Data Analytics and Population Health Services

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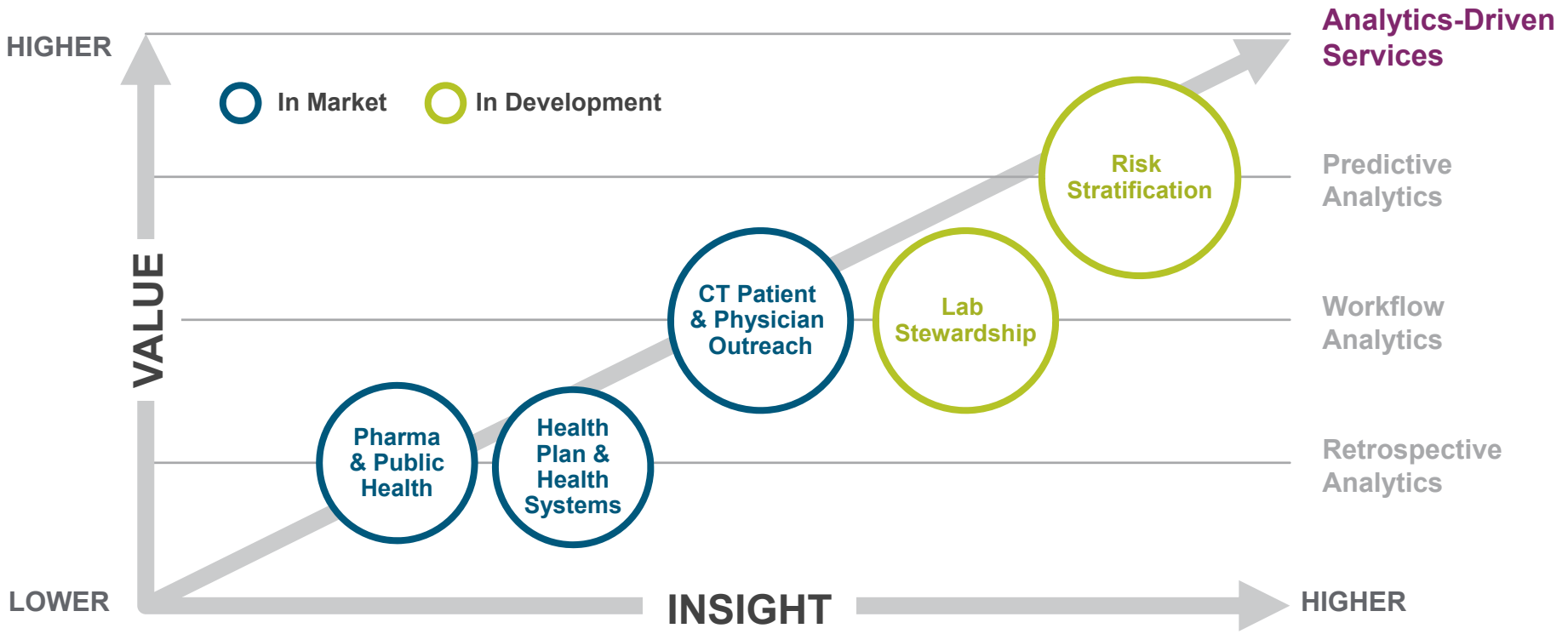


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We have made progress on our analytical solutions and are evolving towards **increasing insight and value**



