Laboratory results contribute to employee health program value when they support employee engagement and risk stratification

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Empowering better health with diagnostics insights

- **Quest Diagnostics** provides diagnostic information services / laboratory testing
- Offers several thousand tests to clinicians – many in genomics and other advanced services
- Provides hospital reference testing and professional lab management
- Delivers employee wellness screening to employers

- 30% of Americans
- 50% of all U.S. Physicians
- 50% of all U.S. Hospitals
- ~2,300 Patient service centers
A large employer in the U.S.

- 46,000 employees, most in the U.S.
- Range of positions
  - Pathologists, med and lab techs, couriers, phlebotomists and customer service
- Forbes Magazine 2019: “One of America’s Best Large Employers” (3 consecutive years)
The cost problem for employers – price of services

Americans With Employer-Sponsored Insurance Used Less Health Care But Spent More Due to Price Growth

Total spending per person rose 4.6% from 2015-2016, this includes spending by payers (insurers) and patients’ out-of-pocket (OOP).

MEASURING HEALTH CARE SPENDING TRENDS

Spending continues to rise, growing faster in recent years

Average prices grew substantially each year

Utilization remained flat or declined

Given that utilization did not increase, price growth accounted for nearly all the growth in total spending.

1 Health Care Cost Institute, 2016
Hospitals are economic drivers in their communities

- America’s hospitals employ nearly 5.9 million people (2016 statistic)
- One of the top sources of private-sector jobs
- Purchase $903 billion in goods and services from other businesses
- Support 16.5 million total jobs, or one of 9 jobs, in the U.S\(^1\)

\(^1\) American Hospital Association
Employers facing increasing health benefit costs

Estimated healthcare cost to increase 5.0% - 6.5% in 2018\textsuperscript{1,2}


\textsuperscript{2} NBGH. Numbers, You Need. Infographic. U.S. Health Care Costs.
Small number of employees drive most healthcare cost

1.2% of employed population drives 31% of employer spend\(^1\)

\(^1\) American Health Policy Institute (AHPI) survey of 26 large employers
What is an employee wellness program?

“Every system is perfectly designed to get the results it gets” – W. Edwards Deming

- A program intended to improve and promote health and fitness that’s usually offered through the work place
- May combine risk identification tools, behavior modification programs, educational offerings and changes to the work environment
- Risk identification may include assessment of health risk, biometric/lab screening
- Offered as a preventive measure to help avoid illness – particularly preventable chronic diseases due to unhealthful behaviors
- Examples: smoking cessation, weight loss, stress management, company gym/workout rooms, medical screenings and immunization/flu shots.

1 Healthcare.gov website
Healthcare employees have higher health risks

• ~83 percent of hospitals have workplace wellness programs (more than many other industries) \(^1\)

• Yet, hospital employees are, on average, sicker and have higher medical costs than employees in other industries \(^2\)

\(^1\) CDC
\(^2\) Becker’s
Quest the employer – mandate to improve health benefits experience and value

Challenges

- Increasing healthcare costs
- Chronic conditions and specific treatments and procedures
- Limited transparency on high-quality services at best price
- Needed to increase employee engagement
- Plan design changes had not resulted in cost reductions

Nearly 60,000 members

Geographically distributed

A wide range of roles (processing, call-center employees, to finance)
Lens through which Quest viewed employee health improvements

The Triple Aim\(^1\)

Population Health

Experience of Care

Per Capita Cost

Self-insured employer health benefits strategy

Most organizations do 2 out of 3

**Benefit design**
- Consumer-directed health plans
- High-performance provider networks
- Align employee incentives

**Population health**
- Employee engagement
- Target chronic conditions
- Other

**Quest adds “oversight”**

+ **Oversight of Health plan and PBM**
  - Fraud, Waste & Abuse
  - Utilization management
  - High-cost conditions
  - High-cost claims
  - Health plan care model
Categories of spend and focus areas for Quest Diagnostics

- Specialty pharmacy
- Hospital
- Traditional pharmacy
- Outpatient procedures
- ER
- Imaging and other
- High-cost conditions
- Out of network
- Practitioner visits
- >50%
At Quest, we have achieved savings for the company and employees AND have simplified and improved care for our 60,000 members

Our costs of healthcare exceed $300M, but we are bending the cost curve via population health.

In 2017, Quest lowered the cost of healthcare for the company AND employees for the first time in a decade.

We have a formula for effective population health management.

