

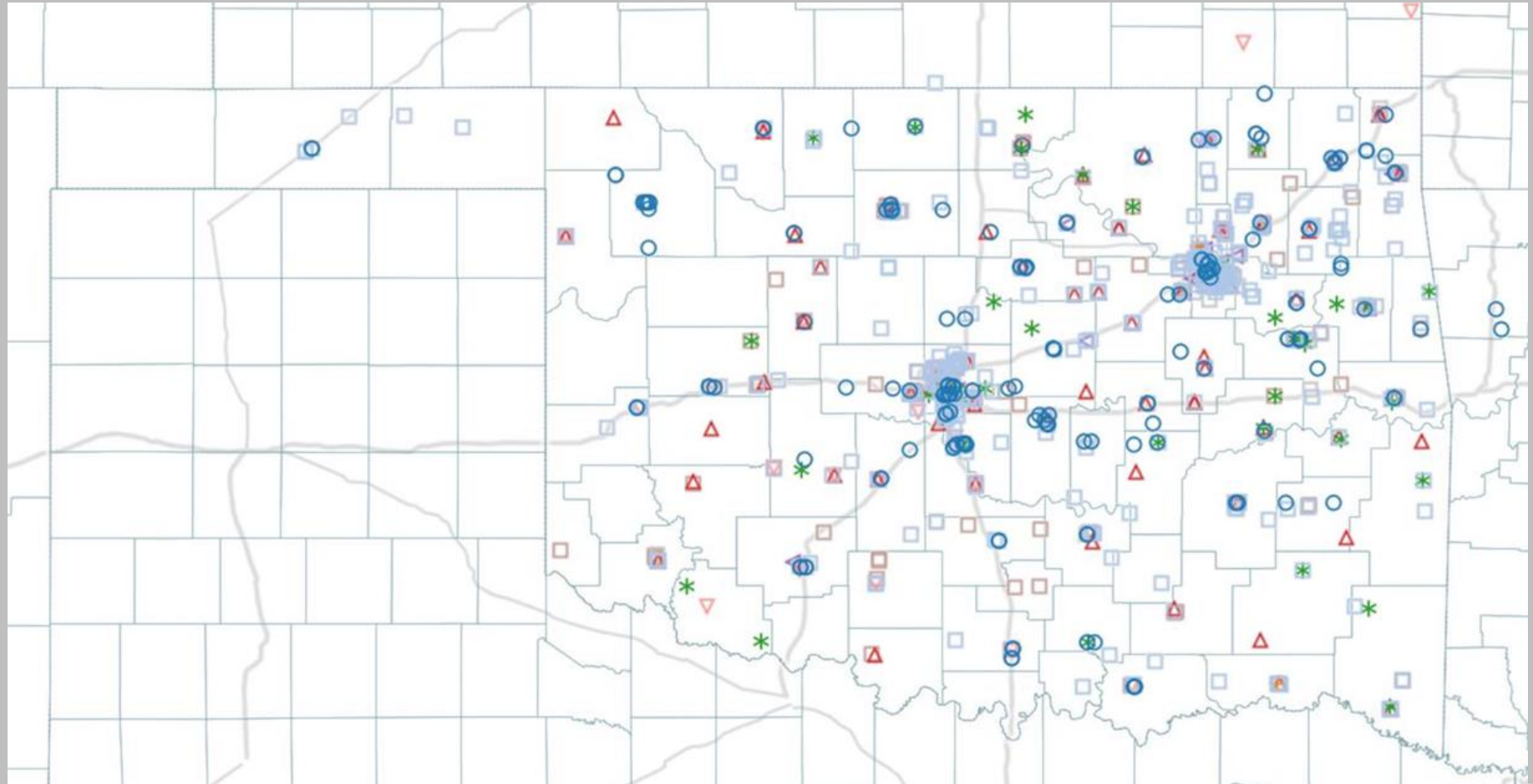
# Building a Community Data Ecosystem: Achieving Health and Value Using Oklahoma's Health Information Exchange

David Kendrick, MD, MPH

# Defining Value

$$Value = \frac{Quality}{Cost}$$

>1000 locations serving >45,000 patients daily



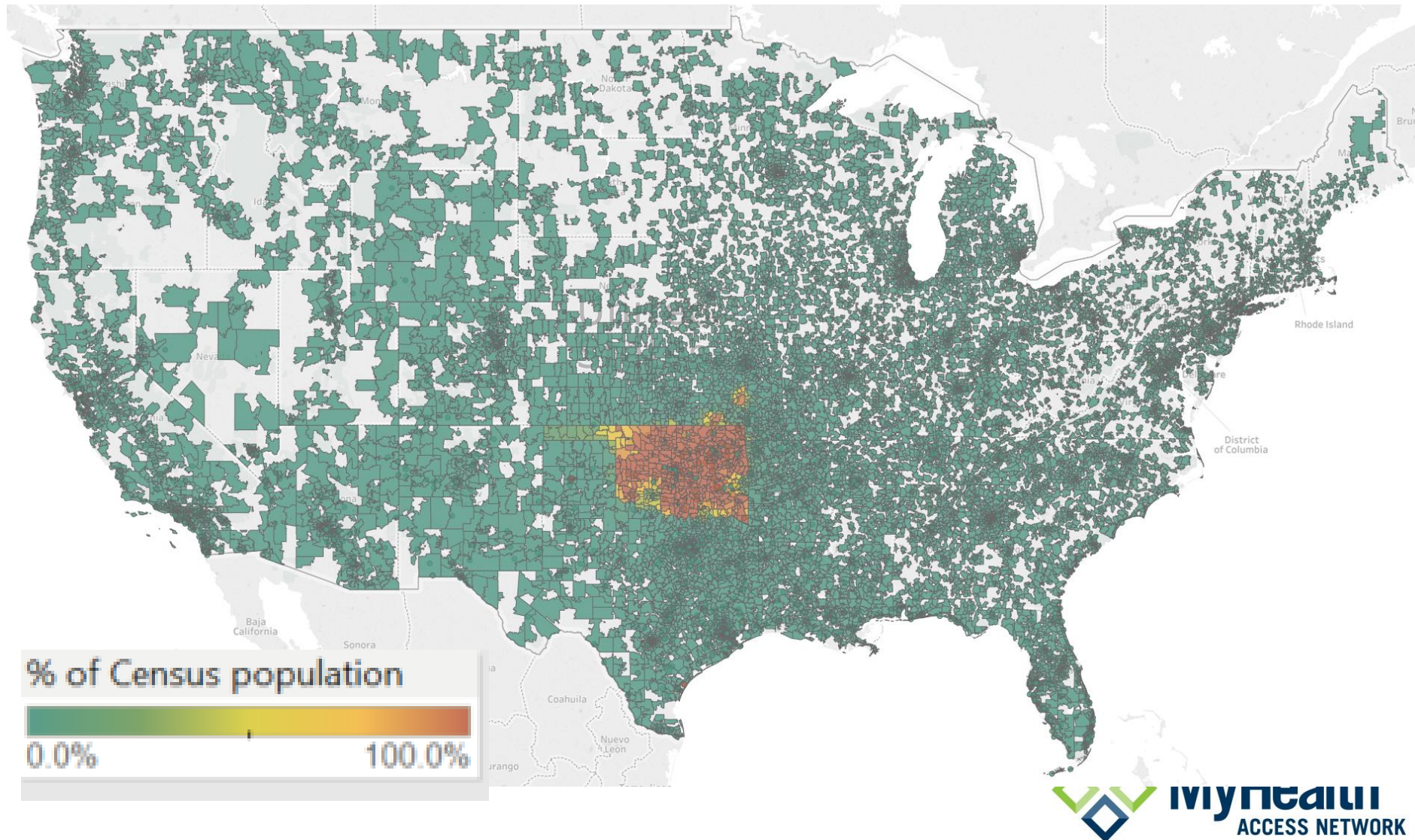
Facility Type

|                      |                    |                     |                      |
|----------------------|--------------------|---------------------|----------------------|
| Null                 | Emergency Services | Lab                 | Pharmacy             |
| Behavioral Health... | FQHC               | Long Term Care ...  | Public Health        |
| Clinic               | Hospice            | Ophthalmology/Op... | Urgent Care Facility |
| Community/Social...  | Hospital           | Payer               |                      |

Facility Type

|                       |                    |                     |                      |
|-----------------------|--------------------|---------------------|----------------------|
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| Behavioral Health...  | FQHC               | Long Term Care ...  | Public Health        |
| Clinic                | Hospice            | Ophthalmology/Op... | Urgent Care Facility |
| + Community/Social... | Hospital           | Payer               |                      |

