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Rethinking Chronic Care

Three Perspectives on Strategy



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Today's Speakers



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Moving Toward Outcomes, but Organized by Condition

Policy Landscape

In the U.S. and internationally, policy is shifting from paying for activity toward paying for outcomes and prevention.

Condition Structure

Most policies are still built around individual conditions: disease management programs, condition-specific quality measures and condition registers.

US FEDERAL POLICY

CMS's ACCESS Model ties technology-enabled care outcomes to payment within condition tracks.

VALUE-BASED CARE

Programs and payments are often tracked by and tied to specific conditions.

QUALITY

Quality outcomes are measured by condition in the US and UK policy environments.

“Outcomes-Based Frameworks – Benefits & Opportunities”

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Patient Profile Example



Adrian

Retired Surveyor

Personal

73

Rural Village

M

Widower

IMD

Least Deprived — Most Deprived

Diagnostic Profile

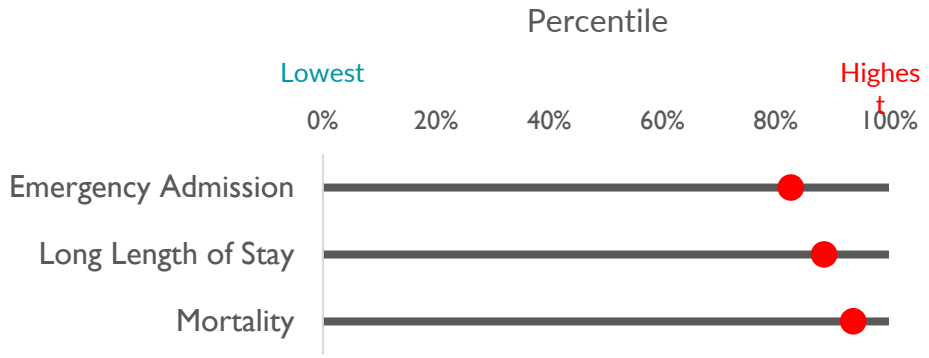
Adrian is a 70 year old slightly overweight, ex cigarette smoker. He has a long history of hypertension and of COPD which is now quite severe. He also suffers from osteoarthritis in both knees and was diagnosed with prostate cancer two years ago. In the past year he has had an episode of acute intestinal obstruction resulting in an emergency admission to hospital and an operation. He has significant hearing loss, and has recently shown signs of early chronic kidney disease. He has been prescribed anti-hypertensive medication, oral statins, and an inhaler for his COPD.

Medication Profile

Adrian has been receiving medication for hypertension, hyperlipidaemia, heart disease and COPD.

Care Coordination Issues

Future Risk Profile



Prior Utilization

0	3	3
Elective Stays	Emergency Stays	ED Visits

12	19	6
Outpatient Visits	GP Visits	Active Ingredients

Expected costs (12m)

$3,000-$5,000

Complex care management; care coordination; consider social needs

Each Need Category Calls for a Different Intervention Mix

Care modifier	Low Need	Moderate Need	High Need	Very High Need	Frailty
Non-major psychiatric condition	8.3%	20%	31%	49%	51%
Major psychiatric condition	0.0%	0.0%	15%	25%	22%
Substance use	0.2%	1.4%	3.3%	18%	6.7%
Tobacco use	0.5%	5.9%	8.1%	20%	11%
Polypharmacy (5+ ingredients)	45%	72%	82%	86%	81%
Severe polypharmacy (10+)	6.3%	25%	48%	70%	62%
Cancer treatment	0.0%	0.0%	1.0%	7.1%	6.9%
End-stage renal disease	0.0%	0.0%	0.3%	7.5%	5.4%
Functional impairment	0.0%	1.3%	2.5%	17%	0.0%
Care coordination opportunity	0.0%	0.7%	3.9%	14%	9.6%
Lack of primary care	56%	11%	18%	14%	20%

*Adults age 18 and older with diabetes. Care modifiers overlap.