Case study in Population Health Management (3/19)
Quest Diagnostics
Population Health Solutions
Three key problems with current approaches to population health management:

1. Screening is seen as an end point—not as a starting point.
2. Basic screening does not reveal potential high-cost claimants.
3. High-cost claimants are not being provided convenient, rapid, and simple access to care.
Delivering on the promise of population health

- Population health analytics
- Benchmarking data
- Connectivity to 675 EMRs, 50% of docs and hospitals

Data analytics: gaps in care in a population

- Diabetes
- Kidney disease
- Lung disease
- Heart disease
- Cognitive and mental health

Data and Clinical solutions

- Lab testing: diabetes, metabolic, lipids, renal
- Retinal exam, foot exam, biometrics
- Nutritional counseling, pharmacy services
- Coaching, HRA, telehealth

Consumer engagement with solution

- 2,200 Quest PSCs, including retail centers
- 10,000 mobile resources
- Quest@Home, diabetes self-collection services
- MyQuest – online servicers
Blueprint for Wellness: Improving care and lowering costs through population health

Identify gaps in care
- Guide to understanding health risk
- Population health services

Clinical solutions
- Connection to PCP or specialist for specific risk or issue
- Quest clinical solutions:
  - Diabetes prevention/obesity treatment
  - Renal care program
  - Diabetes care
  - Smoking cessation
  - Home sleep assessment
  - 2nd opinion and physician referrals
- Client-specific clinical solutions

Engage
- PSCs
- Worksite programs
- Providers
- Retail
- Self-collection technology
- Physician Health Information Sessions (PHIS)
- Telehealth solution
Reports with insights to promote behavior change

**Participant reports available online and in print**
- Historical trending with “congratulations” for improvements*
- Flags for comorbidities
- Customizations promote other wellness initiatives

**Aggregate reports provide detailed insight into population health**
- Driven by eligibility and cohort trending, aggregate reporting provides rich insights into key risk factors

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*For employers who repeat screenings with Quest Diagnostics*
Physician Health Information Sessions provide action from insight leveraging a trusted resource

1. Joe is a 43 year old male who works at a warehouse in Ohio. Joe recently took an A1c test through his employer’s Health & Wellness program.

2. Just a couple days later Joe received his results and it indicated he has an elevated A1c. His report tells him he has the opportunity to talk to a physician.

3. That same evening, Joe spoke to a board-certified physician about how to manage his A1c levels. The physician recommended that Joe increase his daily activity and go on a low-sugar diet.

PWNHealth’s physician also referred Joe to a local, in-network endocrinologist to conduct some follow-up tests.
Physician Health Information Sessions

Empowering better health through personal understanding diagnostic insights

**Member experience**

- Better Understand: 94%
- Personalized: 94%
- Would use again: 94%
- Satisfied: 93%
- Results more relevant: 93%

**Frequently discussed Tests**

1. Cholesterols (total, HDL, LDL, ratio) (29-44%)
2. Vitamin D (38%)
3. hsCRP (34%)
4. Glucose (23%) & HbA1c (15%)
5. Iron (16%) & Ferritin (8%)

- 88% discussed behavior change: diet (82%), physical activity (56%), meds (20%)
- 19% recommended physician follow-up in 1-4 weeks (80% in 1-3 mos.; 1% in 6 mos.)
- 9% transferred to GrandRounds
Value of Annual Blueprint for Wellness™ Screening

For every 1,000 people, an employee population health program provided these health insights and actions each year.

**Alert Calls**
40
on test values needing urgent medical attention

For example, a life-threatening result for calcium or thyroid hormone values.

**Colorectal Cancer**
67
screening results indicating risk for colorectal cancer

A follow-up colonoscopy can prevent colorectal cancer morbidity and death.

**Diabetes**
29
Previously unrecognized

Left untreated, diabetes leads to retinopathy, neuropathy, heart, and kidney disease.

**Kidney Disease**
15
Previously undetected (eGFR <60) mL/min/1.73m²

End-stage disease (annual cost~$100,000), reduces life expectancy and quality of life.

**Physician Session**
37
telemmedicine sessions leading to a better understanding of test results

For example, a discussion of a LDL cholesterol result.

**Connection to Care**
3
connections to PCP, specialist or for 2nd opinion

2nd opinions and specialist visits can improve treatment plans.

**Pre-diabetes**
119
Previously unrecognized

Prevention programs can assist in preventing progression to diabetes.

**Pre-diabetes**

~310 people’s health trajectory positively impacted (by these conditions alone)

Rates based on actual Blueprint for Wellness program data from 2013-2017 in employer with ~37k participants per year.
Connecting to care improves results

Integrated screening and diabetes prevention program (DPP)

- Connect people with pre-diabetes to CDC-based Diabetes Prevention program
- 1,670 (of 10,365) (16.1%) enrolled as of June 4, 2018
- Results:
  - ~30% of participants reduced diabetes risk
  - Weight Loss at 16 weeks is averaging 3.4% of body weight
- Oral presentation at 2018 ADA Scientific Sessions

![Graph showing weight loss over program weeks](chart.png)
Chronic Kidney Disease program outcomes

- 207 out of 402 participated individuals eGFR <60 + no kidney related claims in the past 2 years
- 109 had confirmed CKD confirmed by Enhanced screening eGFR retest+ urine albumin
- 25 physician sessions to discuss results
- Behavior Change
  - 73% Diet
  - 41% Physical activity
  - 50% Medications
- Follow-up
  - 28% Nephrologist in 1-2 wks
  - 40% PCP in 1-2 wks
  - 48% PCP in 1-2 mos.

