

**Agenda Item No. 7  
December 4, 2013 Meeting**

**DATE:** November 22, 2013  
**TO:** Children and Families Commission of Orange County  
**FROM:** Christina Altmayer, Executive Director   
**SUBJECT:** Bridges Maternal Child Health Network Program Evaluation

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**SUMMARY:**

The Bridges Maternal Child Health Network (Bridges Network) is a multi-disciplinary system of providers that collaborate throughout Orange County to improve the health and well-being of pregnant women and young children 0 – 5 years of age. The program has been funded by the Commission since 2000 and, while outreach and screening strategies have been modified to address funding challenges and evaluation results, the core focus of the program to identify newborns at-risk and connect mothers and babies with services has remained unchanged. The Bridges Network represents a strong family-friendly infrastructure of 10 birthing hospitals, Public Health Nurses, and four non-profit home visiting providers (MOMS Orange County, Children's Bureau of Southern California, Orange County Child Abuse Prevention Center, and The Raise Foundation).

Collectively, the Bridges Network is the Commission's largest program investment. In FY 2012/13, the Commission invested \$6.3 million to ensure that more than 13,000 mothers were screened at Bridges hospitals, over 23,000 home visits were provided to improve children's health and development, and almost 16,000 mothers received breastfeeding education and support. Evaluation of the Bridges Network was approved as priority for the Commission's evaluation workplan for the current fiscal year. This report provides a summary of the evaluation approach and findings that will be presented to the Commission at the December meeting. The report is particularly timely as the Commission begins the funding renewal analysis.

**DISCUSSION:**

Since February 2000, the Commission has funded the Bridges for Newborns and Project Connections Early Action Programs to increase health access for very young children. In addition, the Commission has funded several home visitation programs targeted at strengthening families for the purpose of promoting healthy early child development. Collectively, these programs have focused on Commission outcomes to help ensure that children:

- are born healthy
- have and use a health home for comprehensive health services to include physical and dental services along with access to receiving age appropriate immunizations
- have access to early screening and assessments so conditions are identified, assessed, and managed
- are raised in healthy and safe environments

A key feature of the Bridges program has been the use of a standardized tool (Attachment 1) to screen every new mother for risk. Families that could benefit from additional supports in areas such as; optimal parenting, maternal and child health issues, and child development, are connected to home visitation providers. In 2004, the Commission's evaluation team determined that the screening tool adequately measured risk and the new model was an improvement over the standard of care provided by local birthing hospitals. A factor analysis demonstrated the validity of the risk screening tool in six categories:

1. Financial Resources
2. Mother's Preparedness
3. Family Strength
4. Child's Health

5. Threats
6. Experience and Demand

These Bridges related programs have served as a platform to implement many of the Commission's strategies to address maternal child health issues such as supporting the hospitals in pursuing Baby Friendly hospital designations to promote breastfeeding practices. The network has also served as a platform to address community health issues such as the recent increase of pertussis (whooping cough) which has been occurring in California.

### ***Evaluation Results***

In an effort to achieve strong outcomes for children, and consistent with the Long-Range Financial Plan, the Commission (in coordination with the Bridges Network providers and an outside panel of health experts) developed a proposal in 2009 for redesigning the network and rebranding this network of programs as the Bridges Maternal Child Health Network. The aim was to restructure the program to operate as a network-system of care; identify cost savings and reductions; find ways to streamline processes; strengthen program management, and continue to achieve strong outcomes for children.

The Commission's Business Plan for FY 2013/14 includes a priority to conduct a study to assess the effectiveness of the redesigned Bridges Maternal Child Health Network program in achieving strong outcomes for children. To this end, an evaluation was designed to document and monitor the progress of the Bridges Redesign in order to identify strengths and areas of improvement to assist the agencies in future planning. The evaluation was multifaceted and included gathering information from the participating Bridges agencies and stakeholders, as well as reviewing data and outcomes via the Bridges Connect client-referral system and Grant Evaluation and Management System. Recently, community, program, evaluation and policy leaders were invited to participate in a convening to dialogue about the evaluation methodology, findings, and implications for future Maternal Child Health services in Orange County.

Key findings in the evaluation report include:

- Commission is reaching approximately 70% of the births in Orange County through the hospital-based outreach program
- 96% of those screened for additional services had incomes below 200% of the Federal Poverty Level (\$23,000 for a family of four)
- Of those referred, 98% were successfully connected with services and 76% of those referrals were successfully closed
- The Bridges Network programs are continuing to achieve strong outcomes for young children

Commission staff will present a summary of the evaluation approach and findings for Commission consideration and direction (Attachment 2). Evaluation findings and Commission direction will be relevant to the Commission's Healthy Children program funding panel in informing their review. After Commissioner direction is received, the Bridges Maternal Child Health Network Evaluation Report will be finalized. Two key products that will be developed to assist in conveying information about the Bridges Network and the evaluation include a:

- Summary Bridges Network evaluation report that includes information on the evaluation methodology, findings and implications
- Bridges Network brief including summary information on how the prenatal, infant, toddler and public health nursing home visitation programs are organized collectively in a network and the evidence base for the Commission's investment

### **STRATEGIC PLAN & FISCAL SUMMARY:**

This staff report has been reviewed in relation to the Commission's Strategic Plan and is consistent with the Capacity Building goal, and Proposition 10 statutory requirements. There is no funding recommendation included in this agenda item.

**PRIOR COMMISSION ACTIONS:**

- June 2011 – Approved implementation of budget reductions
- May 2010 – Authorized Bridges Maternal Child Health Network funding
- March 2010 – Received Bridges Maternal Child Health Network redesign recommendations
- August 2002 – Approved Bridges for Newborns Program Strategic Business Plan
- February 2000 – Approved Bridges and Project Connections Early Action Programs

**RECOMMENDED ACTION:**

Receive and consider Bridges Maternal Child Health Network Evaluation presentation and provide policy direction to staff.