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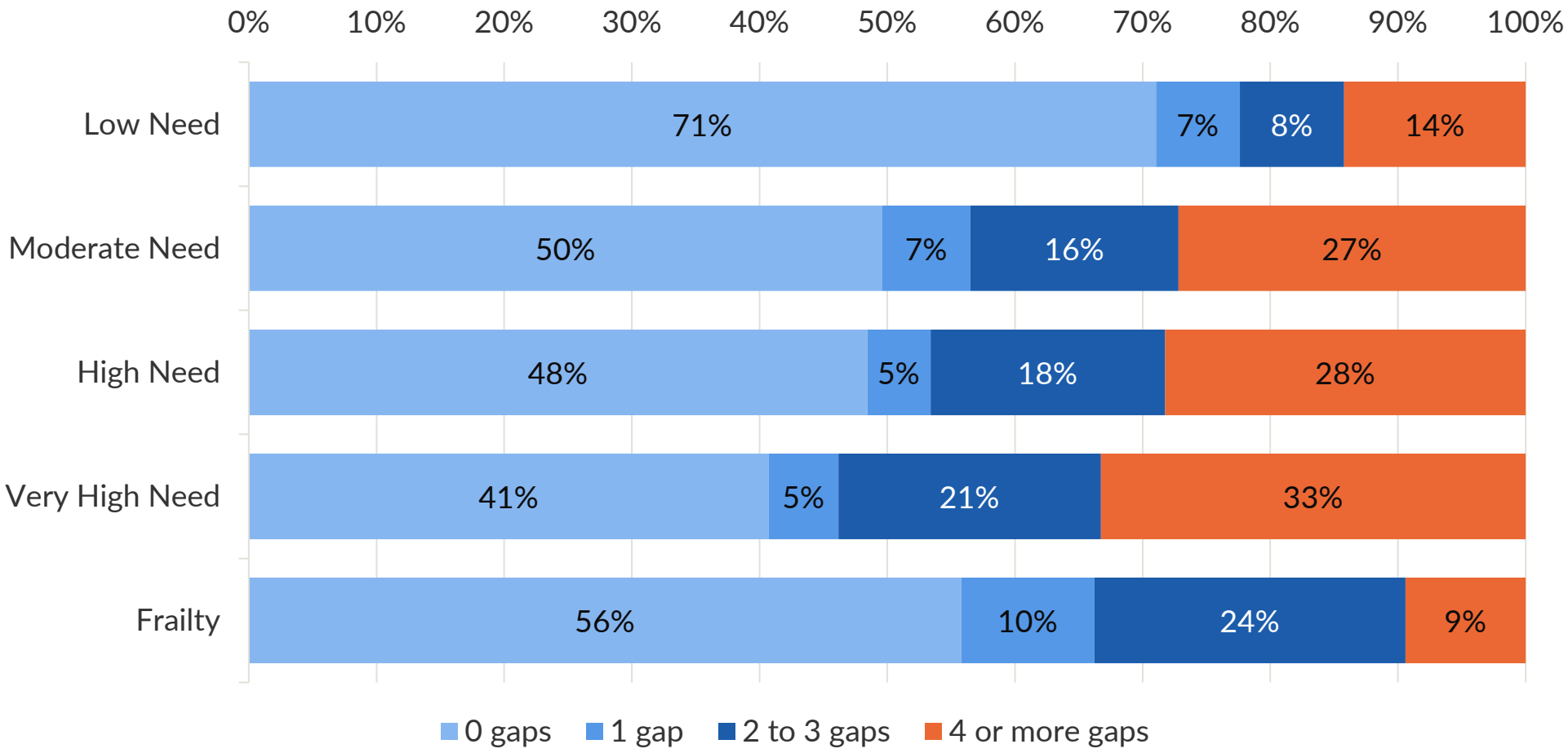
Multiple Open Gaps Become Common as Need Rises



*Adults with diabetes. Open gaps across 10 higher-is-better measures (eligible, numerator not met); blood pressure counts once across BPD, CBP and BPC-E.