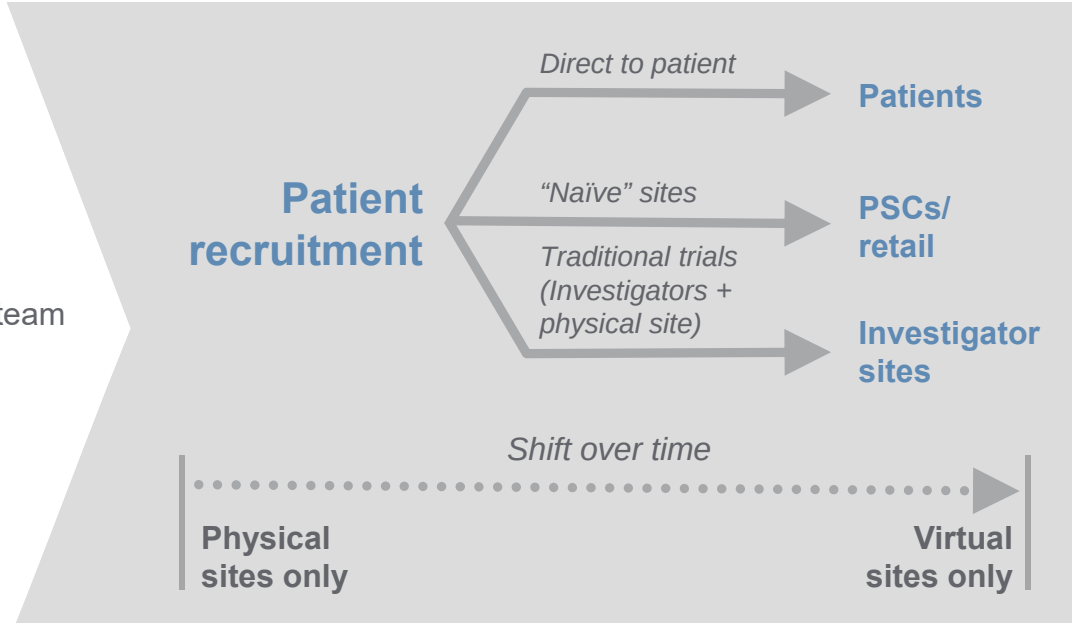
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Quest Clinical Trials Connect helps speed drugs to market through better patient recruitment

Quest keys

- Patient insights
- Direct patient relationships
- Direct relationship with patient's care team
- Infrastructure – patient engagement
- End-to-end analytical platform

