

Site Variability in Community
Prevention Programs:
An Opportunity for Improvement

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"The system you have is perfectly designed to produce the results you are getting."

-W. Edwards Deming

Every Child Succeeds (ECS)

- Home visitation program for demographic high risk (single, teen, poor) first-time mothers
- ECS uses 2 home visitation models
 - Nurse Family Partnership (NFP) – 3 Sites
 - ECS model (formerly Health Families America (HFA)) – 13 Sites
- Common evaluation across both models
- Not a head-to-head comparison of models

Site Variability in ECS

- Considerable site variability in both Home Visitation models (sites ranked at top, middle, and bottom) on standardized benchmarks
- Examples of ECS site variability
 - Rates of screening and referral for maternal depression
 - Immunization rates
 - Prenatal enrollment

Sources of Site Variability in Every Child Succeeds

- 16 Agencies providing services
- 110 Home Visitors, 24 Supervisors
- Differential staff turnover across sites
- Multiple training requirements by HV model, state, and agency
- ~2000 families at any given time
- 7 Counties in 2 State 2500 Sq mile service area
- Multiple separate funding sources with different eligibility, service, and reporting requirements

First Generation CQI Initiatives

- Al Spector – former Protocol & Gamble Director of Global Quality, Paper Division
- Establishment of system-wide QA benchmarks based on evaluation data
- Implementation of the “Red-Green” Chart
- Establishing best practices

ECS Quality Indicators
12/1/04 - 11/30/05

		Target	A	B	C	D	E	F	G	H	I	J	K	L	M	N/A	ECS Overall
1	Enrollment Rate	50%	31.88%	46.48%	47.87%	70.45%	55.36%	71.43%	36.00%	62.04%	82.04%	54.17%	60.46%	71.19%	60.48%	97.69%	62.37%
2	Time to 1st Home Visit	70%	89.44%	38.10%	86.67%	64.29%	85.00%	95.57%	88.00%	96.67%	100.00%	100.00%	50.93%	92.68%	83.93%	96.64%	88.57%
3	Freq Home Visits-1st 6 Mo	16	11.28	7.35	11.00	12.91	12.28	15.31	8.60	9.90	16.29	9.53	8.89	16.11	10.43	13.50	13.08
4	No. Home Visits Completed	50%	73.74%	58.97%	94.59%	84.93%	91.23%	91.63%	60.26%	86.00%	94.27%	77.78%	87.17%	96.77%	74.04%	92.35%	86.35%
5	Referrals to Comm'y Agencies	45%	42.65%	50.00%	65.26%	60.00%	42.99%	81.50%	59.38%	56.08%	73.57%	59.26%	67.05%	70.49%	53.46%	50.82%	61.24%
6	Active:Inactive Case Ratio	75%	81.82%	97.44%	98.65%	86.30%	96.49%	96.04%	79.49%	95.00%	99.56%	85.19%	96.08%	100.00%	95.19%	93.99%	94.14%
7	Forms Completion	75%	71.00%	69.00%	82.00%	68.00%	80.00%	74.00%	72.00%	87.00%	90.00%	76.00%	67.63%	96.00%	71.00%	77.00%	80.00%
8	Retention	60%	36.77%	28.00%	43.75%	52.27%	32.41%	49.66%	37.70%	27.64%	53.57%	43.53%	36.27%	59.39%	33.33%	57.95%	43.62%
9	Staff Training	80%	96.00%	100.00%	89.00%	100.00%	93.00%	89.00%	93.00%	89.00%	96.00%	68.00%	N/A	94.00%	100.00%	86.00%	87.00%
10	Medical Home	85%	100.00%	100.00%	100.00%	88.37%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	98.57%	99.21%
11	Immunizations	80%	48.28%	100.00%	85.71%	6.67%	55.56%	61.84%	25.00%	58.33%	79.27%	91.67%	39.46%	78.79%	68.42%	80.00%	65.34%
12A	Developmental Status-A	70%	92.98%	100.00%	88.46%	91.67%	81.63%	91.22%	94.00%	97.06%	86.59%	86.36%	70.80%	93.59%	90.63%	88.54%	90.48%
12B	Developmental Status-B	80%	94.74%	100.00%	96.00%	100.00%	95.45%	89.87%	91.67%	100.00%	97.44%	92.31%	71.87%	100.00%	92.86%	100.00%	96.02%
13	Social Support	65%	N/A														
14	Parenting Attitudes	70%	N/A														
15	Self Sufficiency	70%	67.33%	50.00%	60.00%	77.78%	60.56%	63.56%	75.51%	65.09%	61.79%	71.05%	61.37%	70.30%	56.41%	68.49%	64.47%
16	Client Satisfaction	90%	100.00%	90.91%	100.00%	90.91%	81.82%	100.00%	93.33%	94.12%	96.97%	100.00%	71.43%	100.00%	93.33%	95.24%	96.51%