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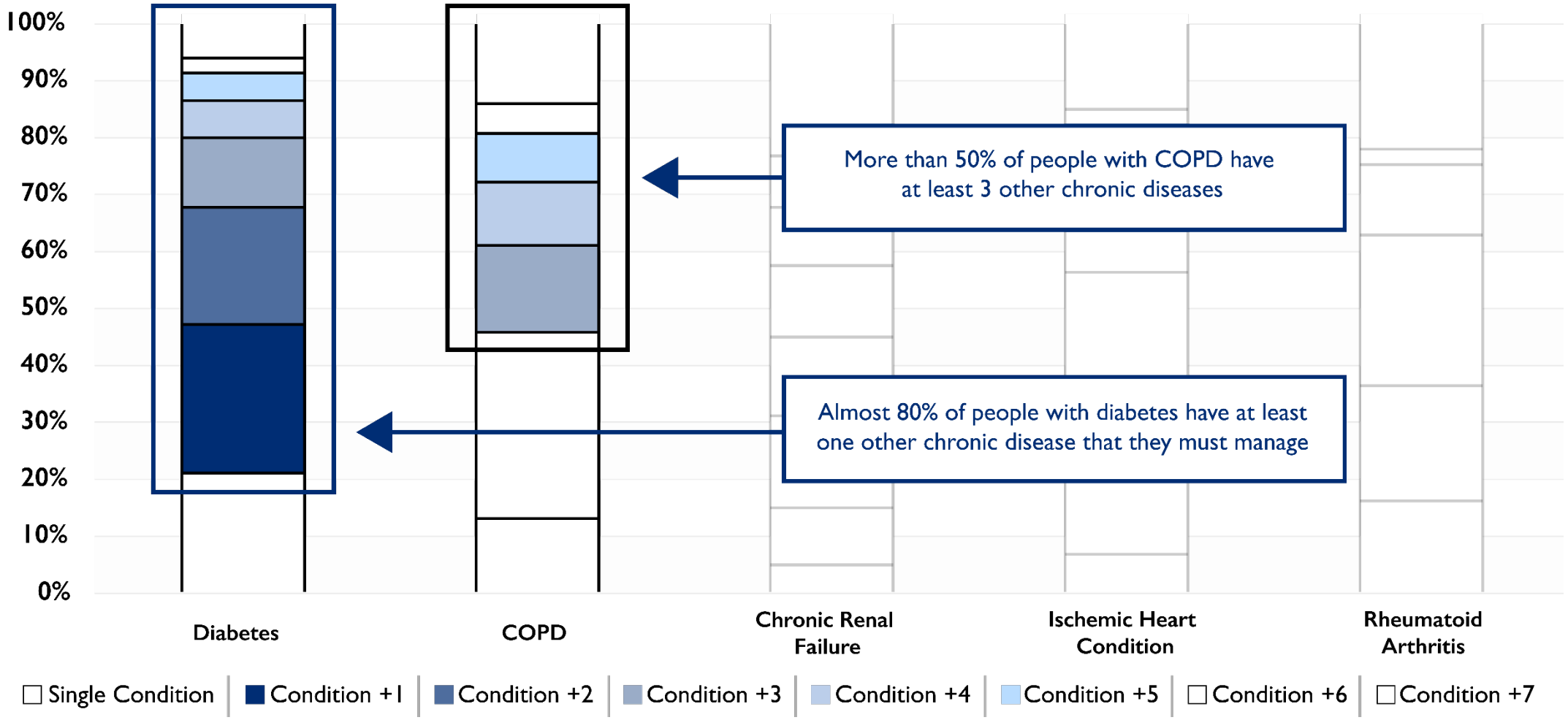
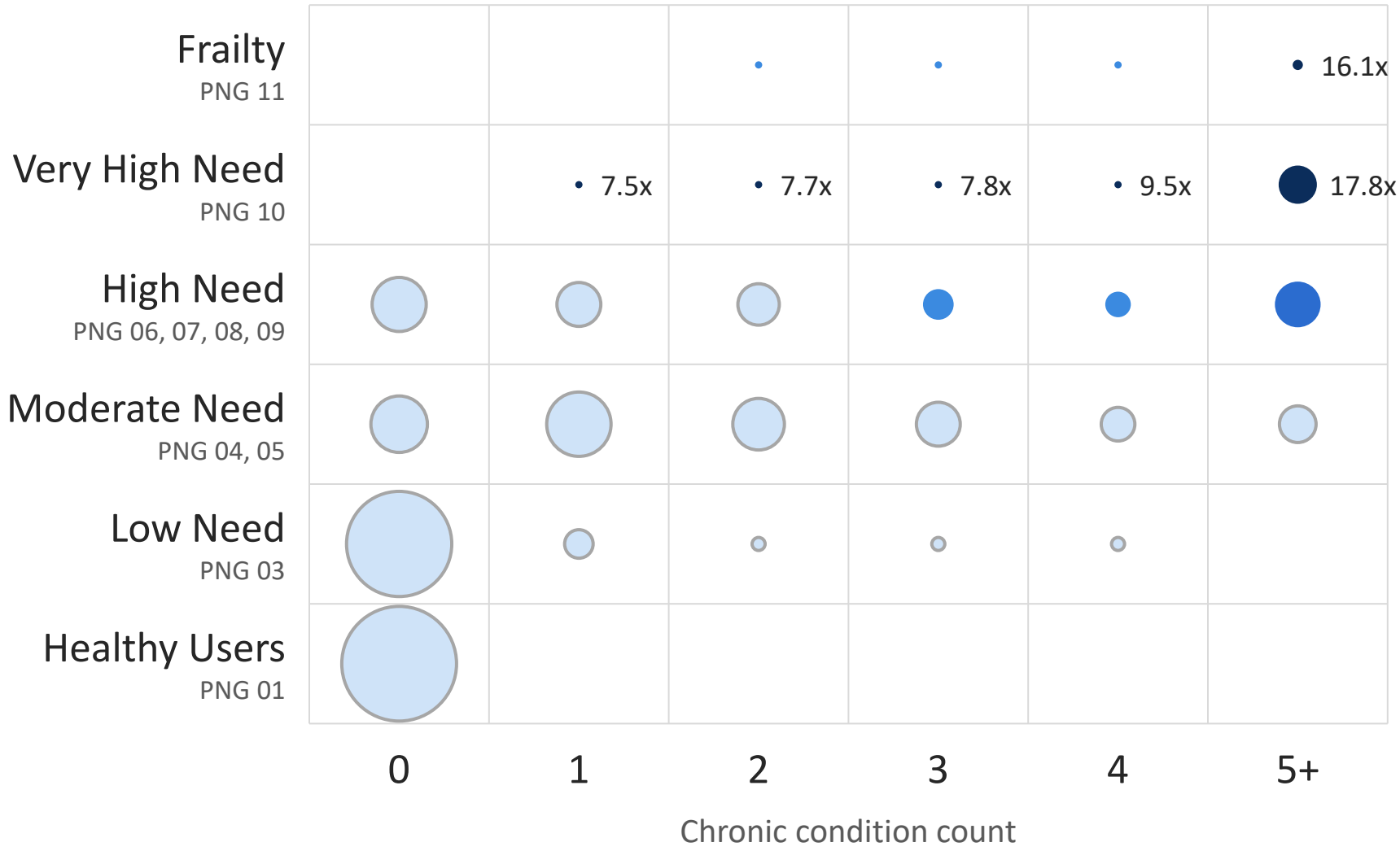
Impact of Multimorbidity



