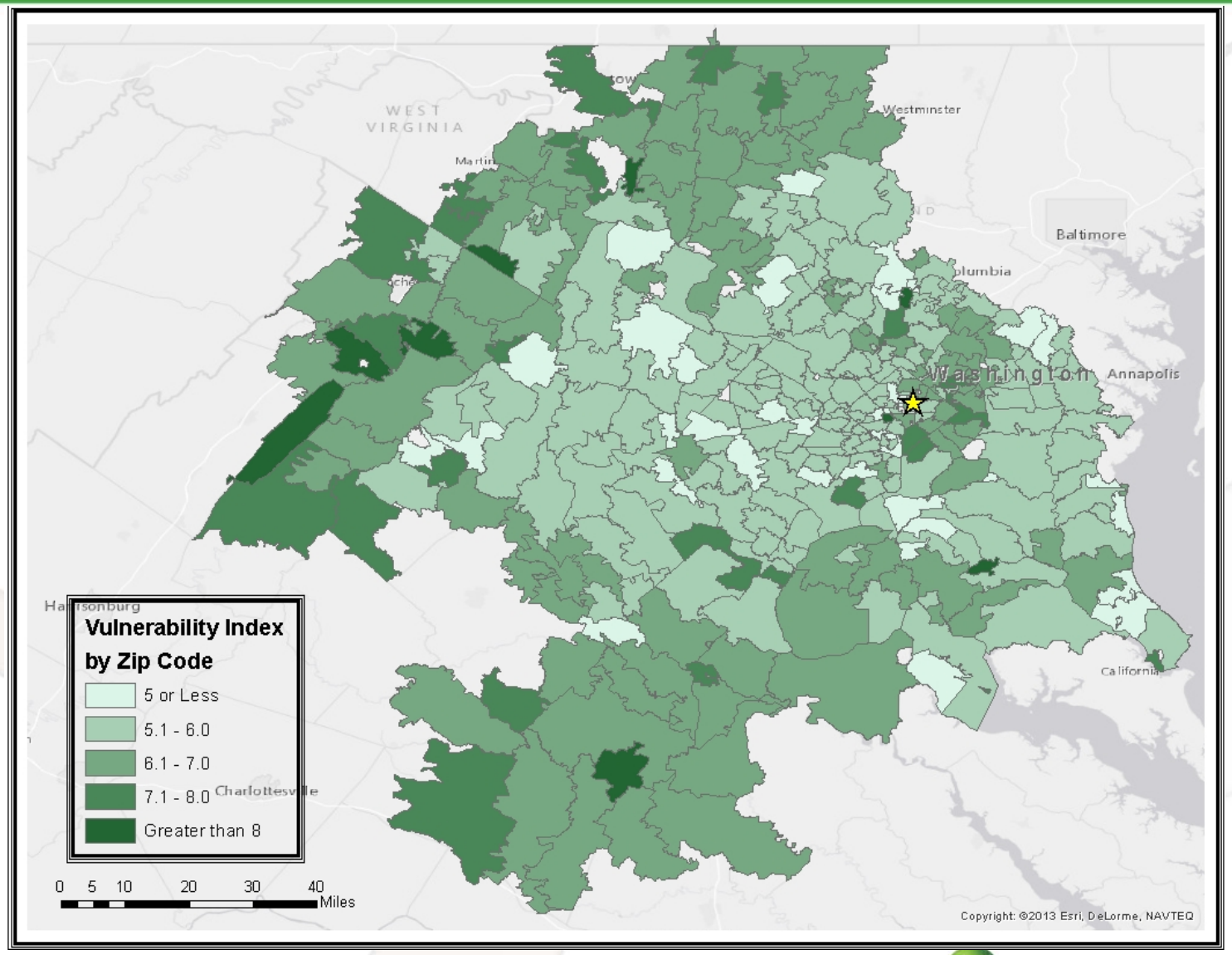
Predicting Vulnerability Risk of Patients in Washington DC Area Using Available Zip Code Data