• Quest pilot program: CKD confirmed in 109/207 (53%) of enrolled employees

<table>
<thead>
<tr>
<th>Estimated Health Benefit</th>
<th>Estimated Financial Benefit</th>
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<tr>
<td>CKD cases prevented</td>
<td></td>
</tr>
<tr>
<td>Severe Kidney Failure</td>
<td></td>
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<tr>
<td>Year 3</td>
<td></td>
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<tr>
<td>4</td>
<td>$242K</td>
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<tr>
<td>Year 5</td>
<td>$822K</td>
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<td>7</td>
<td></td>
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1. CDC. National Chronic Kidney Disease Fact Sheet, 2017
# Value of Annual Blueprint for Wellness® Screening

Screening can help identify early disease, slow progression, avoid complications, increase survival, and save in medical costs.

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<tbody>
<tr>
<td>Value of early detection</td>
<td>12% and 3% with result suggestive of prediabetes and diabetes</td>
<td>1.5% with previously unrecognized low eGFR</td>
<td>6.7% with (+) positive screen result</td>
</tr>
<tr>
<td>Cost of disease</td>
<td>$10k per year&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$122k per year&lt;sup&gt;2&lt;/sup&gt; for ESRD</td>
<td>$165k per 4 years&lt;sup&gt;3&lt;/sup&gt;</td>
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Based on Blueprint for Wellness program data from 2013-2017 in employer with ~37k participants per year.

Healthy Quest @ Work

In 2018 we began building a healthier Quest starting in Tampa and Lenexa …

**Why?** Health risk in the employee population is increasing\(^1\) with associated cost consequences

1. Blueprint for Wellness Company Profile, 2010-2017
2. Nichols, 2017
3. CDC
4. Sears, 2013

**How?** We created a pilot to promote healthy living at work in Lenexa and Tampa

Knowing that…

70% of chronic disease is preventable\(^3\)

2.5 X greater incidence of short term disability with low well-being\(^4\)

**Results…** Observed rate of Metabolic Syndrome was 27% lower than expected in Tampa and Lenexa 2018 *

We already spend ~$14 M /y on “preventable” Metabolic Syndrome\(^2\)

1. 2016
2. 2017
3. 2018

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\(^1\) Prevalence of metabolic syndrome is higher in Tampa and Lenexa\(^1\) (Quest = 22% Overall)

\(^2\) $366\(^2\) pm/py

\(^3\) $1,578\(^2\) pm/py

\(^4\) 22.5% vs. 23.5% vs. 22.2% vs. 19.5% vs. 20.0% vs. 19.7% vs. 19.3% vs. 18.1% vs. 17.0% vs. 15.9%
### Population Health Publications

- **Value of Laboratory Tests in Employer-Sponsored Health Risk Assessments for Newly Identifying Health Conditions: Analysis of 52,270 Participants.**
- **Associations of aerobic and strength exercise with clinical laboratory test values.**
- **Drug Misuse in America 2018: Diagnostic Insights into the Changing Opioid Epidemic.**
- **Reduction of Diabetes and Cardiovascular Risk in a Workforce after Digital Behavioral Counseling.**
  - *Diabetes.* 2018.
- **Elevated Hemoglobin A1c Is Associated With Incident Diabetes Within 4 Years Among Normoglycemic, Working-Age Individuals in an Employee Wellness Program.**
- **Prediction of Type 2 Diabetes by Hemoglobin A1c in Two Community-Based Cohorts.**
- **Lyme Disease: Quest data reveal more cases in more places.**
- **Workplace program that offers annual fecal immunochemical testing improves adherence to colorectal cancer screening guidelines.**
- **Individuals with Unrecognized Chronic Kidney Disease can be Identified and Referred into Care by a Workplace Wellness Program.**
- **Employee Wellness Program Can Identify Those Who May Benefit From Cholesterol Reduction Efforts.**
- **Adherence to antihypertensive prescription medication stratified by gender and age: an employer-sponsored health care perspective.**
  - *Quality of Care and Outcomes Research.* 2019.

### Employer Costs

- **Self-insured Employer Health Benefits Strategy Established a Negative Cost Trend While Improving Performance. Population Health Management.**
  - *Pop Health Mgt.* 2019 (in press)
- **Insights in Employer-sponsored Diagnostic Testing and Well-being Solutions.**

### New Technology

- **Measurement of Cortisol and Testosterone in Athletes: Accuracy of Liquid Chromatography-Tandem Mass Spectrometry Assays for Cortisol and Testosterone Measurement in Whole-Blood Microspecimens.**
Key lessons for Health System Laboratory Leaders

• Laboratory results contribute to improved employee health benefits performance
• Wellness screening is a good first step, not the end step
• Close collaboration with vendors – including health plans – is key
• Leverage your own “ecosystem” to route employees with abnormal results into definitive care
• Be patient and steadfast – culture change takes time -- healthy, productive employees are worth it!
Questions?