Admission Risk Intensifies Among Adults With 5+ Chronic Conditions



Admissions per 1,000 vs adult average

- 8.0x or more
- 4.0x
- 2.0x
- 1.0x
- Below 1.0x

Bubble area is share of all adults

- 1%
- 5%
- 20%

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Adults age 18 and older. Admissions are ACG inpatient hospitalization counts per 1,000 adults divided by the adult average of 45.1. Dashed outlines mark cells under 30 adults.

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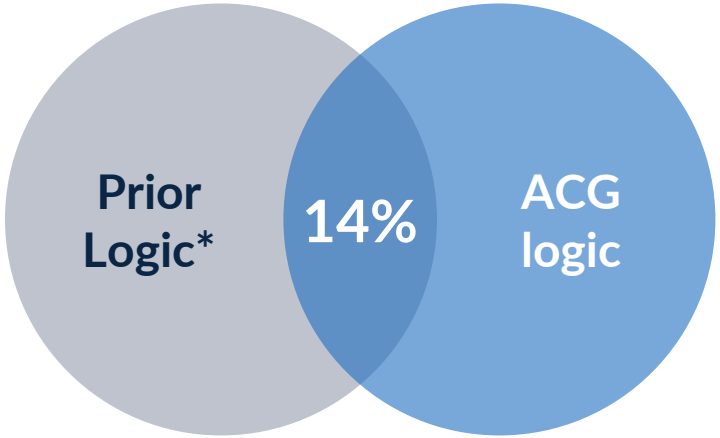
Care Management Identification Shift

