Determination of Primary Care Panel Size in a Value Based Compensation Health Care Delivery Environment

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Disclosure

• I am employed by Cornerstone Health Enablement Strategic Solutions, a wholly owned subsidiary of Cornerstone Health Care, P.A., High Point NC.

• I have no conflicting financial interest in any product or enterprise related to this presentation.
Learning Objectives

• Understand the concept and different definitions of physician panel size and potential use for equitable workload distribution by adjusting for patient risk

• Understand the potential benefits and risks of using panel size as part of a physician compensation models and value based delivery systems

• Consider different variables of interest for panel size computations

• Understand the concept of “balancing metrics” to assess unintended consequences panel size use in physician compensation models
## Cornerstone Health Care

<table>
<thead>
<tr>
<th>1995</th>
<th>2013</th>
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<tbody>
<tr>
<td>42 physicians</td>
<td>&gt; 250</td>
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<tr>
<td>2 APPs</td>
<td>111 APPs</td>
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<tr>
<td>8 specialties</td>
<td>36 specialties</td>
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<tr>
<td>221 employees</td>
<td>&gt; 1800 employees</td>
</tr>
<tr>
<td>19 locations</td>
<td>115 locations</td>
</tr>
<tr>
<td>1 hospital (High Point)</td>
<td>15 hospitals</td>
</tr>
<tr>
<td></td>
<td>29 PCP PCMH level 3</td>
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</tbody>
</table>
NC County Coverage
Primary Care Practice Characteristics

• Most physician providers are Cornerstone shareholders, i.e. owners

• Few “employed” physicians, all APPs employed

• Offices and providers manage their own schedules
Variables of Interest for Risk Adjusted Panel Size Calculations

• Unique patients seen in time frame
• Total time devoted to patient care
• PCP “extenders” including APPs, pharmacists, social workers etc.
• Risk scores for each patient and relationship to work burden
• Non-visit based care delivery
Traditional Definitions of “Panel Size”

• Unique 12 (U12) and Unique 18 (U) patient visits to a provider in 12 - 18 months
Patient Panel Size
Conceptual Framework

• In a value based delivery model transitioning away from strictly fee for service - “panel size” is the number of patients “under care” by a primary care provider.

• “Under care” is loosely defined but may include having seen the PCP in 12 - 18 months

• In a PFV environment - “under care” may include: non-face to face visits, nurse care navigation, social services, dieticians, and even speciality visits arranged by the PCP
Patient Panel Size
Conceptual Framework (cont.)

• FFS revenue = fx(Service Volume, Price)

• PFV revenue = fx(Patient Panel, Value)
Risk Adjusted Panel Size

Rational

• Value based delivery model provider compensation is dictated by volume of effective care delivered by the provider adjusted for patient complexity.
Compensation Example

• Total PCP compensation for 1200 patients of average disease burden with high quality care = $240,000 or $200 PMPY

• Total PCP compensation for 400 patients with disease burden “3 times greater” than average with high quality care = $240,000 or $600 PMPY
Risk Adjusted Panel Size
Working Definition

- Unique patients managed by a provider for 12 contiguous months adjusted for the clinical risk of the patients
Definition Problems

• What is a “provider” - PCPs, APPs, nurses, care navigators, social works, etc?

• What is “managed” - E&M visits, specialty referrals, home health visits, telephone consultations, etc?

• What is a “month” - 30 days, visit hours, days worked, hours worked, etc?
Definition Problems (cont.)

• What is “risk” - demographics, historic cost, Charlson scores, HCC scores, claims based groupers, “complexity,” etc?

• What is “risk adjusted” - ?
Definition of “Provider”

• Physician and Advanced Practice Practitioner (APP) treated equally
Definition of “Managed”

- “Managed” = patients with any evidence of ongoing management in time period - in essence, any billable service by a provider evidenced in the EMR
Definition of “Month”

- Month = median number of available office hours in Cornerstone’s primary care practices per month
Panel Size Calculation Methodology

• Primary care practices
• 2 years of billable service counts analyzed by rolling 12 months plotted monthly for 12 months
• Aggregated for each practice
• Normalized by average provider time worked (FTE) within the practice
Monthly Office Hours for 10 PCP Practices

![Graph showing Total Office Hours Per Month Per Speciality for Family and Internal specialists from 2011 to 2013. The graph displays fluctuations in office hours with peaks and troughs over the years.]
Practice Hours and Visits
Provider Hours and Visits
Appointment Hours

Median Hours = 110 = “FTE”
Unique Patients Per Month

UP 1 month

UP 1 mo all practices
Unique Patients per Rolling Yr - 2 Ways
Rolling U12 Normalized by FTE for 10 PCP Practices

Approx 1180
Summary of “Month”

• High degree of variability in office hours among providers and over time

• Normalized UP12 by “FTE” based upon office hours estimates an average panel size of approximately 1180

• Some observed difference between FM and IM panel sizes
Definition of “Risk”

• Several risk scoring methods compared - age, HCC, Charlson, Optum Impact Pro.