Second Generation Quality Improvement Efforts

- Center for Health Care Quality – Peter Margolis
- Quality Improvement Methodology
 - Widely applied in business
 - Increasingly applied by health care
 - Core of CCHMC clinical practice
- To date, rare in community prevention programs
- Dedicated staff positions and resources

Contrast Between Traditional Experimental Studies and Quality Improvement Approaches

Traditional Experimental Studies

- Primarily idiographic in focus
- Sampling to make generalizations to larger population.
- Large N.
- Hierarchical, “top-down” oversight.
- Takes a long time.
- Discrete, time limited, size predetermined.

Quality Improvement Approaches

- Primarily systems in focus
- Focus is on specific unit of interest within a provider or organization.
- Small N.
- Emerges from subject experts (“bottom-up”) with QI consultation.
- Takes a short time.
- Iterative, short cycles, changes made in response to observed effects.

BOTH ARE: empirical, data driven, utilize controlled designs.

Contrast Between Traditional Experimental Studies and Quality Improvement Approaches

Traditional Experimental Studies

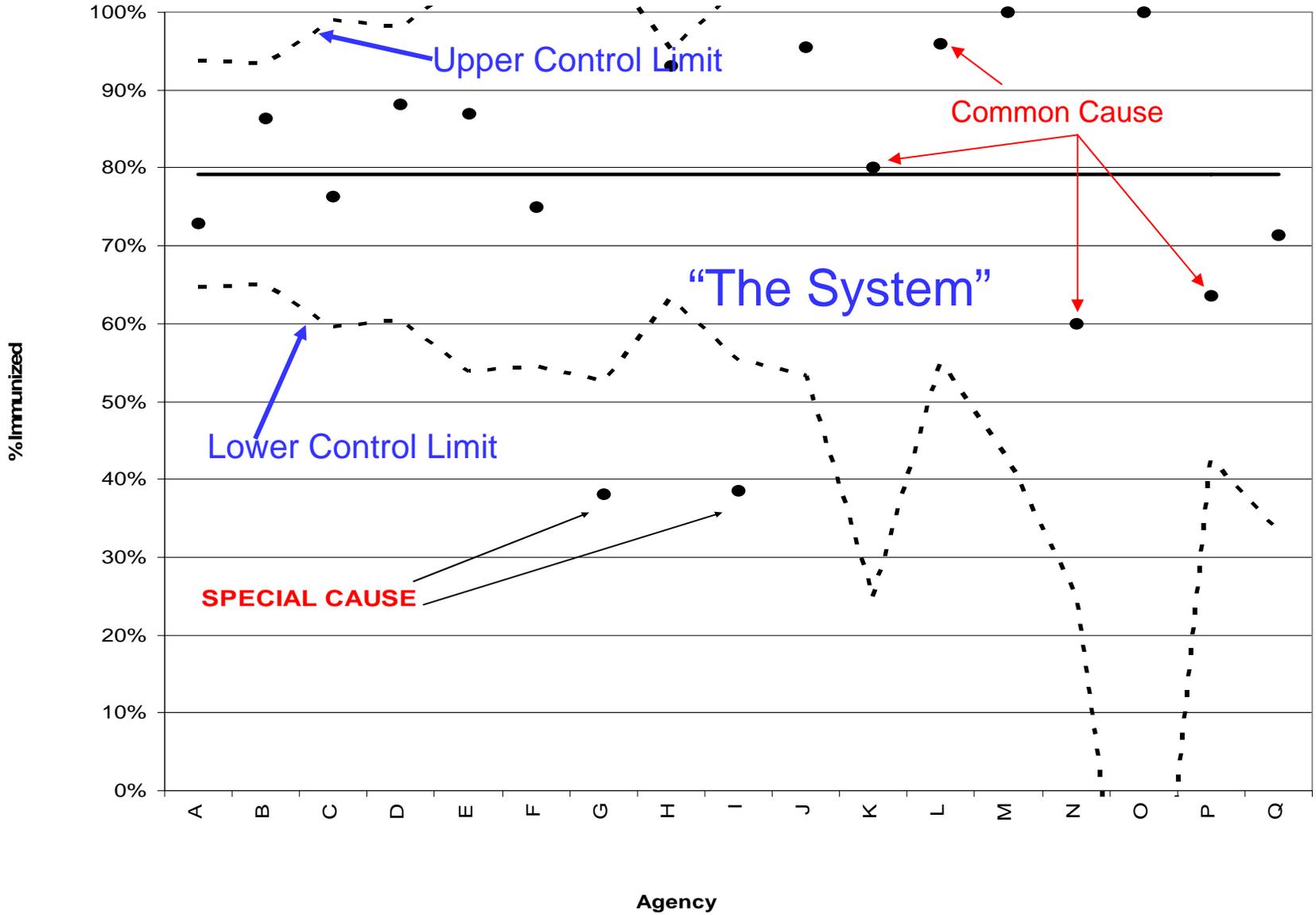
- Goal is to understand causal relationships, confirm and develop theory.
- More expensive.
- Provider and site differences are problematic, complicate interpretation, are assumed to represent flawed implementation.