Original Identification:
Utilization & condition driven



patient overlap

*1 of 5 conditions, after an admission or ED visit

ACG Identification:
Multimorbidity & risk-driven

	Prior	ACG
Patients	5,984	**4,094**
Avg cost per patient	$24,837	**$57,102**
Avg conditions	7	**12**
ED visits / patient	0.61	**0.92**
Unplanned admits / patient	0.49	**0.96**
Readmissions / patient	0.07	**0.19**

Sustained Results

$3.3M
in savings

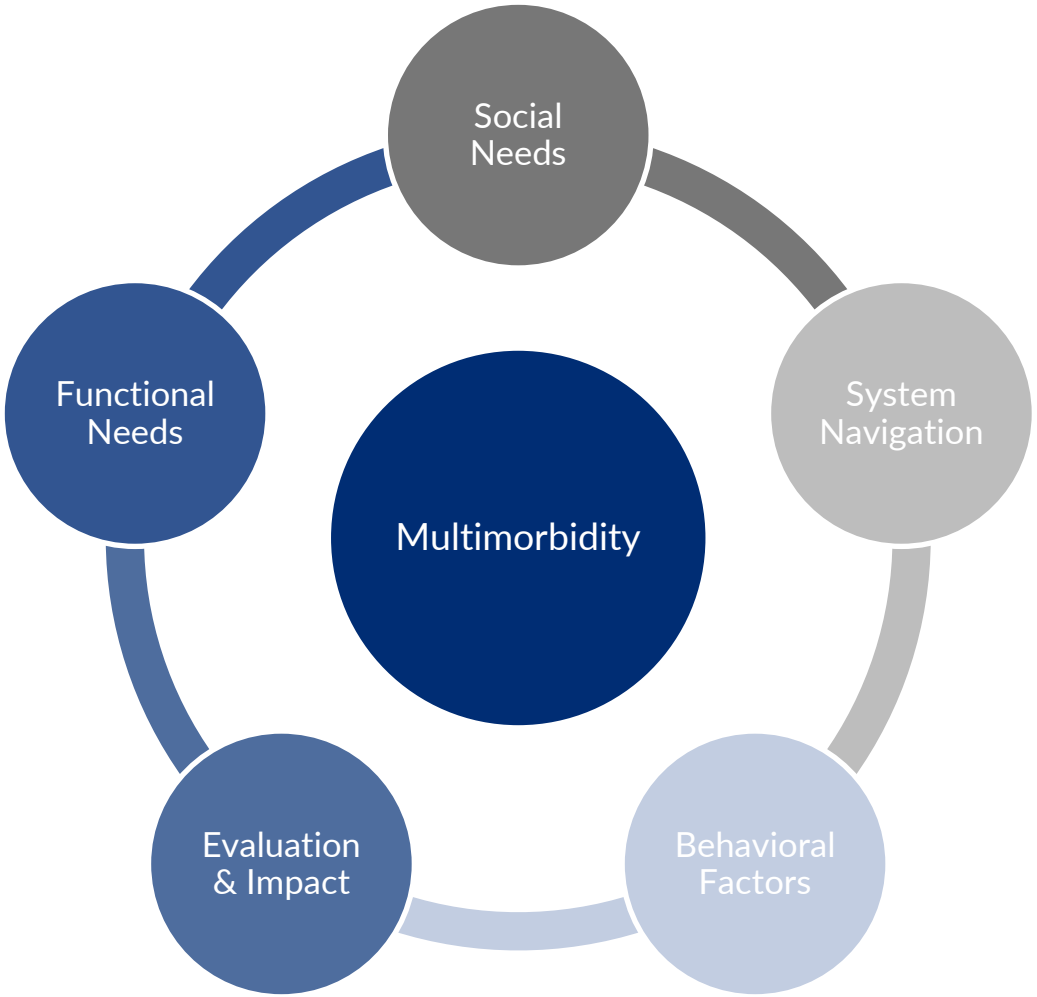
$1.2M
Medicare Advantage

$2.1M
ACO REACH

Fewer admissions, ED visits, SNF stays and readmissions

Savings vs. control group, sustained 6 months post-intervention and validated with multiple analytical approaches.