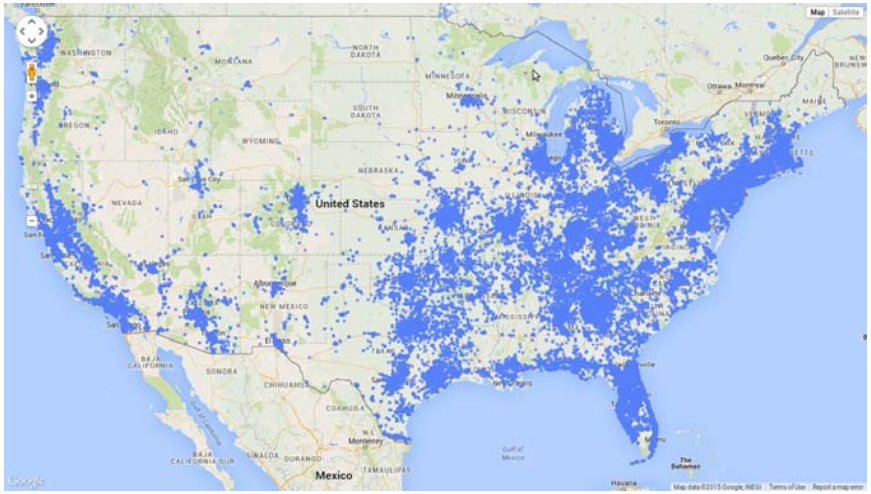
Evolving clinical trial model



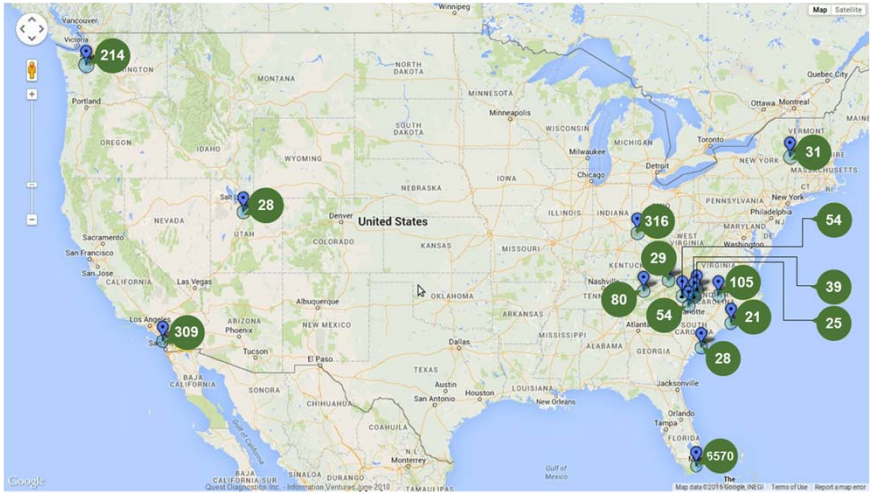
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When engaged early, we can locate potentially eligible patient populations for clinical trials by lab values and optimize site selection

For a phase 3 cardiovascular trial that fell behind in enrollment, **we identified 180,000 potentially qualified patients** concentrated in several key cities...



… But **only 4% of these patients lived near** the trial's existing sites, so if the sponsor had engaged with us earlier, site selection could have improved



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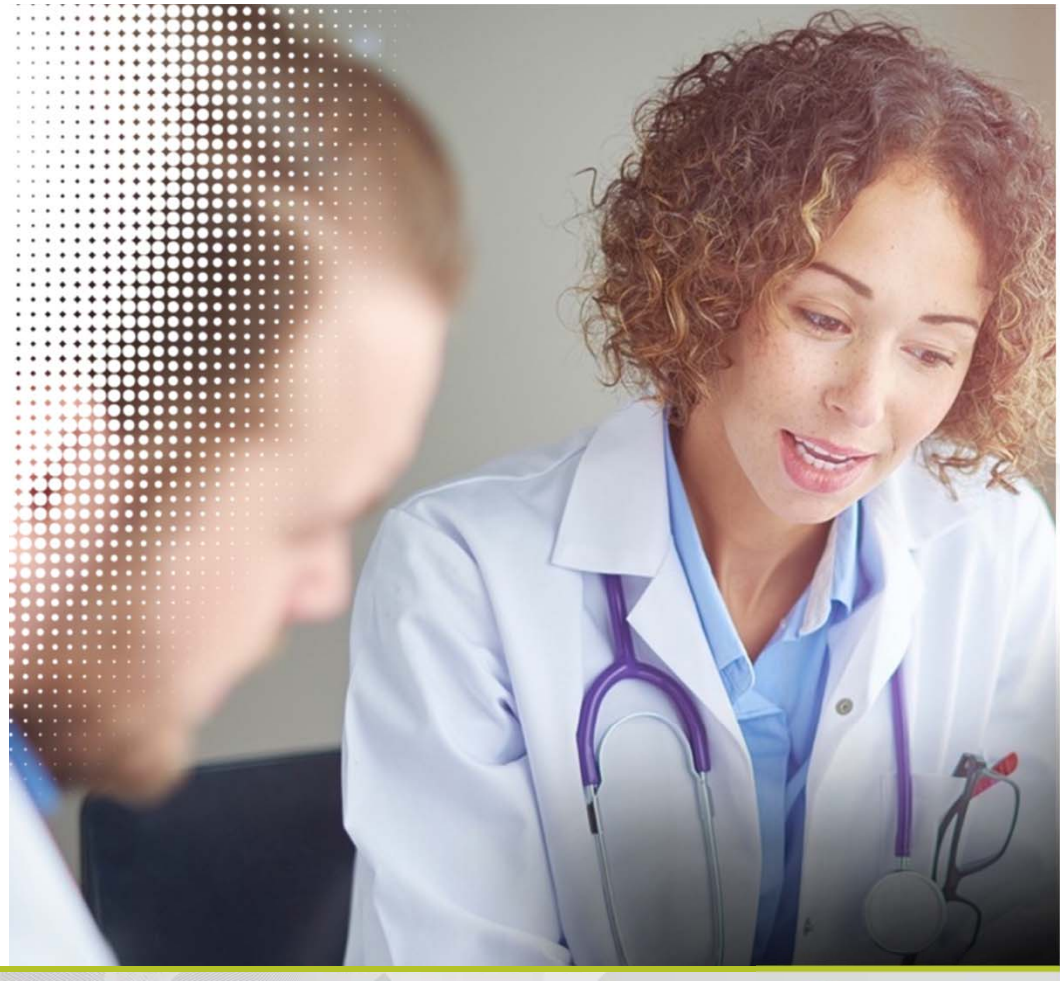
We add significant value by partnering up front