# MyHealth Patient Population





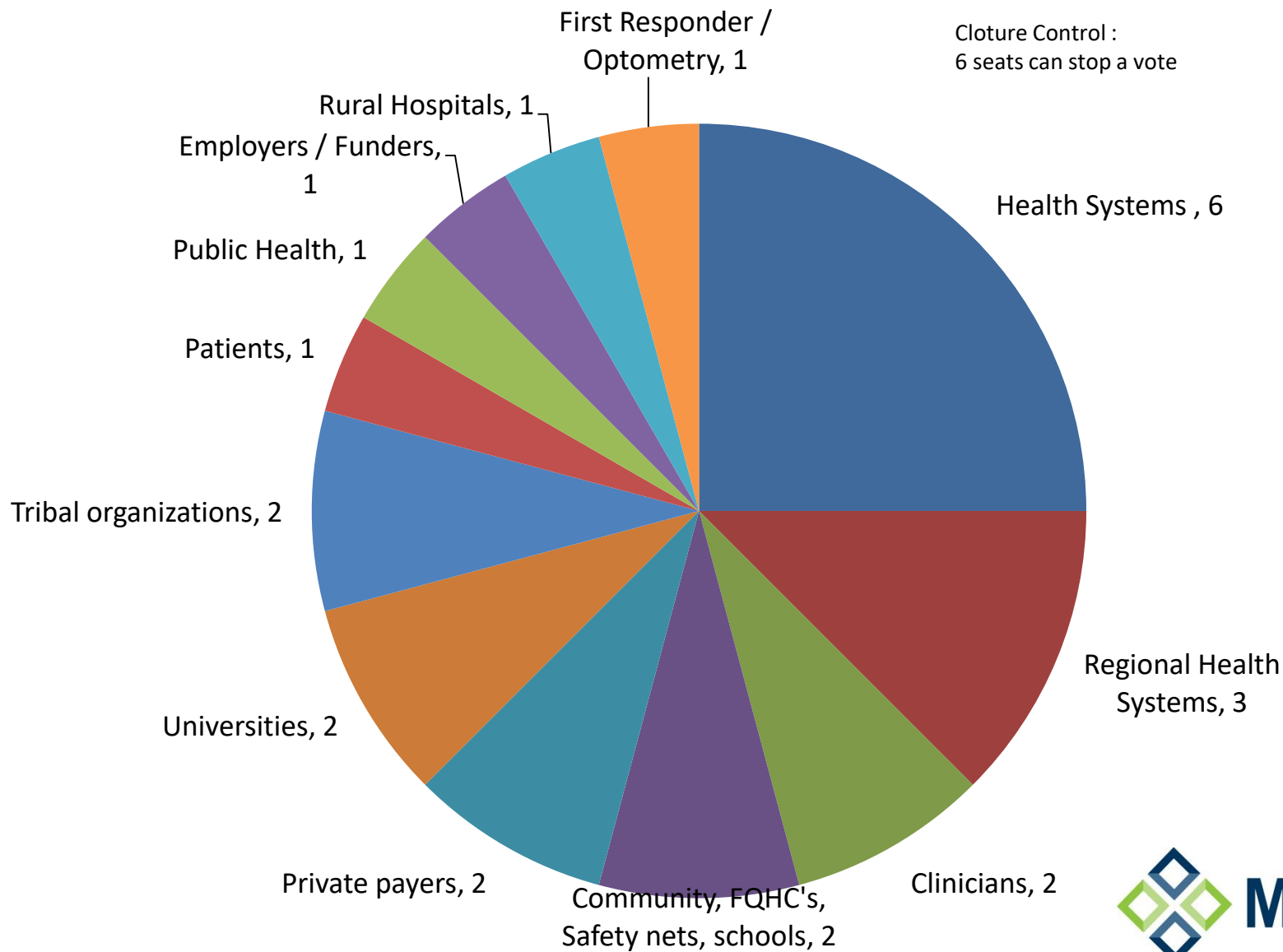
# MyHealth Strategy

- Provide Infrastructure for:
  - Improving Health
  - Reducing costs
  - Supporting transitions to Value-based payment models (and any other models)
  - Community Data Ecosystem including all social determinants
- Collaborate and partner extensively
  - Reduce provider/services burden
  - Reduce health IT costs to providers/services and State

# Critical Voices In Governance



# 10 years of Public-Private (501c3) Partnership: MyHealth Board *is* healthcare in Oklahoma



# VBPM's: Critical Success Factors for Individuals, Providers and Payers

1. **Multi-payer model if possible**
2. Correct data scope: Person-centric and community-wide
3. Point of care access to data
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8. Managing care transitions and closing loops
9. Detect and address social needs



# Comprehensive Primary Care “Classic”

**\$100M in Care  
Management  
and Practice  
Transformation  
fees to PCPs**



- 68 practices, 265 docs
- OK Payers require MyHealth Participation
- >30 hospitals affiliated
- Four payers (BCBS, CCOK, Medicaid, Medicare)
- >90% of covered lives
- Shared savings Y3-4

# CMS Experience CPC:

## 56-60 practices, ~50,000 Medicare pts

| Oklahoma CMS Shared Savings |               |                 |             |                        |                               |
|-----------------------------|---------------|-----------------|-------------|------------------------|-------------------------------|
| Year                        | Gross Savings | % Gross Savings | Net Savings | Net Savings Percentage | Dollars shared with practices |
| 2013                        |               |                 |             |                        | Payments                      |
| 2014                        |               |                 |             |                        | 00                            |
| 2015                        |               |                 |             |                        | 000                           |
| 2016                        | \$26 M        | 5.7%            | \$18 M      | 4.0%                   | \$9,127,320                   |
| Totals                      | ~\$110 M      | 6.1%            | ~\$65M      | ~5%                    | \$21,827,320                  |

95% of all CPC Shared Savings realized in the Oklahoma Region

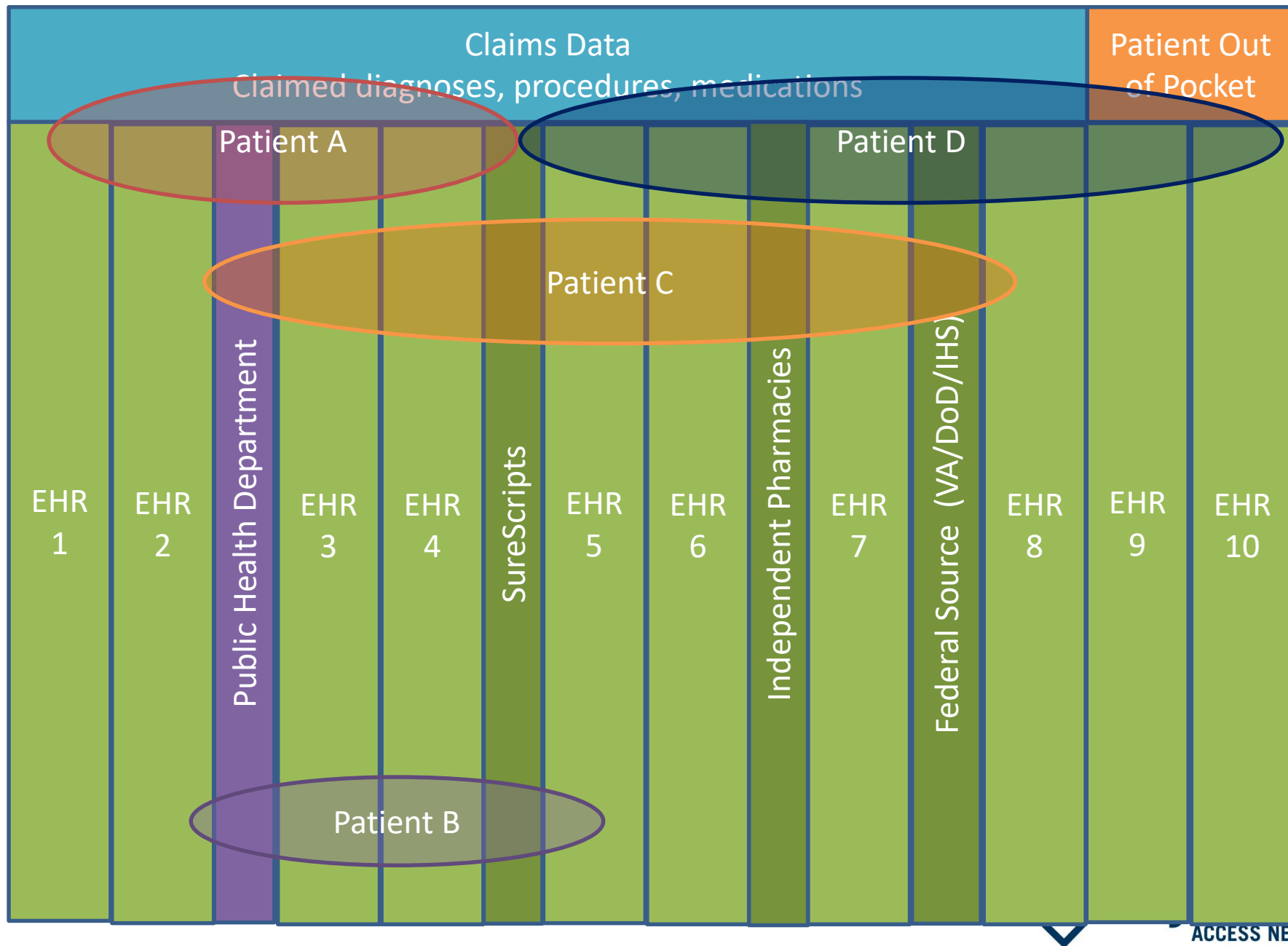
+ **\$56M** in Care Management Payments over 4 years

Quality Measures: Exceeded Benchmarks for all three measures

- All Cause Readmissions: Highest Benchmark
- CHF Admissions: First Benchmark
- COPD Admissions: First Benchmark

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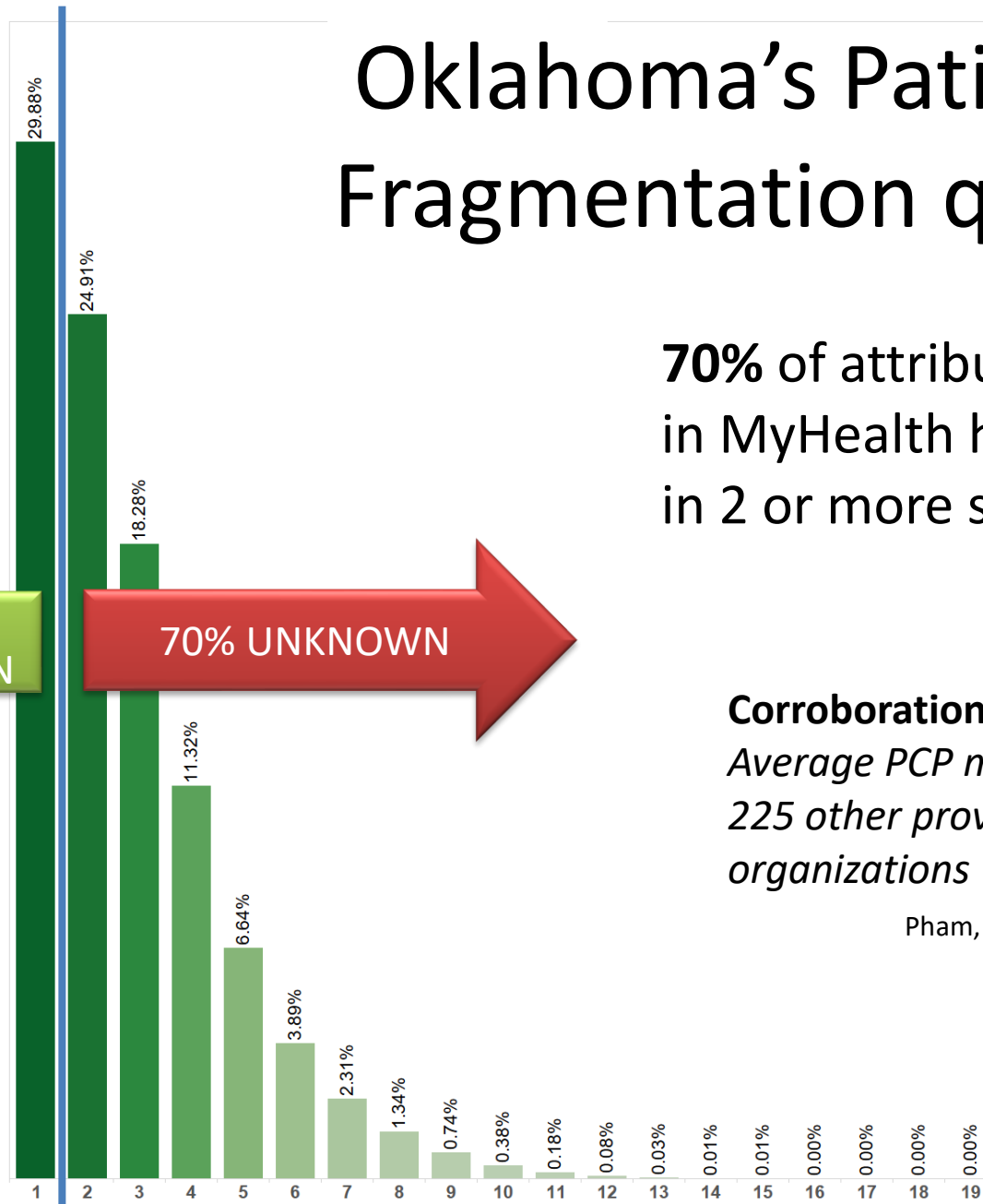
| Claims: Medicaid         |       | Claims: Commercial 1     |       | Claims: Commercial 2     |       | Claims: Commercial 3     |                        | Claims: Commercial 4     |                             | Medicare Commercial      |       |        |
|--------------------------|-------|--------------------------|-------|--------------------------|-------|--------------------------|------------------------|--------------------------|-----------------------------|--------------------------|-------|--------|
| Patient A                |       | Patient A                |       | Patient D                |       | Patient D                |                        | Patient D                |                             | Patient D                |       |        |
| Patient C                |       | Patient C                |       | Patient C                |       | Patient C                |                        | Patient C                |                             | Patient C                |       |        |
| Public Health Department |       | Public Health Department |       | Public Health Department |       | Public Health Department |                        | Public Health Department |                             | Public Health Department |       |        |
| EHR 1                    | EHR 2 | EHR 3                    | EHR 4 | SureScripts              | EHR 5 | EHR 6                    | Independent Pharmacies | EHR 7                    | Federal Source (VA/DoD/IHS) | EHR 8                    | EHR 9 | EHR 10 |
| Patient B                |       | Patient B                |       | Patient B                |       | Patient B                |                        | Patient B                |                             | Patient B                |       |        |