Shifting Beyond Single Conditions to a Whole-Person Actionable View



Predicting Risk & Mortality - *Dorset*

- Identify people at higher risk of death and deterioration

Prioritise LTC Management – *Kumar Medical Centre*

- Focus proactive care where it will have most impact

Identify & Coordinate Complex Care – *Slough CCG*

- Target people with multiple, interacting needs for integrated support

Allocate Funding Fairly – *LLR ICB*

- Distribute resources based on need

Evaluate Impact – *Kent and Diabetes*

- Target interventions and control for confounding – causal inference

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Benefits and Enablers of Multimorbid Approaches:

Examples from case studies



Improving Population Health Outcomes for Complex Care Patients Through Segmentation and Risk Stratification

At a Glance

In 2020, Slough Clinical Commissioning Group (CCG) — now part of Frimley Integrated Care System (ICS) — used the Johns Hopkins ACG® System to analyze their population and identify high-cost patients to understand what was driving health care utilization. By applying risk stratification and segmentation tools, they were able to group patients based on similar health needs and implement a targeted complex care management program, reducing unnecessary hospitalizations and emergency department visits.

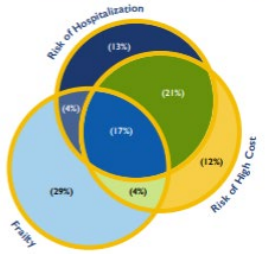
Challenges

Slough CCG sought to understand which health risks were driving high costs and hospitalizations and whether these were primarily related to frailty or other risk factors. The CCG also wanted to understand whether frailty was always associated with high costs, in order to evaluate the effectiveness of a National Health Service (NHS)-led initiative to improve care and reduce costs for people living with frailty.

Solutions

Using the ACG System, Slough CCG segmented their population and discovered that **multimorbidity was a key driver of both high cost and risk of hospitalization,** more so than age or any single high-impact chronic condition such as diabetes or heart failure. They also examined the relationship between frailty, risk of hospitalization and risk of high cost. The insights from this analysis produced a 'Venn diagram of need' and showed that if they only focused an intervention on patients with severe frailty, they would miss nearly half the patients who were at risk of high cost or hospitalization.

Slough CCG identified the 17% of patients with overlapping frailty, hospitalization risk and high costs and then invited them to enroll in a complex care management program. Approximately 600 patients enrolled, receiving longer visits with their GP every three weeks to address and prevent emergency visit risk factors and support self-care. This resulted in reduced hospitalizations and ED visits.



Key Metrics

- Analysis showed that the top 5% of sickest patients accounted for over 40% of total costs
- After just 18 months in the complex care program:
  - Unplanned hospitalizations were reduced by 18%
  - Emergency department visits were reduced by 19%
- The program was expanded further to cover 450,000 patients

Benefits

1. **Better Patient Outcomes** – Targeted care interventions based on patients' needs provided more tailored and cost-effective support, reducing avoidable hospital visits and strengthening the patient relationship through more intensive and frequent GP visits.
2. **Cost Savings** – Reduced hospitalizations and emergency department visits lowered overall health care expenditures for the highest-cost patients within the system.
3. **Scalability** – The success of the pilot program led to an expansion, proving the effectiveness of segmentation-based care management across multiple populations.
4. **Prevention** – Anticipating and managing risk factors prevented avoidable emergency visits and hospitalizations.

HOW THE JOHNS HOPKINS ACG® SYSTEM IS DRIVING BENEFITS IN END-OF-LIFE CARE

"Our ultimate goal, after all, is not a good death but a good life to the very end."
- Atul Gawande, Being Mortal

1. A Difficult Subject

In the UK we often have an uncomfortable relationship with death. Marie Curie, the UK's leading end of life charity, estimates that more than half of the population blame not knowing how to discuss death and dying as one of the main reasons for this unease. That, or we don't think it applies to us.

These factors, amongst others, are why many people find themselves in the position where they are nearing the end of their life and haven't had the opportunity, support or inclination to plan ahead.

2. Planning Ahead Makes Sense

There is no doubt that palliative and end of life care (P&EOLC) improves the quality of life of people (together with their families and caregivers) who need it. The World Health Organisation states that early identification and delivery of P&EOLC reduces unnecessary use of health services. A recent UK parliament research briefing (July 2022) further reinforces this point.