Quality Improvement Approaches

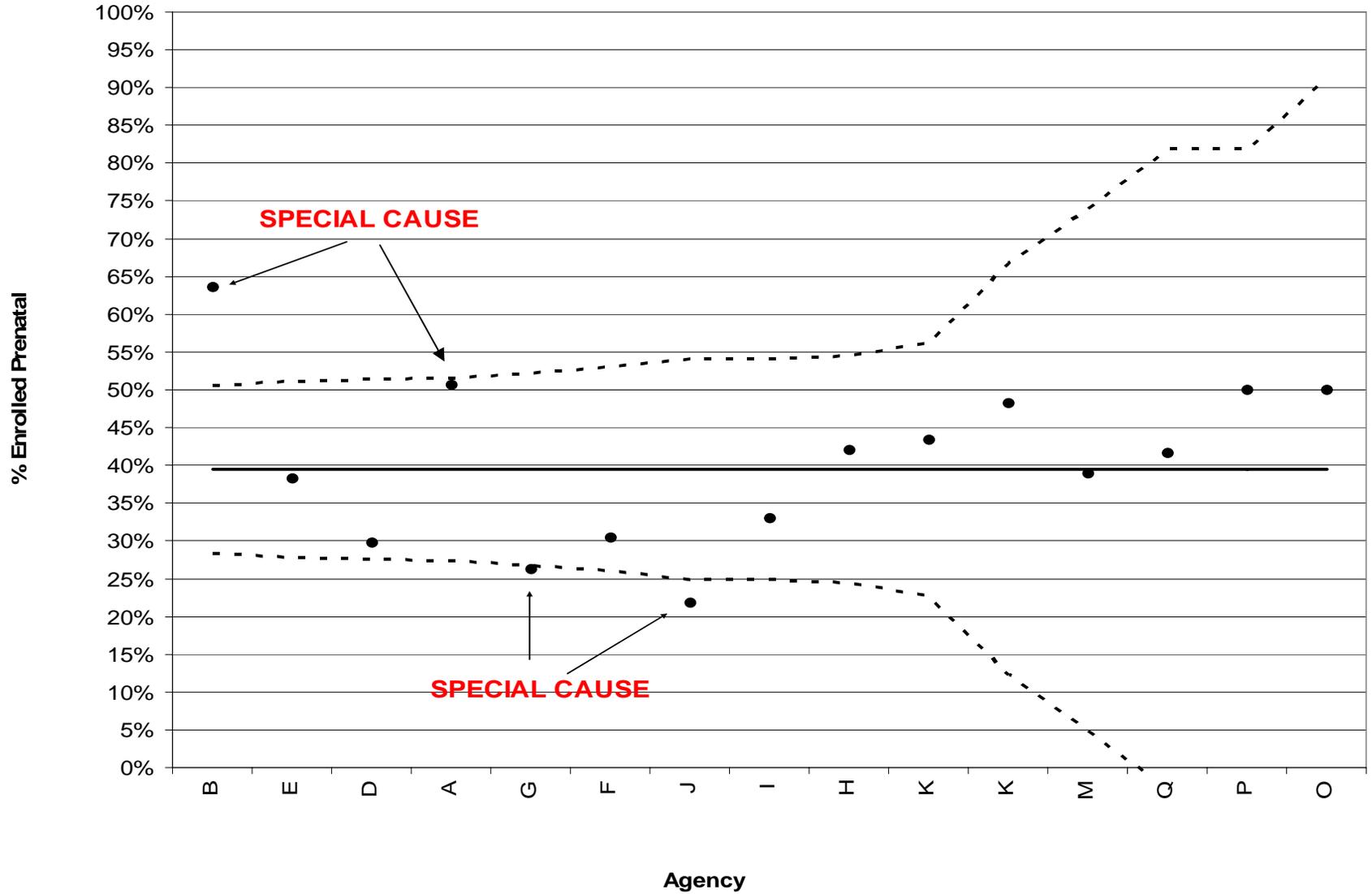
- Goal is to reach preset targets by understanding and changing systems.
- Less expensive.
- Provider and site differences are expected, distinctions made between common cause and special cause, are opportunities for learning.

BOTH ARE: empirical, data driven, utilize controlled designs.