# Oklahoma's Patient Data Fragmentation quantified

**70%** of attributed patients in MyHealth have records in 2 or more systems



% of Patients



Number of EHR Sources each patient has

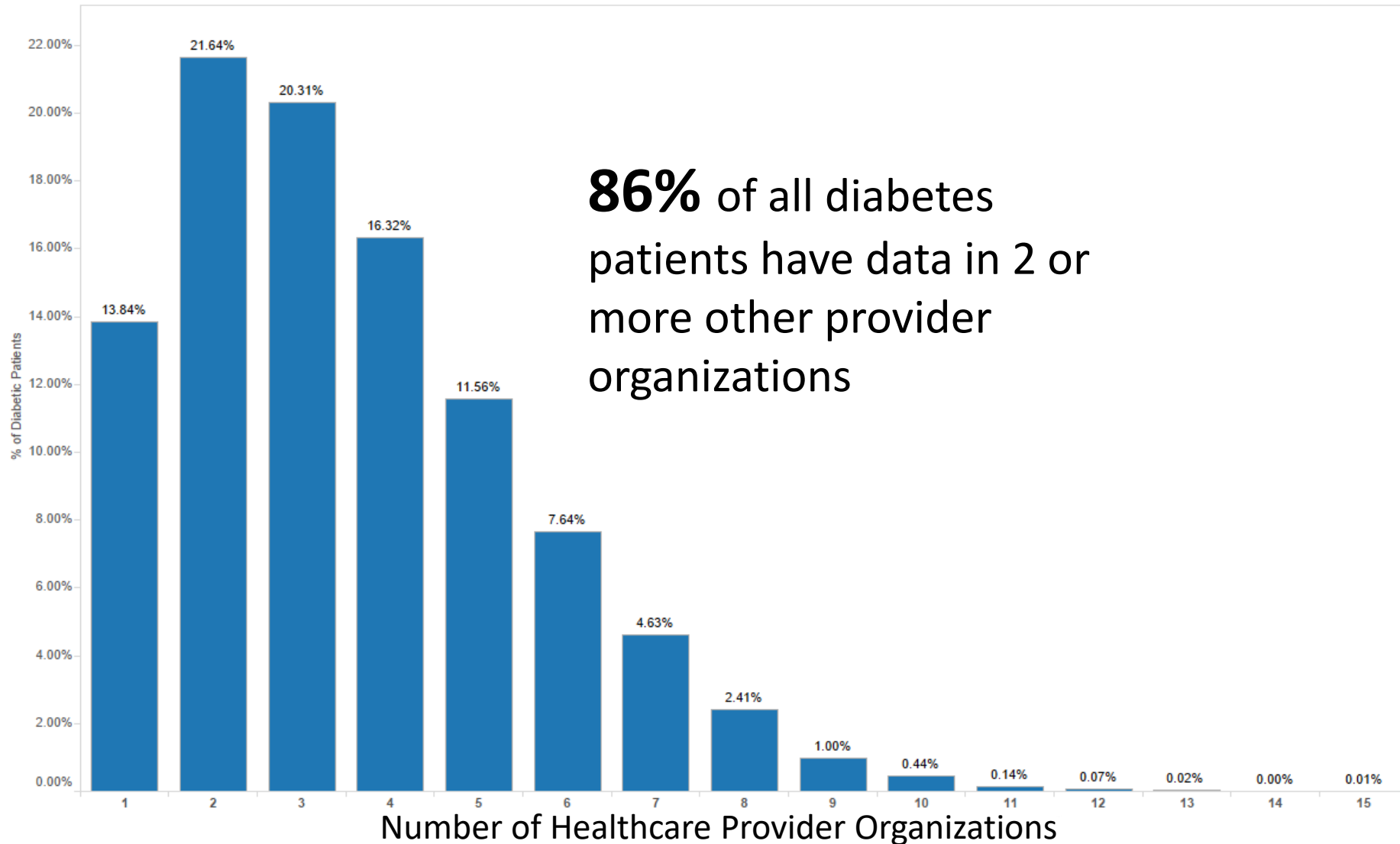
## Corroboration:

*Average PCP must coordinate care with 225 other providers in 117 other organizations*

Pham, HH, NEJM 2007; 356: 1130-1139



# Diabetes patients with records elsewhere



# Data fragmentation by EHR Vendor



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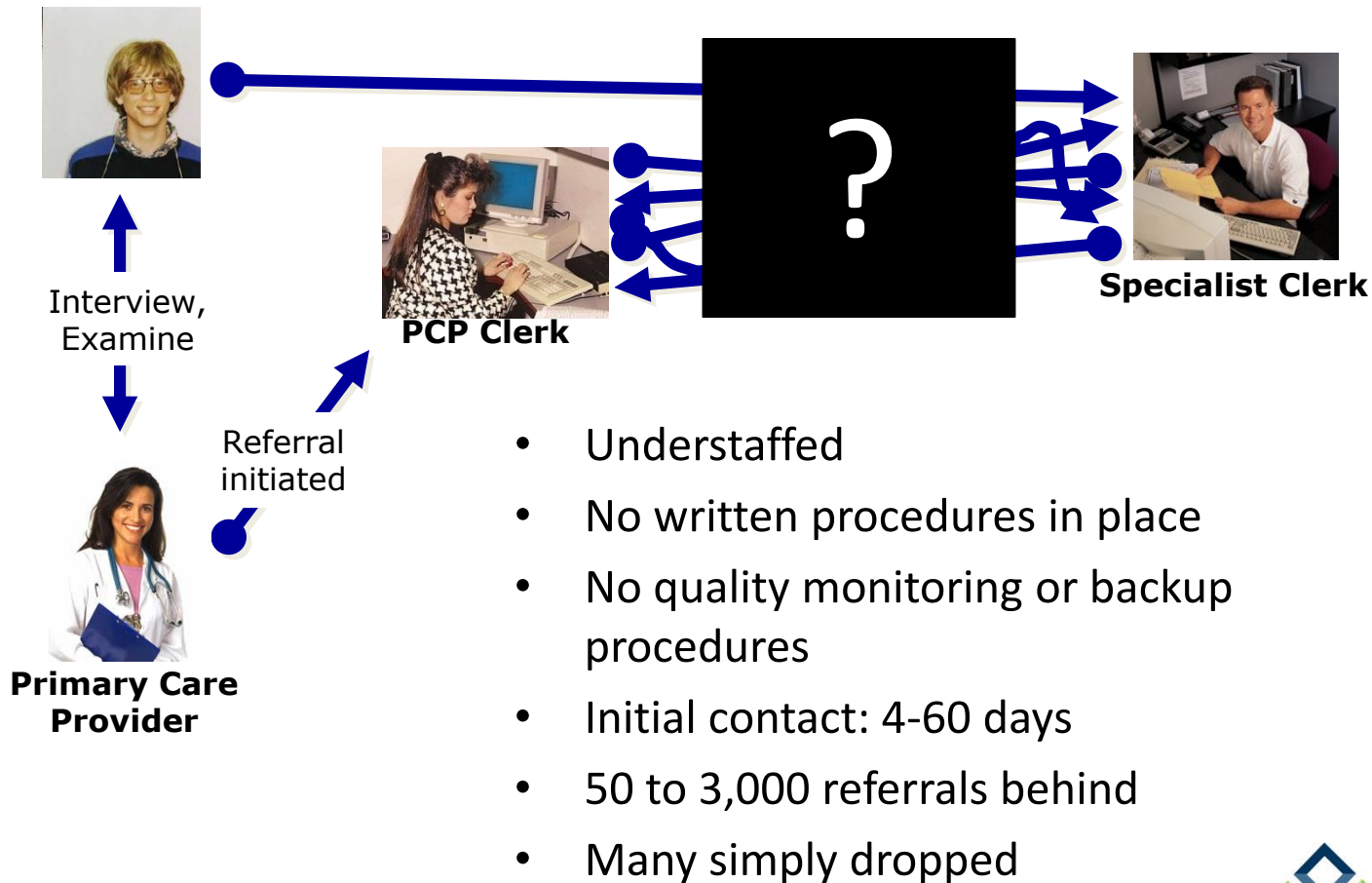
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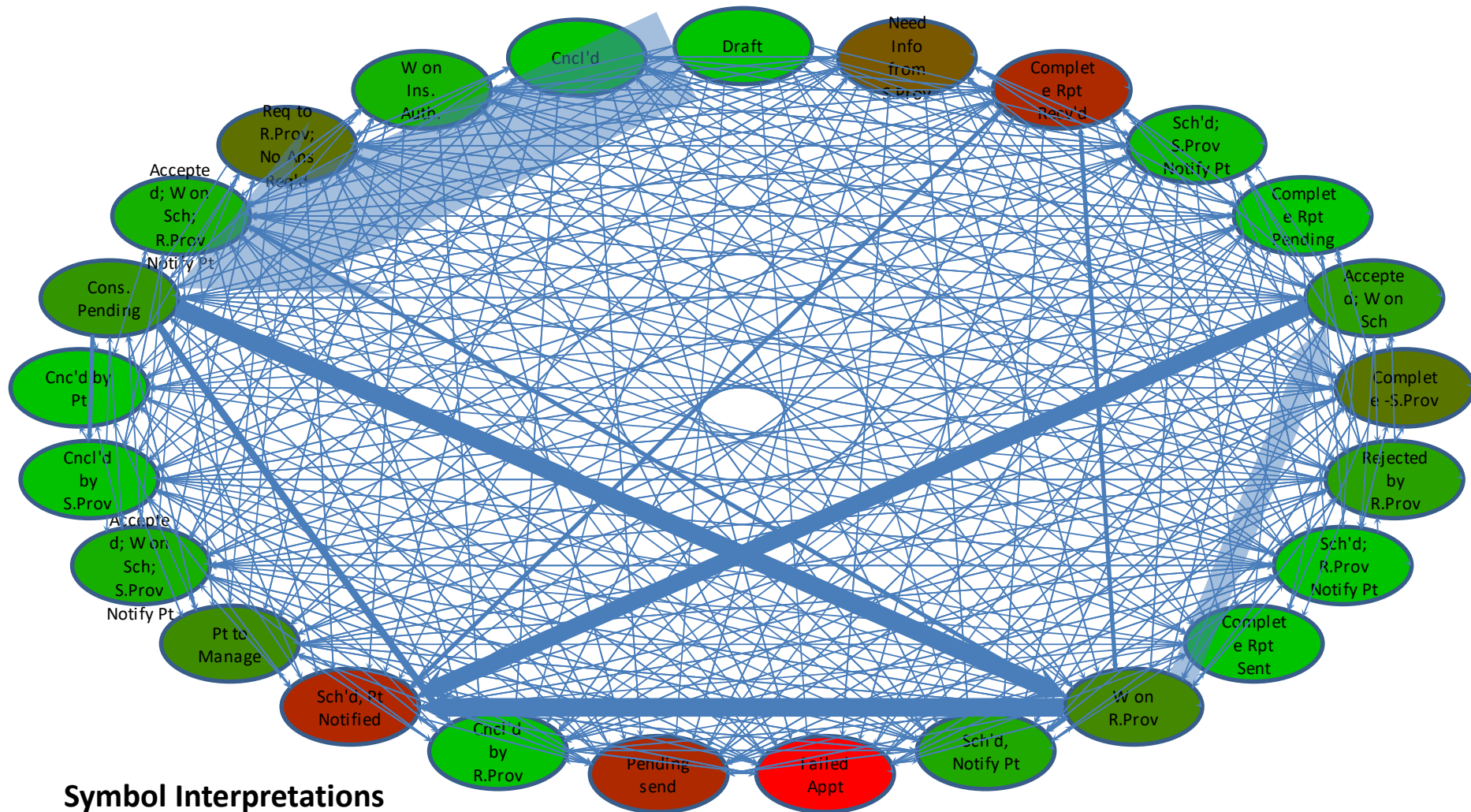
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# Pre-Doc2Doc Care Transition Management