3. Model of Support - What does good look like?

A national framework for local action has been developed which sets out a vision to improve P&EOLC through integrated services across statutory and voluntary sectors at a local level. There are six key ambitions:

- Ambition 1 – Each person is seen as an individual
- Ambition 2 – Each person gets fair access to care
- Ambition 3 – Maximising comfort and well-being
- Ambition 4 – Care is co-ordinated
- Ambition 5 – All staff are prepared to care
- Ambition 6 – Each community is prepared to help

4. What Dorset Are Doing

Dorset ICS are rolling out an enhanced end of life programme this year (2023) which is being delivered within the national framework. They are one of seven sites across the country participating with multiple partners working together on a model of support, "Getting to Outstanding".

Led by Dr. Saskie Dorman, Regional Clinical Lead for End of Life, the integrated team offers a unique, personalised model that focuses on what type of care a people want to receive, whether that be a full bed bath, hands and face wash or just to chat over a cup of tea. The priority is at the end for people to be comfortable, pain free and not frightened.

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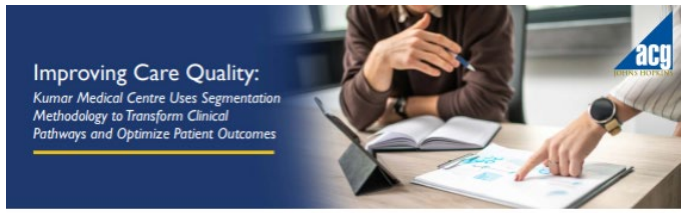

Improving Care Quality:

Kumar Medical Centre Uses Segmentation Methodology to Transform Clinical Pathways and Optimize Patient Outcomes

At a Glance

A pioneering approach at Kumar Medical Centre is transforming Quality and Outcomes Framework (QOF) review processes — which focus on managing patients with common chronic conditions — using an advanced segmentation methodology from the Johns Hopkins ACG® System. Using the Johns Hopkins Patient Need Groups (PNGs) tool within the Connected Care System, the practice is optimizing patient outcomes, improving efficiency at the practice and reducing seasonal pressures on health care resources.

Challenges

The traditional annual QOF review approach at Kumar Medical Centre invited patients in based on their date of birth, leading to some complex-need patients being seen late in the year and sometimes requiring multiple visits with different clinical providers. Seasonal winter pressures further hindered care delivery, increasing workload and delaying optimal patient management. With complex patients at higher risk of being admitted to the hospital, proactive care management is crucial.

What the Team is Saying

Dr. Priya Kumar, a GP Partner and Primary Care lead on the project, says

'By using a population health approach and identifying our most complex patients using the Johns Hopkins Patient Need Groups, we are able to review patients according to complexity rather than date of birth and allocate the right health care professional the first time.'

'We have essentially redesigned QOF reviews so they work better for the clinicians who use them and improve patient outcomes for our most high-risk individuals.'

'By using a single metric, we seem to have solved the perennial problem of not having enough appointments! PNGs allow us to organize resources efficiently while benefiting the wider health care system.'

Solutions

Kumar Medical Centre used PNGs to prioritize QOF reviews based on complexity of patient health needs rather than date of birth. This allowed high-risk patients to be seen earlier in the year and ensured that the right health care professional was assigned at the right time based on:

- The time of the year the patient needed to be seen
- Which type of health care professional was best suited to assess the patient's overall need (not just the QOF-identified chronic condition)
- How long the appointment should be
- Whether it needed to be a face-to-face or remote appointment

Key Metrics

- 13.7% increase in capacity released per 1,000 encounters, helping to focus clinician time on highest need patients
- Proactive reviews for patients with long-term conditions, with an average of 87.5% reviewed ahead of the winter period
- Improved diabetes management, resulting in a 7.9% improvement in HbA1c control compared to ICS performance over 1 year
- Optimized resourcing, ensuring staff operate at the top of their professional capabilities
- Effective redirection to use of digital services for less complex patients

Benefits

1. **More efficient scheduling** – By prioritizing complex patients, QOF reviews were completed earlier in the year, reducing workload spikes.
2. **Improved patient outcomes** – Earlier intervention allowed better chronic disease management and reduced emergency hospital visits.
3. **Optimized resource allocation** – Health care professionals were assigned based on patients' clinical needs, improving efficiency and capacity.

Sources: Case study from Kumar Medical Centre, CY 2023; Case study from Slough Clinical Commissioning Group (CCG) now part of Frimley Integrated Care System (ICS), CY 2020; Case study on end-of-life car in the UK, CY 2023.

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Questions?

Thank you!

For more information, please contact us at **acginfo@jh.edu** or visit **hopkinsacg.org**.