Multiple Myeloma Clinical Trial

- Query Quest Diagnostics' database for physicians
- Compare Quest and Sponsor data

The high level unique NPI numbers

- Sponsor: ~300 US physicians
- Quest: ~1,400 with ≥ 10 patients tested
- ~1,100 additional physicians to approach for clinical trial participation or patient referrals

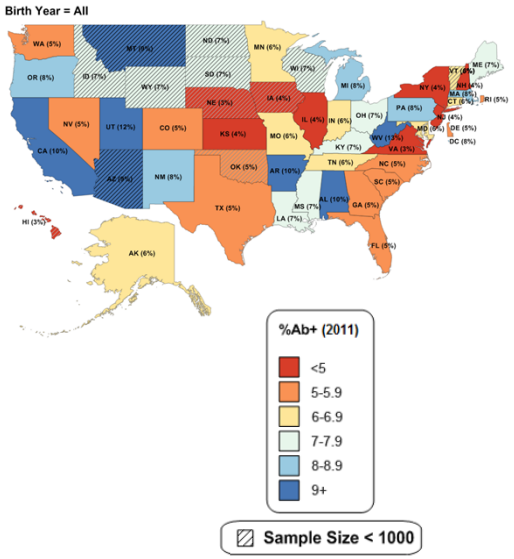


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We are also leveraging our data to generate population health insights