**Consultant**

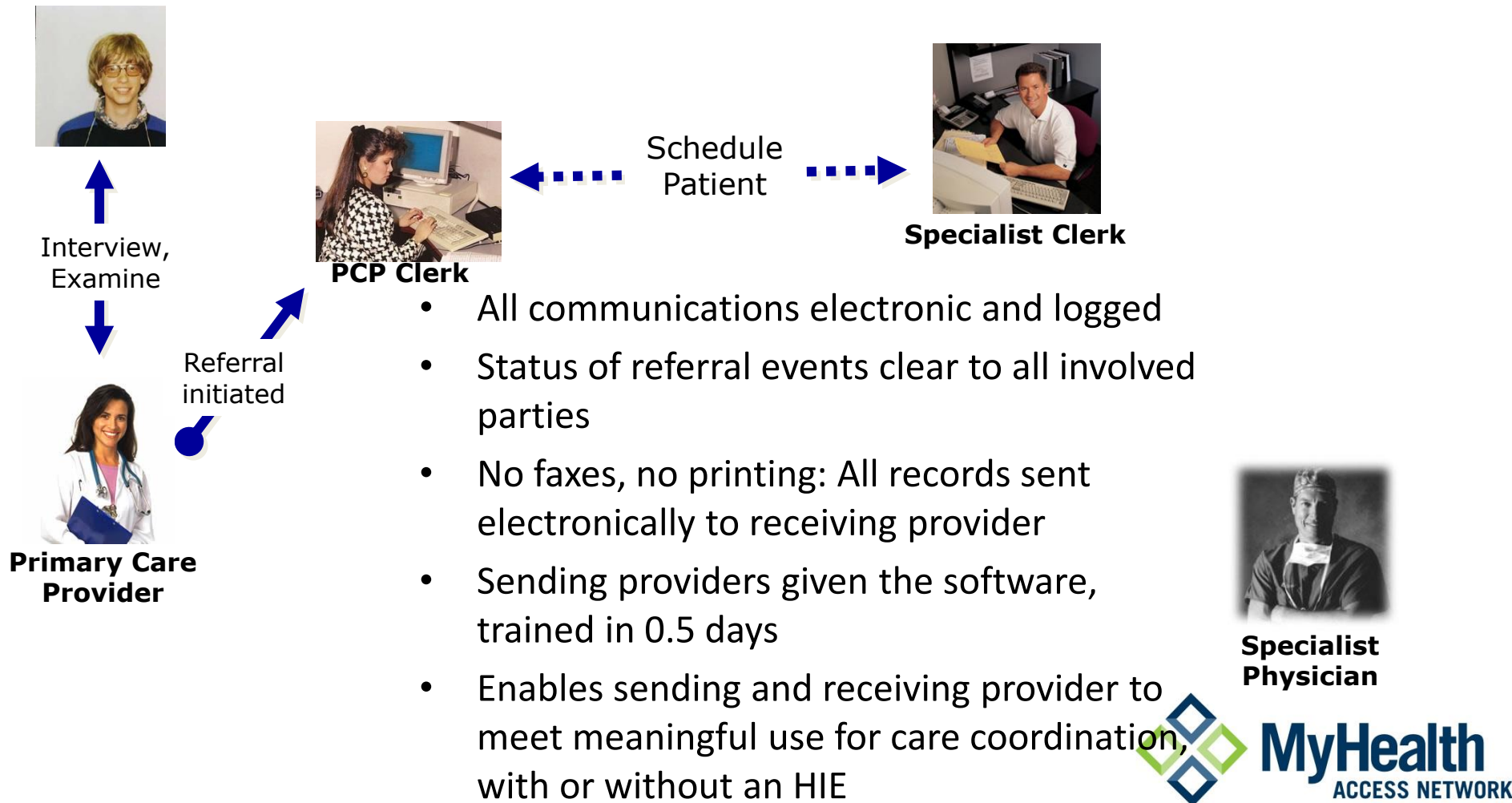
# ALL Observed Transitions Between Visit Request Statuses



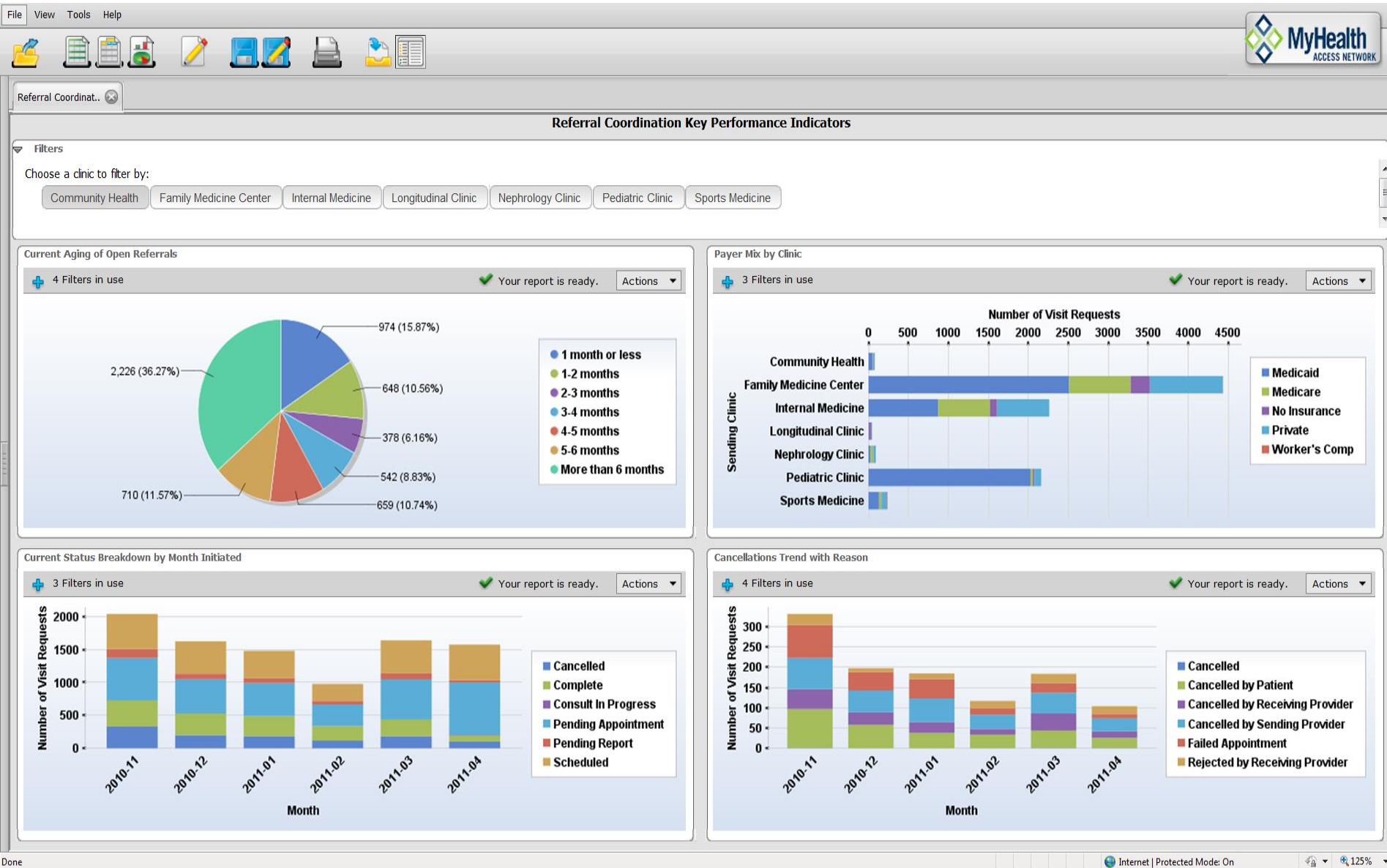
## Symbol Interpretations

- Arrows represent transition from one referral status to another
- Arrow thickness is proportional to # of transitions
- Status color represents relative length of time consultations remain in each status (compared to others in this subset): red = longest; green = shortest
- Status states are abbreviated