P Chart Showing Immunizations by Agency in ECS

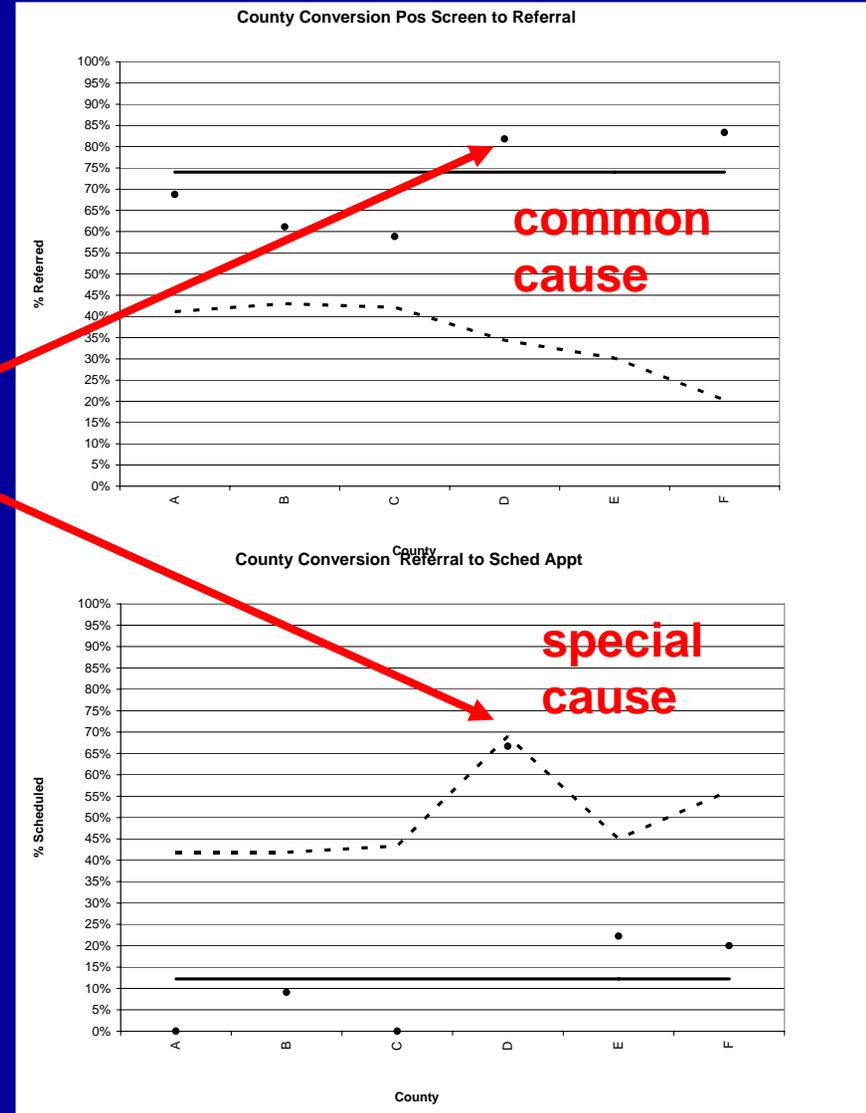


Prenatal Enrollment HFA Agencies Only



Implementation of Maternal Depression Screening by 7 Ohio Counties

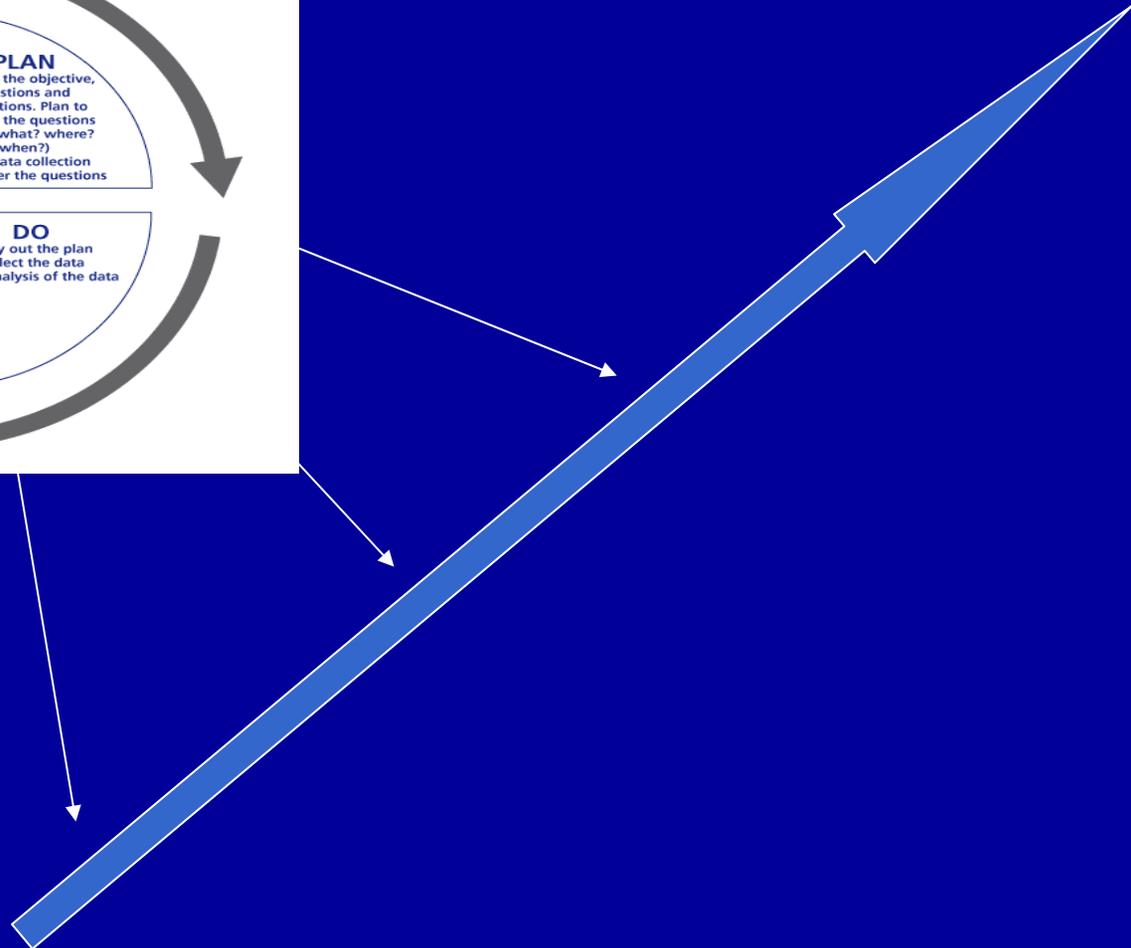
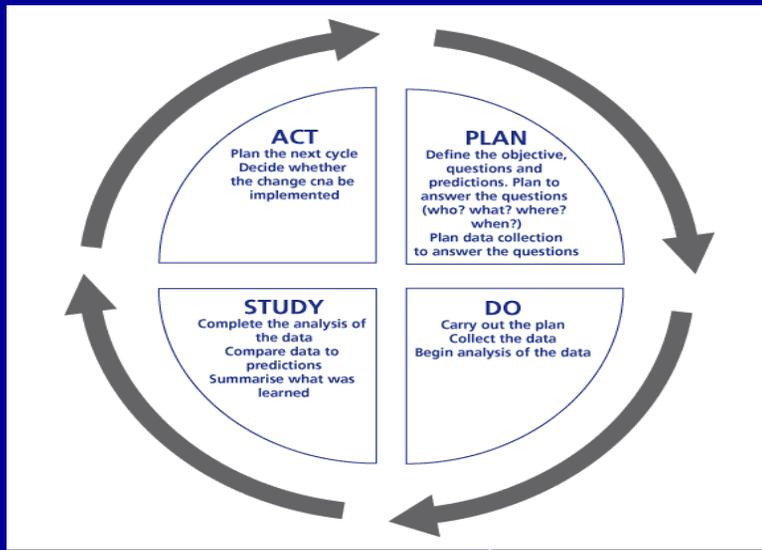
- Columbiana county is more successful at converting positive screens to referrals and referrals to appointments than other counties



Site Variability in Community Programs

- An inevitable consequence of implementing a given community prevention model across multiple, diverse provider settings
- Site variability can be used to inform and drive quality improvement initiatives
- Application of Quality Improvement methodology provides a powerful set of tools to rapidly translate site variability into improvement strategies

Iterative Application of Sequential PDSA Cycles to Improve Quality



QI Methods

- Acknowledge variability and welcome it
- Seek to define a system and measure variability
- Provide a method for identifying common and special cause
- Provide a method for measuring changes over time based on the PDSA (plan-do-study-act) cycle
- We are applying these principles to a community prevention program – and will have more to say as we acquire data on outcomes