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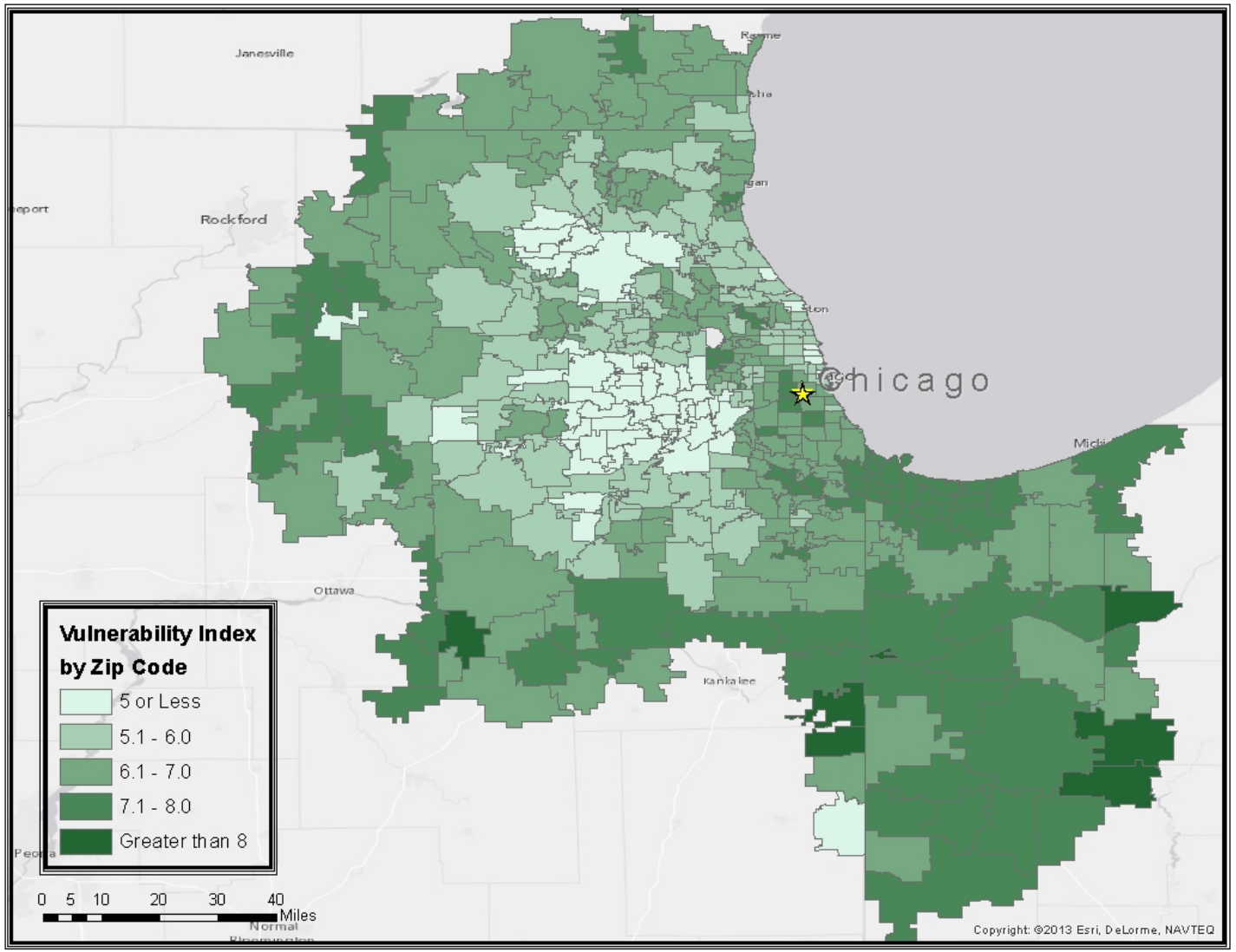
Predicting Vulnerability Risk of Patients in Chicago Area Using Available Zip Code Data



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Take Away Conclusions

- Vulnerability has reimbursement and mission fulfillment consequences.
- Suffering results from treatment deficiencies and patient vulnerability.
- Risk of poor experience can be predicted by vulnerability.
- Implementing a vulnerability score can help organizations address population health initiatives.
- Simple vulnerability indices can be built with readily available data.
- Vulnerability risk can be estimated with geographic data.