# Doc2Doc Care Transitions Process

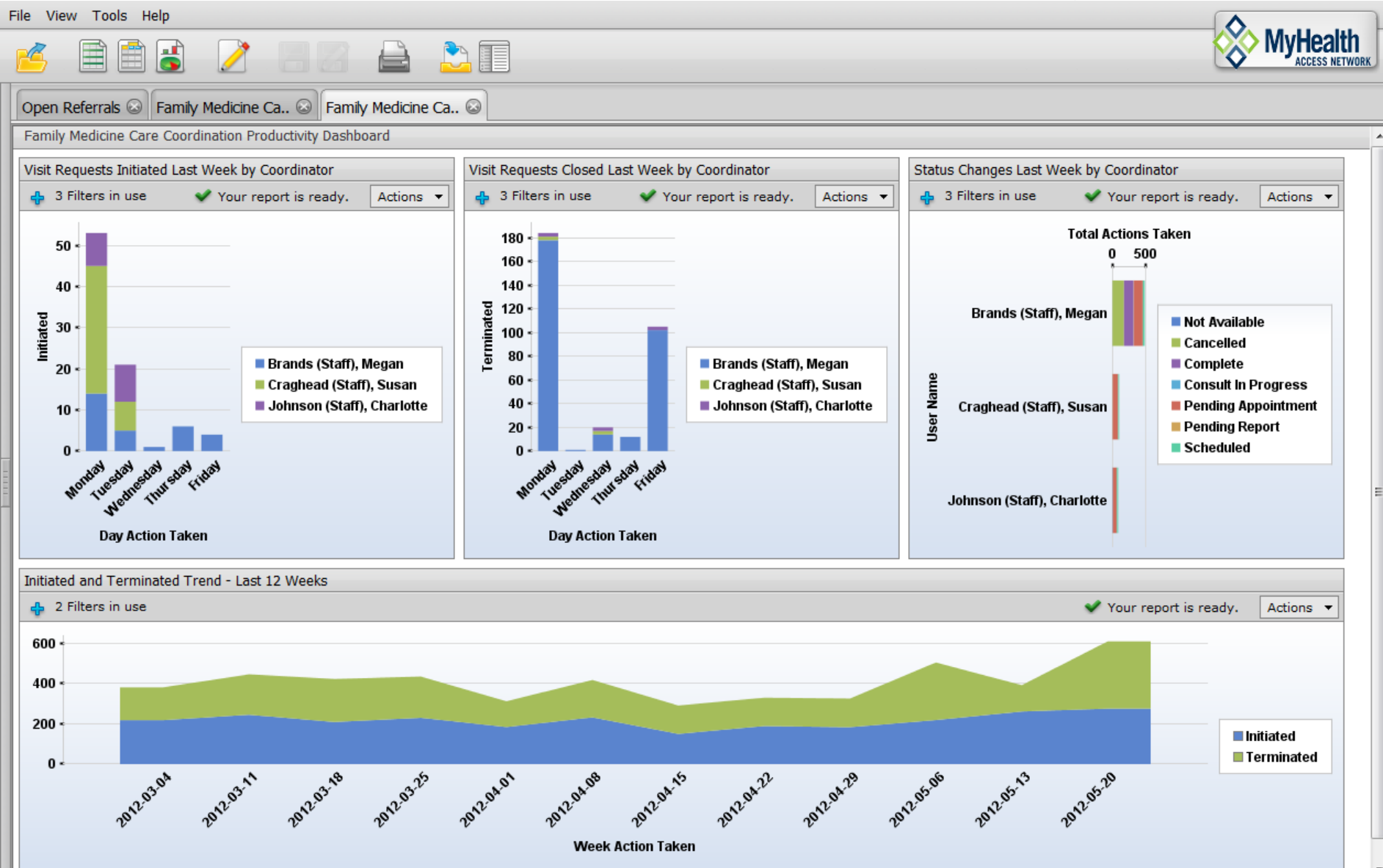


# Command and Control for all Care Transitions





# Productivity Reporting





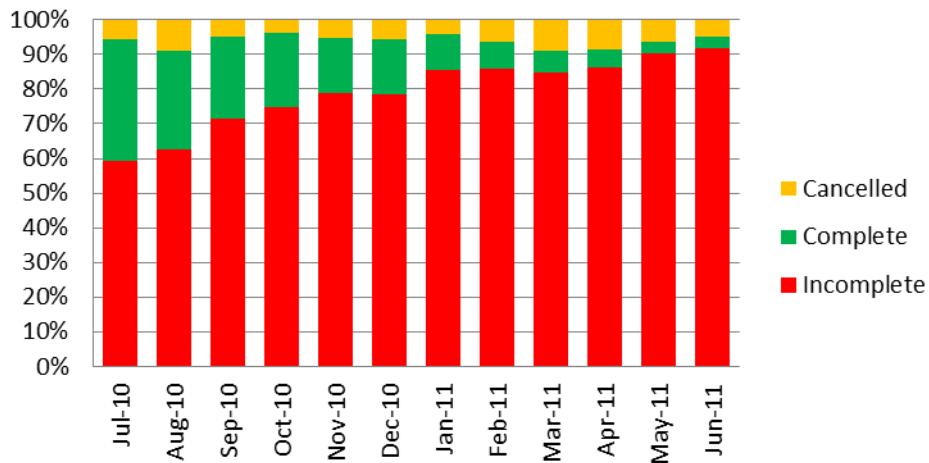
# Results: A Tale of Two Clinics

## Clinic 1:

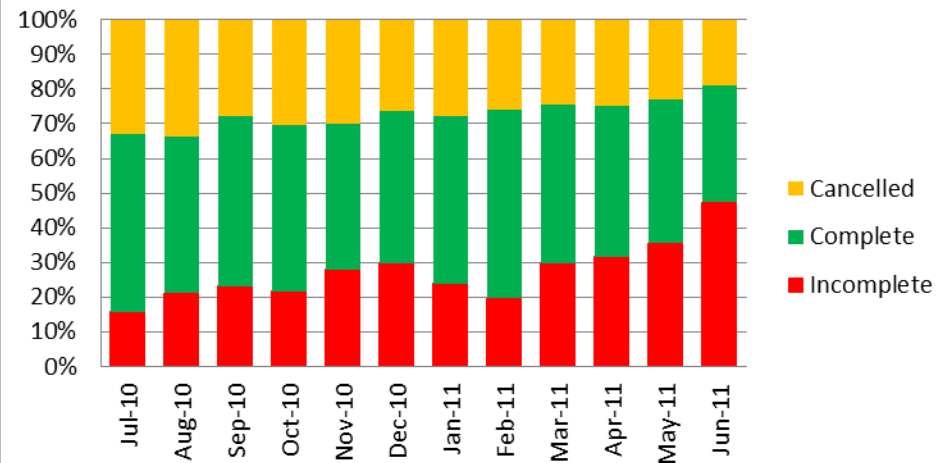
Visit Request Status as of August 31, 2011 by Month Initiated:

|                                | JUL 2010   |       | AUG 2010   |       | SEP 2010   |       | OCT 2010   |       | NOV 2010   |       | DEC 2010   |       | JAN 2011   |       | FEB 2011   |       | MAR 2011   |       | APR 2011   |       | MAY 2011   |       | JUN 2011   |       | JUL 2011   |       | TOTAL        |       |
|--------------------------------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|--------------|-------|
|                                | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N          | %     | N            | %     |
| <b>Total Number Initiated</b>  | <b>409</b> |       | <b>361</b> |       | <b>442</b> |       | <b>363</b> |       | <b>362</b> |       | <b>324</b> |       | <b>325</b> |       | <b>285</b> |       | <b>438</b> |       | <b>426</b> |       | <b>433</b> |       | <b>457</b> |       | <b>392</b> |       | <b>5,017</b> |       |
| Pending Appointment            | 154        | 37.7% | 172        | 47.6% | 227        | 51.4% | 210        | 57.9% | 165        | 45.6% | 171        | 52.8% | 211        | 64.9% | 199        | 69.8% | 296        | 67.6% | 272        | 63.8% | 306        | 70.7% | 314        | 68.7% | 280        | 71.4% | 2,977        | 59.3% |
| Scheduled                      | 79         | 19.3% | 49         | 13.6% | 71         | 16.1% | 55         | 15.2% | 99         | 27.3% | 65         | 20.1% | 57         | 17.5% | 37         | 13.0% | 61         | 13.9% | 75         | 17.6% | 67         | 15.5% | 90         | 19.7% | 71         | 18.1% | 876          | 17.5% |
| Consult in Progress            | 4          | 1.0%  | 2          | 0.6%  | 3          | 0.7%  | 3          | 0.8%  | 4          | 1.1%  | 4          | 1.2%  | 2          | 0.6%  | 0          | 0.0%  | 2          | 0.5%  | 8          | 1.9%  | 9          | 2.1%  | 10         | 2.2%  | 6          | 1.5%  | 57           | 1.1%  |
| Visit Occurred: Report Pending | 5          | 1.2%  | 3          | 0.8%  | 14         | 3.2%  | 4          | 1.1%  | 18         | 5.0%  | 14         | 4.3%  | 8          | 2.5%  | 9          | 3.2%  | 12         | 2.7%  | 13         | 3.1%  | 9          | 2.1%  | 5          | 1.1%  | 9          | 2.3%  | 123          | 2.5%  |