• All are inadequate representation of “complexity” or burden of work.
Definition of “Risk Adjusted”

• Normalization of U12 counts using methods that resonates with providers
Normalization of Panel Size by Risk Burden

• “Risk burden” used as a surrogate for “work” and “complexity” burden

• Similar concept to RVUs - although RVU calculations are mostly artifacts of documentation

• Age, Charlson Score, Optum Scores, HCC scores analyzed
Comparison of Risk Scores

- Age
- Charles Scores - based upon age and 16 clinical conditions
- CMS-HCC - CMS Hierarchical Condition Categories: based upon age/sex and submitted claims - very granular measure
- Optum Impact Pro - claims and demographics based
Charlson Scores All Practices
Optum vs Charlson Scores
HCC vs Charlson
Need for Normalized Risk Scoring?

• Method to directly compare the scores with each other (even though they largely measure different things)

• Obviate the problem of a “fractional” patient equivalent score

• Resonate with providers
Normalizing Risk Scores

• Convert each individual patient score into discrete value based upon cut point values derived from Pareto distributions

• 0-70% = 1, 71%-95% = 2, >95% = 3
Optum and Charlson Score Pareto Charts
Risk Burden Calculation

• Sum all normalized risk scores = Risk Burden

• Divide Risk Burden by panel count = Average Normalized Risk Score for a practice (ANRSp)
Risk Scores and Patient Panel Size
Summary of Methods

- Obtain counts of services over 1 year aggregated by practice
- Divide counts by full time equivalent values to derive panel size per FTE
- Sum the Normalized Risk Scores to derive “Risk Burden”
- “Risk Burden” = Risk Adjusted Panel Size
- Calculate ANRSp by dividing Risk Burden by average panel size per FTE
Hypothetical Risk
Adjusted Panel Size
Illustration
Panel Size Heat Map

<table>
<thead>
<tr>
<th>Panel Size Heat Map</th>
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<tbody>
<tr>
<td><strong>A. JAMES</strong>, Pediatrics, 1952348146</td>
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<tr>
<td>3,351, 3,449, 546</td>
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<td><strong>B. KEVIN</strong>, Internal Medicine, 1256411938, 1,180</td>
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<td><strong>C. DAVID</strong>, Internal Medicine, 1538275912, 1,422</td>
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<td><strong>D. CARLOS</strong>, Family Medicine, 1025694040, 1,171</td>
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<td><strong>E. RICHARD</strong>, Family Medicine, 1174568021, 4,082, 6,920, 1,863</td>
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<td><strong>F. SARA</strong>, Internal Medicine, 1586862805, 1,173</td>
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<td><strong>G. ROBERT</strong>, Family Medicine, 1538275912, 1,422</td>
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<td><strong>H. ALDENE</strong>, Family Medicine, 1487686935, 2,262, 3,981, 1,014</td>
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<td><strong>I. JULIA</strong>, Family Medicine, 1124068003, 1,784, 3,999, 881</td>
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<td><strong>J. DANIEL</strong>, Internal Medicine, 1033149299, 2,801, 5,624, 1,760</td>
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<td><strong>N. JOHN</strong>, Family Medicine, 1586862805, 1,173</td>
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<td><strong>O. RICHARD</strong>, Internal Medicine, 1992735884, 1,858, 3,767, 1,225</td>
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<td><strong>P. NELSON</strong>, Internal Medicine, 1821019664, 1,806, 3,674</td>
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<td><strong>Q. LEWIS</strong>, Pediatrics, 1356385450, 1,679, 1,720</td>
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<td><strong>R. KATHLEEN</strong>, Family Medicine, 1487645651, 2,740, 613</td>
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<td><strong>S. ROBERT</strong>, Family Medicine, 1503345348, 1,822, 3,571</td>
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<td><strong>T. MILLARD</strong>, Family Medicine, 1245235373, 1,810, 2,778</td>
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<td><strong>U. GRADY</strong>, Internal Medicine, 1831123371, 1,820, 3,670</td>
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<td><strong>V. GRETCHEN</strong>, Internal Medicine, 1528094844, 1,972, 3,536</td>
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<td><strong>Z. ALICIA</strong>, Family Medicine, 1586862805, 1,173</td>
</tr>
</tbody>
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HCC Score Heat Map
Caveats

• “Risk” does not necessarily = “work burden”

• Although ANRSp using each method are similar in magnitude, the distribution of patients in each category varies greatly

• There is large variability in work output per physician provider (APPs, hrs worked, etc)
Caveats (cont.)

• Patient panel size is heavily influenced by very busy periods

• Patient management does not always occur via billable visits and this may increase with time
Balancing Metrics to Consider

• CMS-HCC coding inadequacy: compliance audits

• Inflated panels secondary to patient visit "flurries" and work load imbalance within a practice: frequent panel size assessment, visit volumes per 1000 patients by provider?

• Panel inflation: routine quality and satisfaction feedback.
Summary

• Provider panel size calculations have many variables to consider (work hours, work load balance, attribution, non-visit, and non-billable encounters, APPs, ancillary services, etc.)

• “Risk” plays a small but perceptible role in observed panel size calculations for PCP
Summary (cont.)

• Risk adjusted panel sizes, if done carefully, may have a role in value based compensation models
Further Reading


• Evans M, et al. Evaluation of the CMS-HCC risk adjustment model, CMS Division of Risk Adjustment and Payment