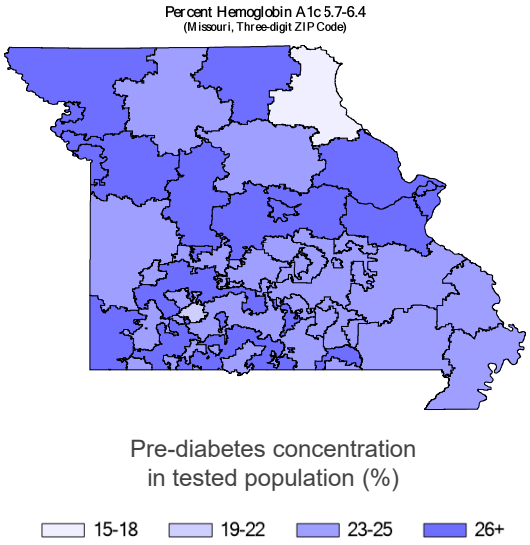
Public health

Nationwide HCV results



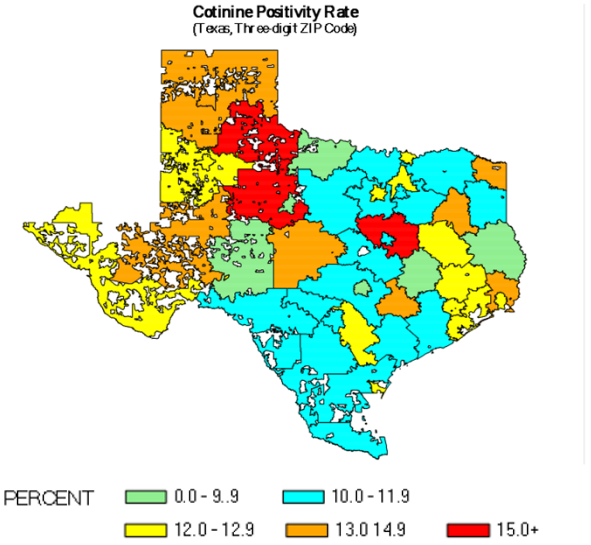
Health plan

Missouri HbA1C results



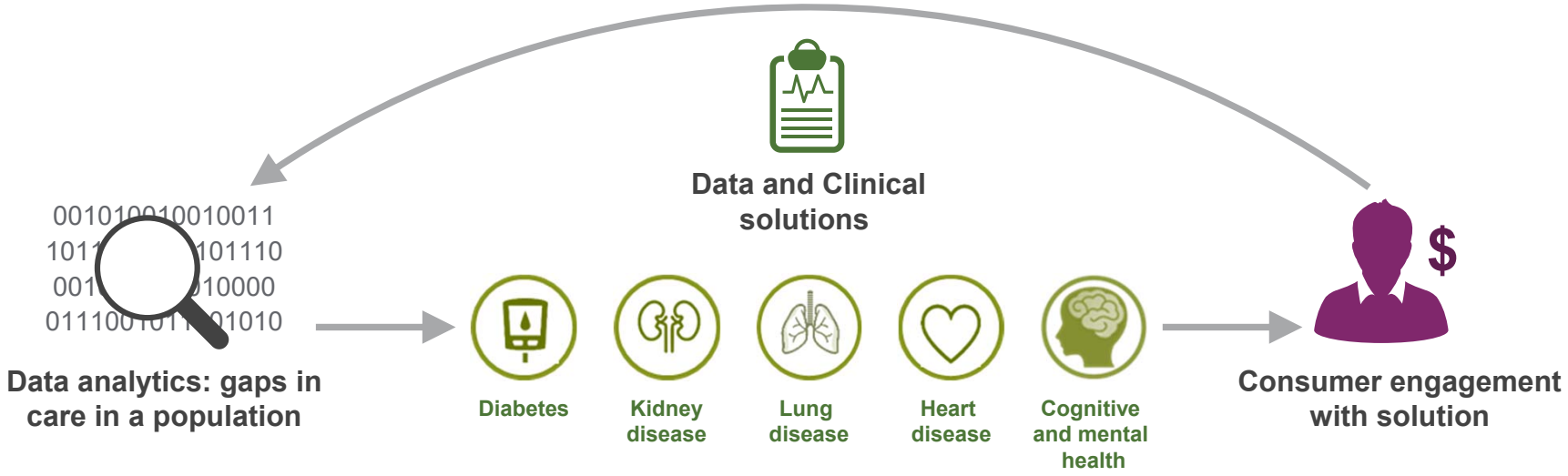
Community outreach

Texas cotinine results



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Our data analytics and clinical solutions help payers, providers and employers deliver on the promise of population health

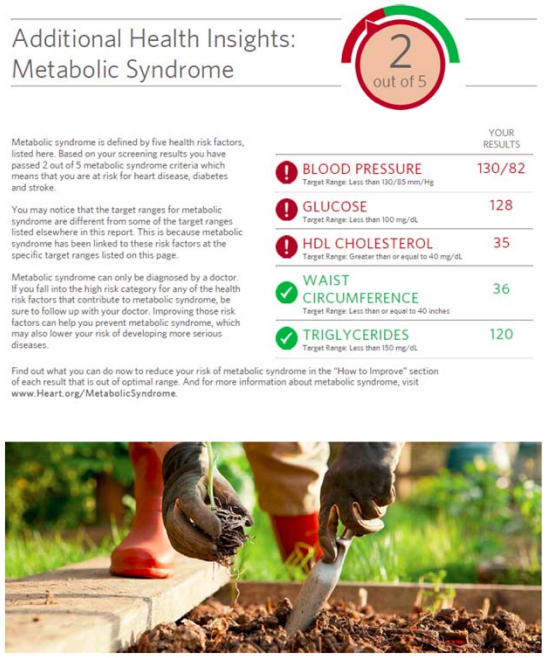


Outcomes

- Improved prevention and care for the population
- Lower healthcare costs (70% of costs driven by chronic diseases)
- Increased reimbursement for providers and plans

Quest Diagnostics™

Blueprint for Wellness empowers population health for thousands of employers and millions of employees in the US



Additional Health Insights: Metabolic Syndrome

2 out of 5

Metabolic syndrome is defined by five health risk factors, listed here. Based on your screening results you have passed 2 out of 5 metabolic syndrome criteria which means that you are at risk for heart disease, diabetes and stroke.