### Clinic 1: 12 months of care transitions

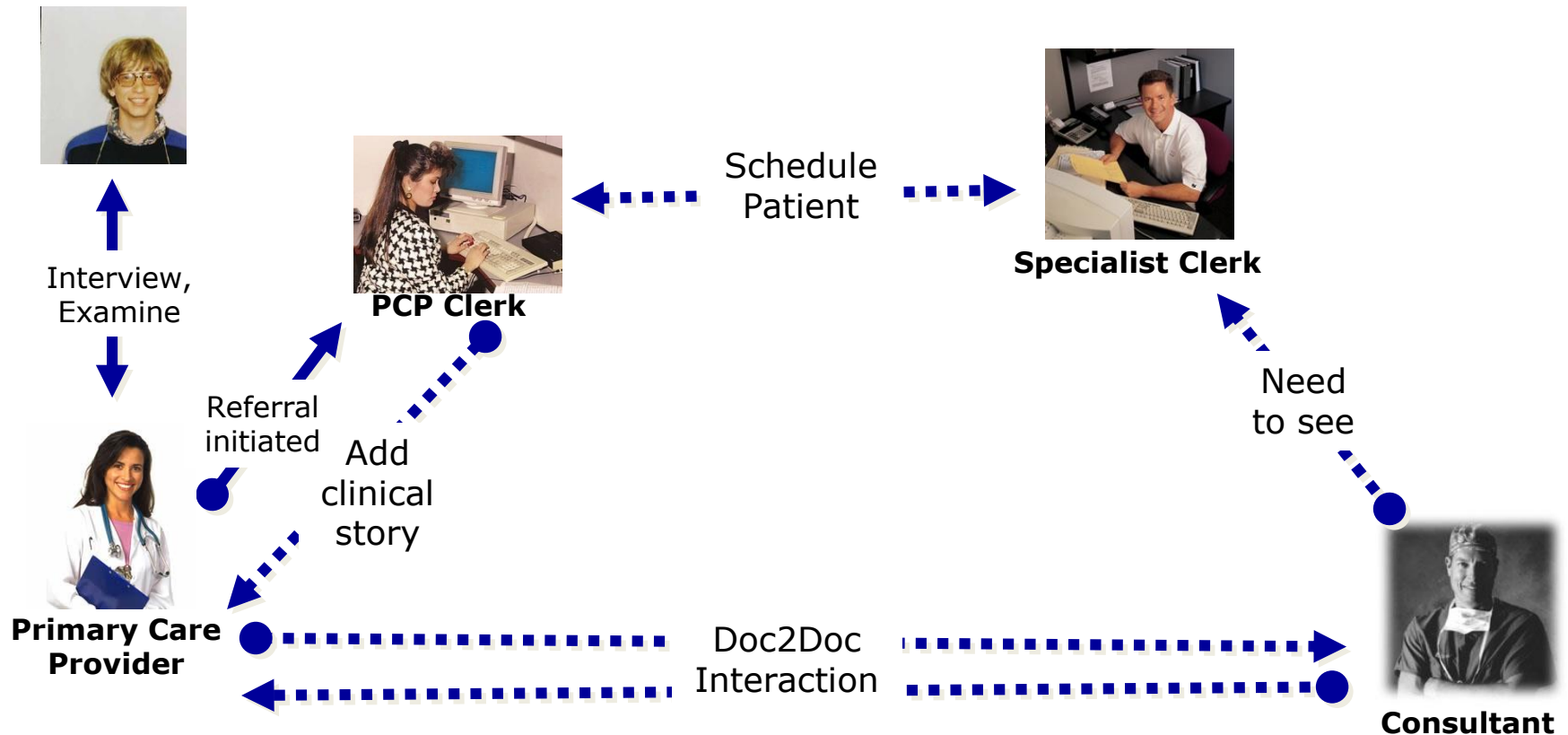


### Clinic 2: 12 months of care transitions



|                                 |    |       |    |       |    |      |    |       |    |       |    |       |    |      |    |      |    |      |    |      |    |      |    |      |    |      |     |      |
|---------------------------------|----|-------|----|-------|----|------|----|-------|----|-------|----|-------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|-----|------|
| Cancelled by Receiving Provider | 31 | 3.8%  | 49 | 5.6%  | 34 | 3.7% | 34 | 4.7%  | 30 | 3.6%  | 22 | 3.3%  | 18 | 3.0% | 14 | 2.6% | 32 | 3.4% | 25 | 2.8% | 42 | 5.1% | 26 | 3.5% | 14 | 1.6% | 371 | 3.6% |
| Cancelled by Sending Provider   | 77 | 9.5%  | 77 | 8.7%  | 58 | 6.3% | 44 | 6.1%  | 37 | 4.5%  | 32 | 4.9%  | 54 | 8.9% | 46 | 8.7% | 50 | 5.3% | 56 | 6.3% | 43 | 5.3% | 36 | 4.8% | 25 | 2.9% | 635 | 6.2% |
| Failed Appointment              | 93 | 11.4% | 96 | 10.9% | 92 | 9.9% | 82 | 11.4% | 90 | 10.9% | 70 | 10.7% | 51 | 8.4% | 28 | 5.3% | 84 | 9.0% | 76 | 8.5% | 51 | 6.2% | 37 | 4.9% | 29 | 3.4% | 879 | 8.6% |
| Rejected by Receiving Provider  | 10 | 1.2%  | 22 | 2.5%  | 24 | 2.6% | 14 | 1.9%  | 23 | 2.8%  | 8  | 1.2%  | 11 | 1.8% | 10 | 1.9% | 9  | 1.0% | 13 | 1.5% | 15 | 1.8% | 20 | 2.7% | 33 | 3.9% | 212 | 2.1% |
| Not Specified                   | 0  | 0.0%  | 0  | 0.0%  | 0  | 0.0% | 0  | 0.0%  | 0  | 0.0%  | 0  | 0.0%  | 0  | 0.0% | 0  | 0.0% | 0  | 0.0% | 0  | 0.0% | 0  | 0.0% | 0  | 0.0% | 0  | 0.0% | 0   | 0.0% |

# Shared Care and Services Plans



# Results: eConsultations

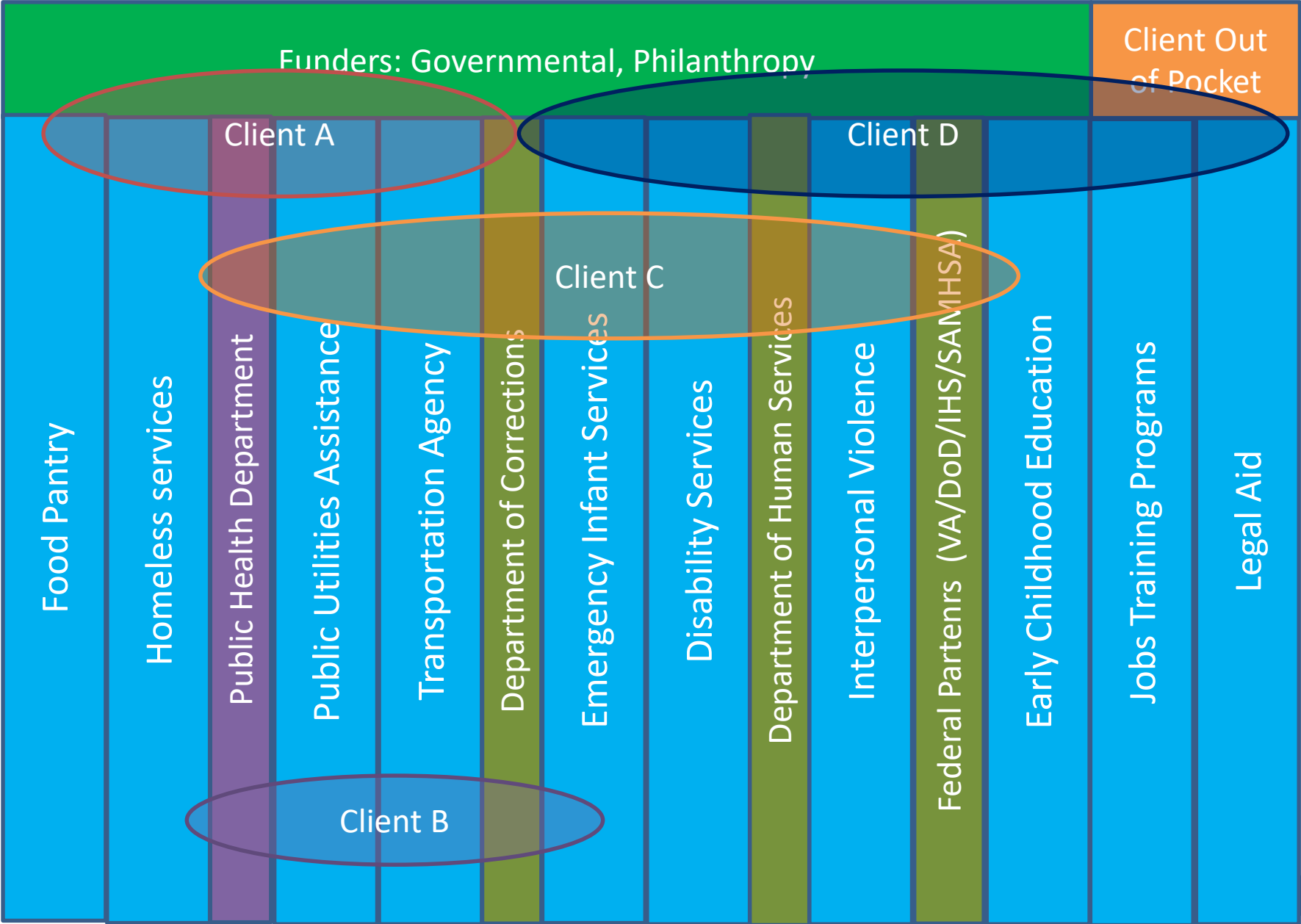
- Patients receiving an online consult had a significant reduction in PMPM cost of care when compared with themselves as historical controls:
  - *\$140.53 Pre Consult vs. \$78.16 Post Consult*
  - *Net savings of **\$62.37**,  $p=0.021$*
- Compared with patients who received a referral but NOT a consult:

| Cost Type                      | Mean PMPM Cost Change | Mean Percentage Change |
|--------------------------------|-----------------------|------------------------|
| Facility Costs (UB92)          | -\$13.00              | -20%                   |
| Professional Costs (HCFA 1500) | -\$108.04             | -34%                   |
| Pharmacy Costs (PBM)           | -\$9.14               | -14%                   |
| Total Costs                    | -\$130.18             |                        |

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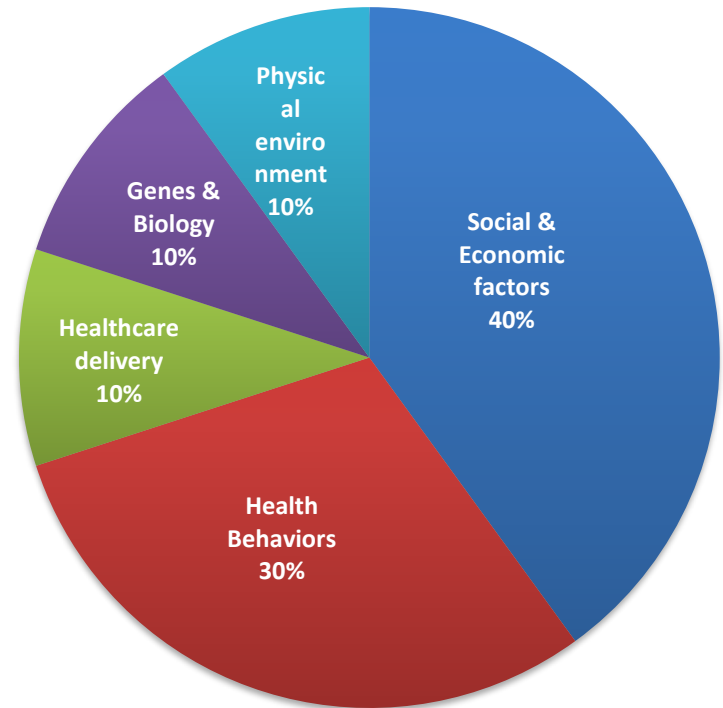
MyHealth operates Oklahoma's Route 66 Accountable Health Community Program