You may notice that the target ranges for metabolic syndrome are different from some of the target ranges listed elsewhere in this report. This is because metabolic syndrome has been linked to these risk factors at the specific target ranges listed on this page.

Metabolic syndrome can only be diagnosed by a doctor. If you fall into the high risk category for any of the health risk factors that contribute to metabolic syndrome, be sure to follow up with your doctor. Improving those risk factors can help you prevent metabolic syndrome, which may also lower your risk of developing more serious diseases.

	YOUR RESULTS
BLOOD PRESSURE (Target Range: Less than 130/85 mm/Hg)	130/82
GLUCOSE (Target Range: Less than 100 mg/dL)	128
HDL CHOLESTEROL (Target Range: Greater than or equal to 40 mg/dL)	35
WAIST CIRCUMFERENCE (Target Range: Less than or equal to 40 inches)	36
TRIGLYCERIDES (Target Range: Less than 150 mg/dL)	120

Find out what you can do now to reduce your risk of metabolic syndrome in the "How to Improve" section of each result that is out of optimal range. And for more information about metabolic syndrome, visit www.Heart.org/MetabolicSyndrome.

Example: kidney failure prevention through BFW services

Screen for employees at risk → **Confirm Chronic Kidney Disease by retesting** → **Telemedicine consult with physician** → **Referral to PCP or nephrologist**

30M people in the US have Chronic Kidney Disease

85% are unaware

~$100B healthcare costs for CKD treatment (dialysis and transplant)

Outcomes at Quest

- 70% of employees with evidence of kidney failure engaged
- Employees referred to nephrologist in weeks
- Delivered plan savings and reduced kidney failure

Quest Diagnostics™

We can move the needle on Diabetes population health – $300B cost to our healthcare system



Data analytics: gaps in care in a population

Data and Clinical solutions

Diabetes

Consumer engagement with solution

QuestQuanum™

Blueprint for WELLNESS®

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



- 2,200 Quest PSCs, Quest Retail centers

SAFEWAY Walmart

- 10,000 mobile resources
- Quest @Home, Diabetes self-collection services
- MyQuest - online services

We also can serve the critical need for management of chronic conditions that lead to the majority of healthcare costs

Medicare chronic care management services

- CMS benefit for care of people with 2 or more chronic conditions
- Our services enable monthly community based monitoring and care on behalf of the primary physician
- ~35M eligible beneficiaries, potential market > $15B



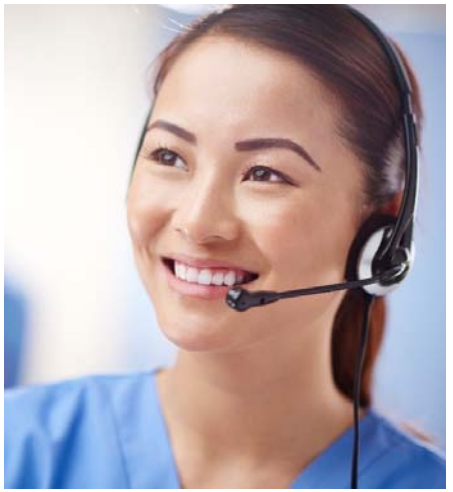


Photo credit: healthworkscollective

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We have developed proprietary, consumer friendly self-collection technology to engage consumers at home









Collect blood on device

Close cartridge

Seal in desiccant pouch

Mail in pre-addressed envelope at room temperature

- Launched Blueprint for Athletes @Home 2017
- Offering Diabetes @Home services for health plans and health systems Q4 2018
- Annual health and wellness and consumer panels 2019
- Enables accurate & convenient test of a broad range of analytes

Quest Diagnostics

We have **strong delivery channels**

Home / Mobile Care



- Deliver risk assessment and other services via network
- Close gaps in care related to lab, diabetic retinal screens, osteoporosis screening, etc