# Accountable Health Community: Route 66 Consortium

- A 2017 cooperative agreement between MyHealth (Bridge Organization) and CMS
- Study to determine if identifying and addressing health-related social needs impacts health care cost and reduces health care utilization
- Focused on screening for 5 major social needs
  - Housing Instability and Quality
  - Food Insecurity
  - Transportation Needs
  - Utility Needs
  - Safety/Interpersonal Violence

## Relative Impact on Health and Well-being

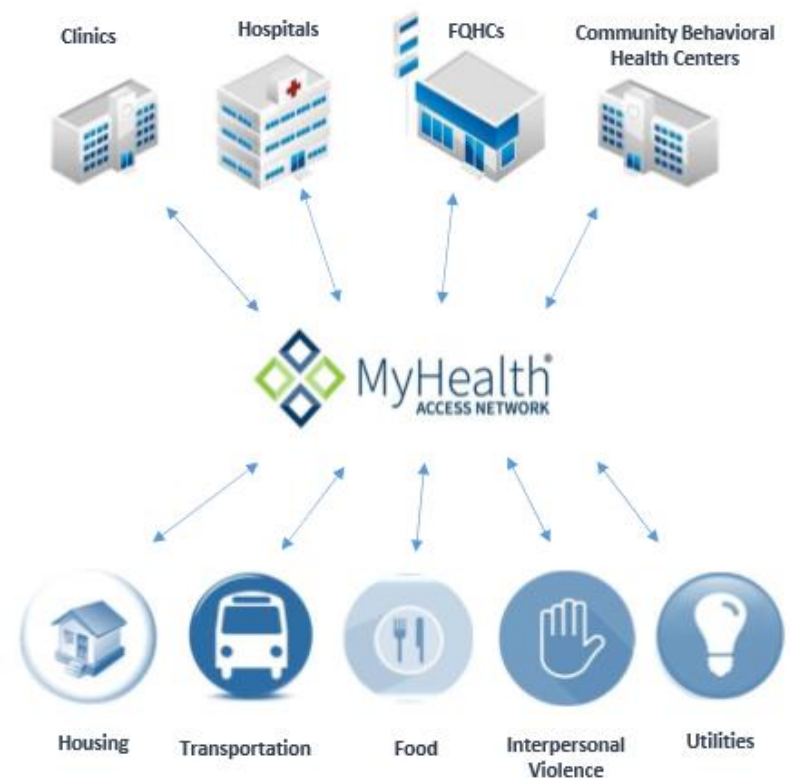


3 Tarlov, AR. Public policy frameworks for improving population health. *Annals of NY Academy of Science*, 1999. 896: 281-293.




# Bridge Organization Responsibilities

- Provide screening for 75,000 patients annually to assess their social needs
- Minimize the burden of screening for clinics
- Use a standardized screening tool to measure study outcomes
- Provide an individualized Community Resource Summary to every patient with an identified social need
- Refer high-risk patients for navigation services provided by the Tulsa and Oklahoma City Health Departments
- Build relationships with community resource agencies to ensure a quality referral processes



# Accountable Health Communities: Statewide Screening for Social Needs

**Accountable Health Communities**

Demo of Accountable Health Communities HRSN Screening Tool

Language

1. Which of the following languages would you feel comfortable completing a survey in?

☐ English

☐ Spanish

Click the link below if you would like to view the Privacy Act Notice for the Accountable Health Communities Model:  
<https://myhealthaccess.info/privacy-act-notice-ahc>

OK

5. What is your living situation today?

☐ I have a steady place to live

☐ I have a place to live today, but I am worried about losing it in the future

☐ I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)

7. Within the past 12 months, you worried that your food would run out before you got money to buy more.

☐ Often true

☐ Sometimes true

☐ Never true

9. In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting to things needed for daily living?

☐ Yes

☐ No

10. In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?

☐ Yes

☐ No

☐ Already shut off

11. How often does anyone, including family and friends, physically hurt you?

☐ Never

☐ Rarely

☐ Sometimes

☐ Fairly often

☐ Frequently



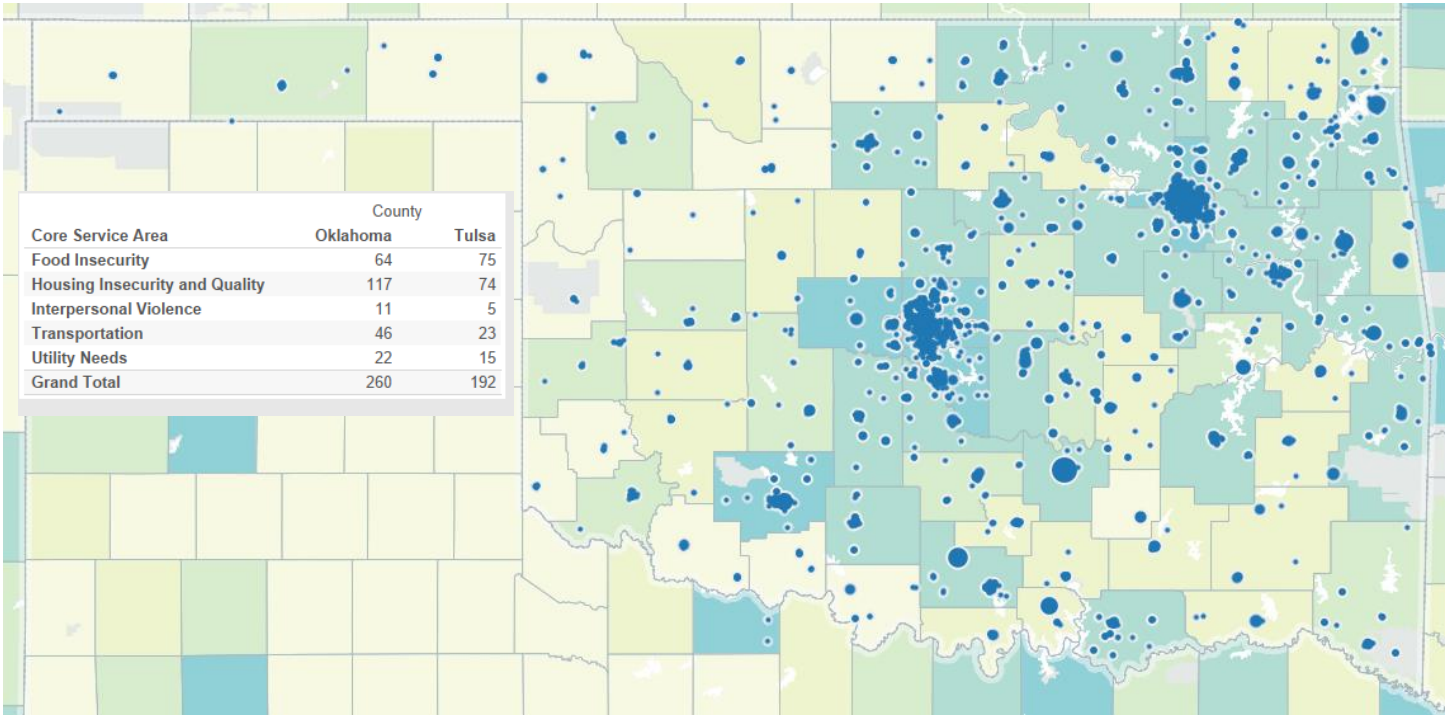
Accountable  
Health  
Communities



**MyHealth**  
ACCESS NETWORK

# Accountable Health Communities: CRS



4,857 Resources in CRS Database, All 77 Counties in OK Covered by CRS Database



Accountable  
Health  
Communities



# Accountable Health Communities: CRS

  
 **Accountable  
Health  
Communities**

## Thank you for completing the Accountable Health Communities Survey!

Listed below are free or reduced cost resources that could help meet your needs. We strongly encourage you to call ahead before you visit any service or program! It is important to confirm the hours the program is open, the qualifications for the program and how they can help before you visit any location.

For additional resources, you can text your zip code to 898-211, call 2-1-1 or visit [www.211ok.org](http://www.211ok.org)

**Food** ^

**BOSTON AVENUE HELPING HANDS**

Provides food to clients every 6 months.  
Must bring some form of ID

**Phone**  
9185821356

**Address**  
709 S Boston Ave  
Tulsa, OK 74119

**Website**  
Service Website:  
<https://www.firstchurchtulsa.org>  
Location  
Website:<https://www.firstchurchtulsa.org>

**Hours of Operation**  
Mon- Fri 9am-12pm

**Living Situation** ^

**DAY CENTER FOR THE HOMELESS**

Provides shelter for women and men.

**Phone**  
9185835588

**Address**  
415 W Archer St  
Tulsa, OK 74103

**Website**  
Location  
Website:<http://www.tulsadaycenter.org>

**Hours of Operation**  
Mon-Sun 5:30pm-7am

**Eligibility**  
Must be a woman of any age, or a man 55



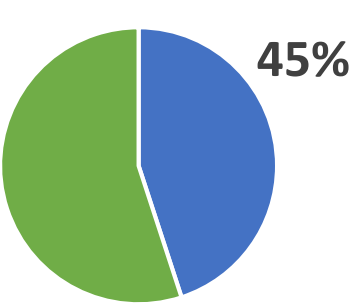
**Accountable  
Health  
Communities**



**MyHealth**  
ACCESS NETWORK

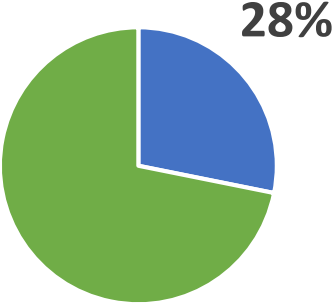
# Accountable Health Communities: Social Needs Data

Medicaid  
Social Needs



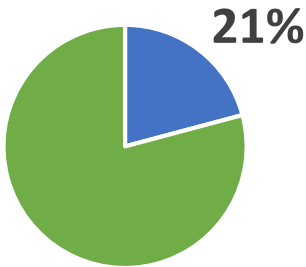
■ Patients with Social Needs  
■ Patients with no Social Needs

Medicare  
Social Needs



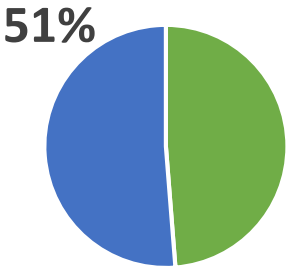
■ Patients with Social...  
■ Patients with no...

Commercial Ins  
Social Needs



■ Patients with Social...  
■ Patients with no...