Retail / Community



- Deliver an innovative model of care through the community

Telephonic Support



- Chronic Care Management
- HRAs (AWV/wellness)
- Campaigns to fill gaps in care

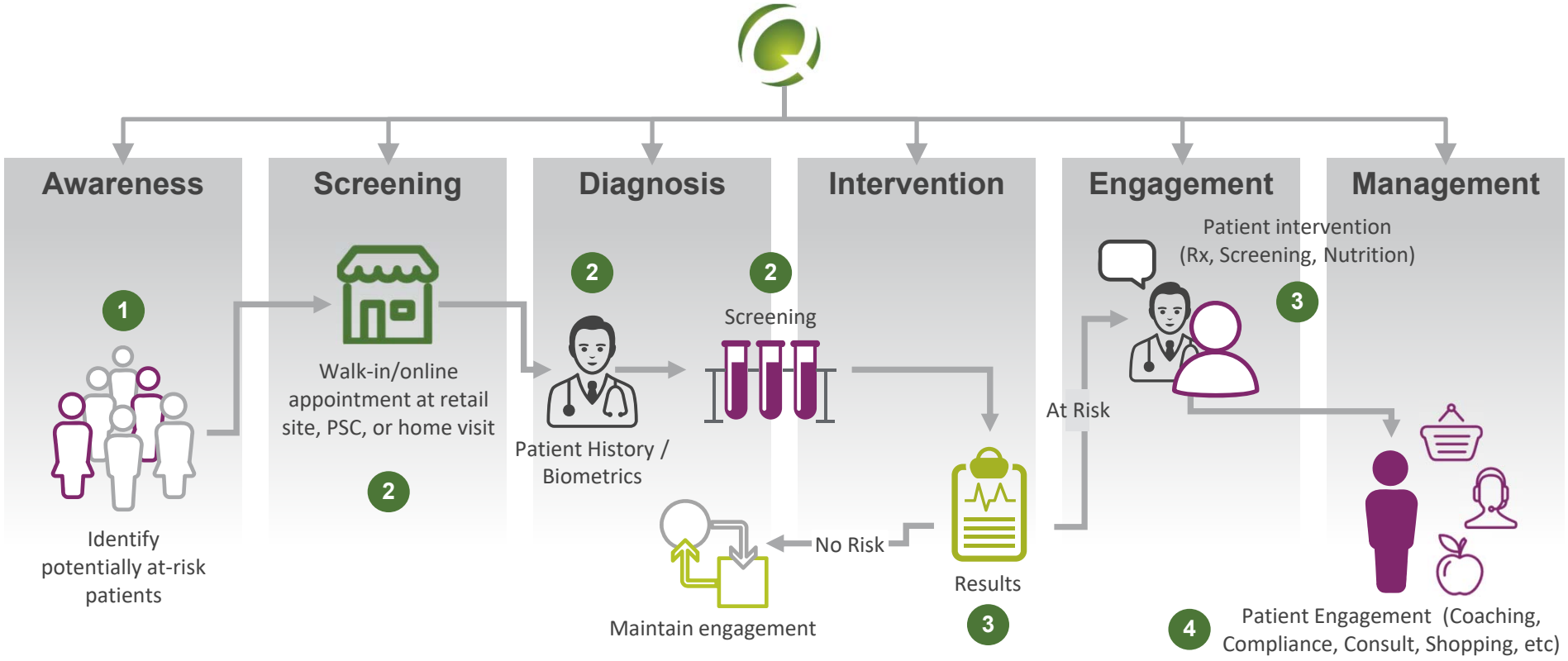
Digital Health



- Digital health capabilities both in-house and through partners

QuestQuanum™

Unique capabilities place Quest in the **center of health care**



Quest Diagnostics™

Key takeaways

- Our data analytics, provider and consumer connectivity empower clinical trials
- Using our data analytics, we help payers, providers and employers deliver on the promise of population health
- We have an unparalleled platform for consumer engagement with medical services in the home, workplace, retail and clinical settings

Quest Diagnostics™