No Insurance  
Social Needs

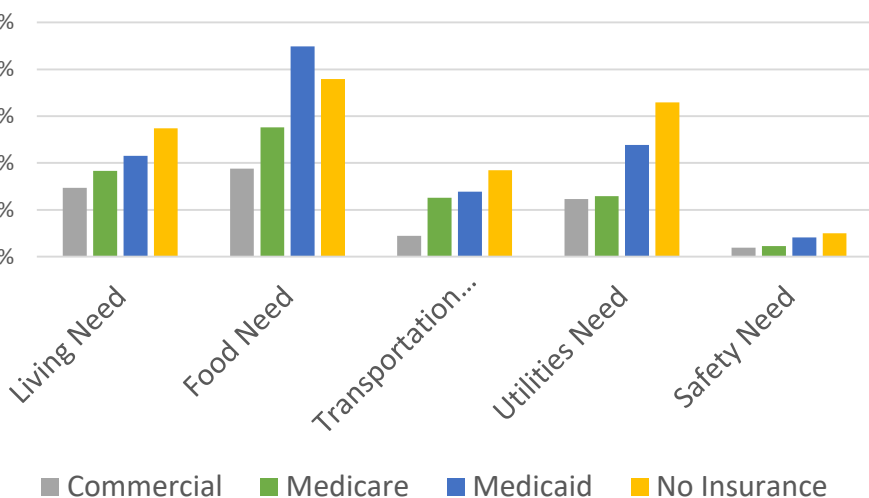


■ Patients with Social...  
■ Patients with no...

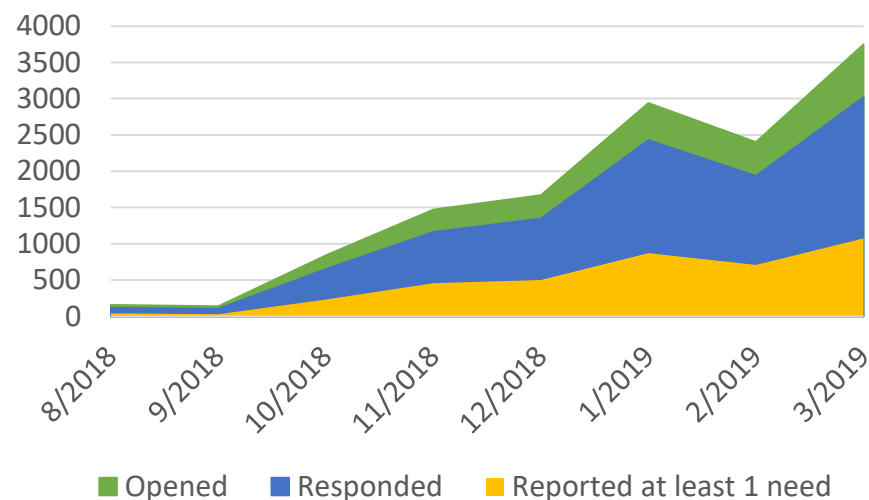


# Social Needs Early Screening Results

## Social Needs Type by Payor

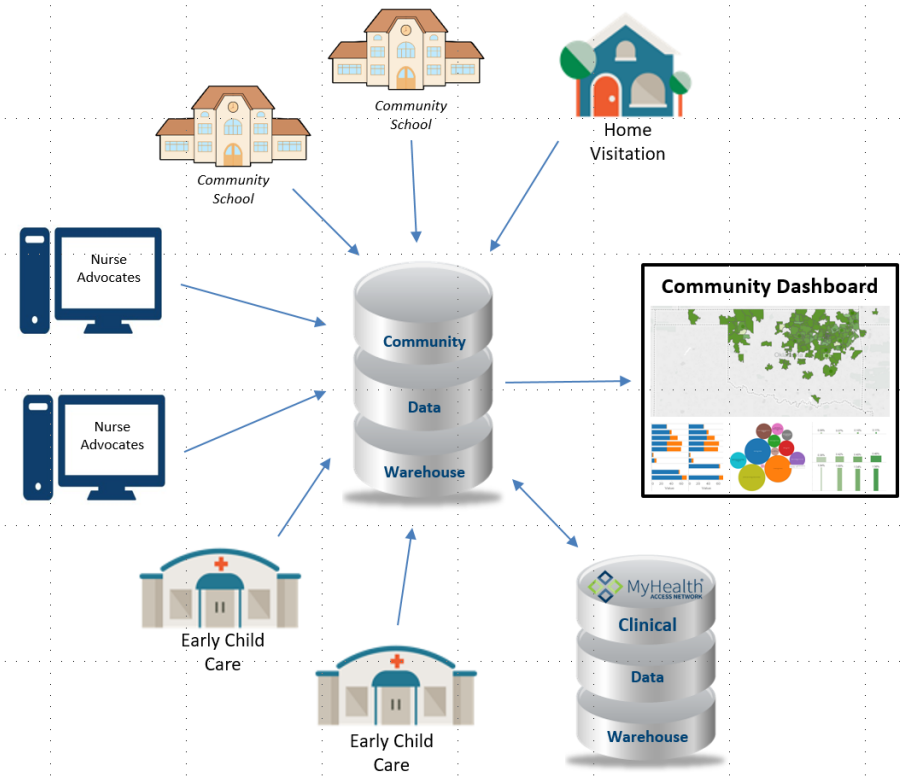


## Survey Responses



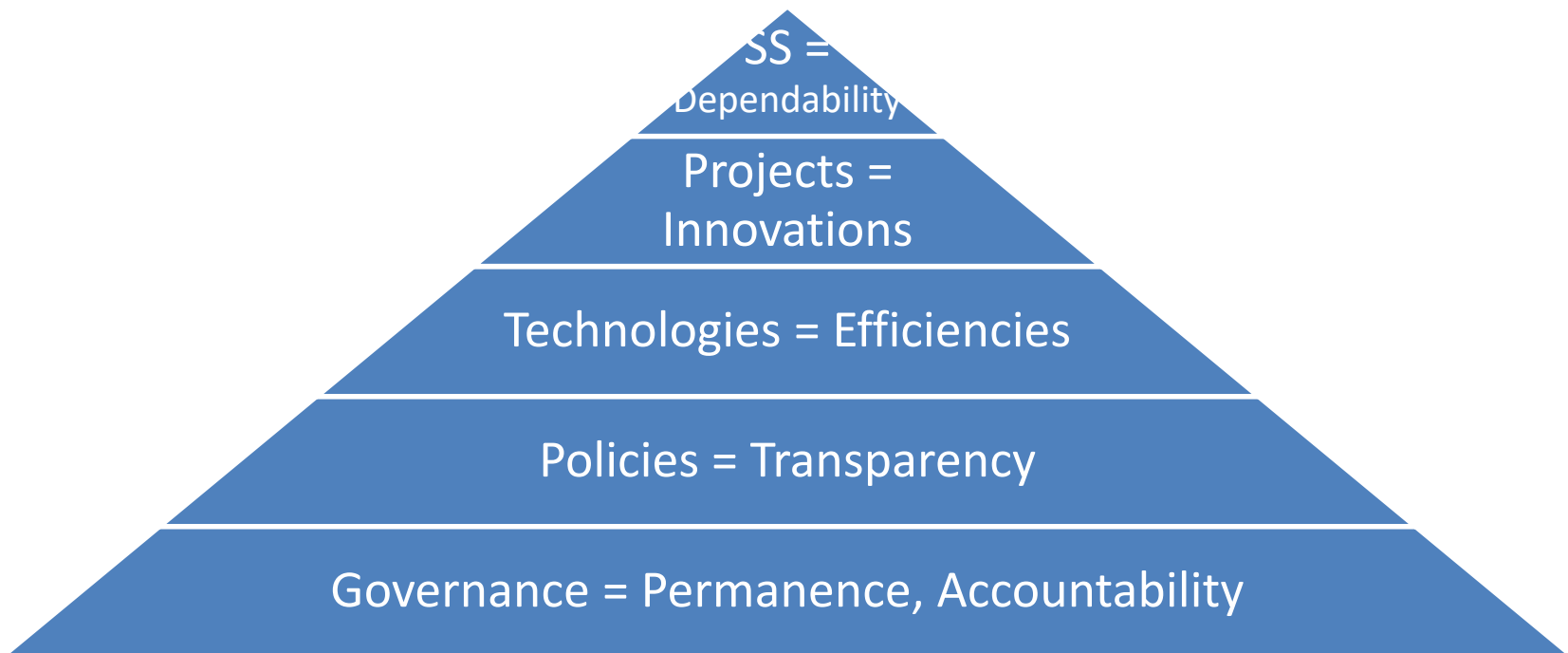
# BEST CHILD Project

- Birth to Eight Strategy for Tulsa
  - Funded by GKFF and Blue Meridian Partners
- Building the CHILD community data ecosystem
  - Integrate data from all services needed by children (and their families) from birth to 8
  - Governance
  - Policy
  - Technology



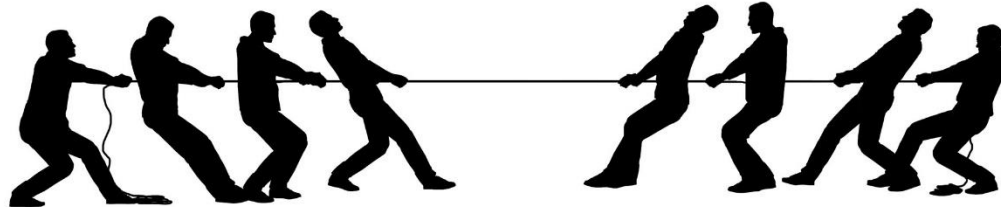


# Infrastructure for Community Change



# Innovations can drive risks + instability

## Policies can drive protection + stability



### INNOVATION – RISKS

- Baseline community technical infrastructure
- Sharing records advances capabilities
- Information transparency might risk unintended negative outcomes

### POLICY – PROTECTS

- Governance – shared data and technology decisions
- Legal compliance, risks & mitigations
- Neutral facilitator (mediates concerns)

# Legal references - potentially pertinent laws

- HIPAA – 45 CFR Parts 160, 162, 164 as amended by ARRA/HITECH
- FERPA – 20 USC §1232g + accompany regs, 34 CFR Part 99
- Head Start Performance Standards, 45 CFR §1301-1311
- Individuals with Disabilities in Education Act, 20 USC §§1400, et seq, 34 CFR §§300, et seq
- COPPA (Children’s Online Privacy Protection Act), 15 USC §§6501-6506
  - **Description:** Details privacy protection guidelines for website operators who collect information online from children under the age of 13, including specific requirements for the privacy policy and for parent inclusion in decision making.
  - **Applies?** Because CHILD is in the category of a *non-profit* organization for *non-profit* purposes and is different from the profile organization COPPA is designed for, this law is not believed to be applicable to this project.

# Partner data capability assessment



# Rolling Out Four Initial Use Cases

UC0: Community-wide identity resolution using master person index with consent process

UC1: Client lookups and historical demographics

UC2: Client Services Utilization History

UC3: Analytics on demographics and services utilization

# Take-aways

- Trust build on strong and appropriately representative Governance is the first and most important basic ingredient
- Process and policies matter
- Each organization will come along at their own pace
- Cross cutting technologies that are centralized are most helpful
  - Identity resolution
  - Credentials management
  - Consent management
  - Data normalization



Accountable  
Health  
Communities



# Discussion

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