**ATTACHMENTS:**

1. Bridges Screening Matrix for Mothers and their Newborns
2. Bridges Maternal Child Health Network Evaluation

**Contact:** Alyce Mastrianni  
Sharon Boles

Bridges Screening Matrix for Mothers and their Newborns

Attachment 1

<b>Mother</b>	<b>None</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
1. Mother's age	25-39 0	20-24 6	17-19 12	Under 17 or over 39 18
2. Mother's marital status	Married 0	Single, living with partner/family 2	Single with roommate 4	Single, living alone 6
3. Number of other children in the home	None under 5yoa; singleton birth 0	1-2 under 5yoa; singleton birth 1	First-time mother or 0-2 children under 5yoa with twin/multiple births 2	3 or more under 5yoa with singleton or multiples or other child(ren) removed from home or deceased 3
4. Mother's use of English	Fluent 0	Medium fluency 1	Some English 2	No English 3
5. Mother's highest education level	College Graduate 0	Some College 3	High school or GED 6	Did not complete high school 9
6. Annual household income level	> \$60,000 0	\$60K-36K 3	\$36K-18K 6	Below \$18K or mother unaware of income 9
7. Adequate and timely prenatal care?	Sought prenatal w/in 3 mos and consistent with follow-up 0	Sought prenatal care w/in 6 mos and consistent with prenatal follow-up 4	Did not seek prenatal care until after 6 mos or inconsistent with prenatal follow-up 8	No prenatal care 12
8. Health coverage	Full 0	Partial (e.g., hospitalization only or high deductible) 1	Temporary (e.g., pregnancy Medi-Cal, AIM) 2	None 3
9. Medical or mental health problem <i>(Include Post-Partum Depression)</i>	No limitations; realistic expectations of child; in full control of mental faculties 0	Mild limitations which may impact ability to care for child 6	Moderate limitations which could significantly impact ability to care for child 12	Mother is incapacitated and is likely to be unable to care for child 18
10. Tobacco smoke in home?	No smoking 0	Visitors smoke 1	Household members smoke 2	Mother smokes 3
11. Current housing conditions	Stable and safe 0	Adequate 3	Rents a motel, garage or portion of a living space; frequent migration; staying with friends 6	Currently homeless or in temporary shelter or car 9
12. Level of family support	Family and/or partner is supportive, available and committed to help 0	Inconsistent or limited family or partner support (e.g., family is supportive but partner is not) 2	Family or partner supportive but not in geographic area; some support from friends and neighbors; limited community services available 4	No relatives/friends/partner available or committed; geographically isolated from community services; no phone 6
13. Transportation a barrier?	Never 0	Rarely 1	Sometimes 2	Frequently 3
14. Adequate food in the house	Consistent 0	Adequate 3	Inconsistent 6	Chronically inadequate 9
15. Infant feeding issues	Mother demonstrates knowledge, confidence regarding infant feeding; sufficient resources available to support healthy feeding relationship with infant 0	Mother requires some education regarding infant feeding; adequate resources available to support healthy feeding relationship 3	Great uncertainty or lack of experience/knowledge with infant feeding and/or limited resources available to support healthy feeding relationship 6	Grossly insufficient knowledge regarding infant feeding; lack of interest in improving feeding skills; evidence of, or high potential for, poor feeding relationship 9
16. Mother's intent to remain current with well-baby care and immunizations for her infant	Very Strong 0	Moderately Strong 1	Weak 2	Very Weak/ No Understanding 3
17. Mother's demonstrated awareness of available resources.	Full Awareness 0	Moderate Awareness 1	Some Awareness 2	No Awareness 3
18. Strength of maternal bond w/infant.	Strong 0	Moderate 5	Weak 10	None 15
19. History of domestic violence or child abuse/neglect? <i>(Include parents' own childhood history of abuse or any non-spousal assaults)</i>	No known history of domestic violence or child abuse/neglect 0	<i>No low level for this category</i>	Partner currently in treatment for domestic violence; prior protective services provided to siblings, with that episode resolved and case closed; mother retains custody of siblings; parent of child was a victim of childhood abuse. 12	Pending child abuse/neglect or domestic violence investigation; previous abuse/neglect or domestic violence of serious nature; prior court action, e.g., siblings removed from home; or child abuse or domestic violence suspected or discussed but no system intervention to date 18
20. History of excessive alcohol or other drug use by people who will impact infant's wellbeing? <sup>1</sup>	No History 0	Some history but not currently using any drugs/alcohol 6	Mother/Father/Significant Other is receiving drug/alcohol treatment, remains in program, and is considered compliant 12	Mother/Father/Significant Other not in drug/alcohol treatment program; individual is in program but attendance is sporadic; (mother) entered program late in pregnancy 18
<b>Infant</b>	<b>None</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
21. Health care coverage	Full 0	Partial 1	Temporary 2	None 3
22. Source of medical care	Regular pediatrician or community clinic 0	Attending pediatrician 1	Emergency room 2	No plan for future care 3
23. Medical problems	No apparent medical or physical problems 0	Minor medical or physical problems which do not significantly affect infant's vital functions or physical and intellectual development (including low Apgar score) 6	Medical or physical problems which moderately affect infant's vital functions or physical and intellectual development 12	Any pre-term infant (born at or before 36weeks) and/or physical or medical problem which significantly impacts vital life functions or physical and intellectual development (e.g., cardiac defect, apnea, visual or hearing handicap, seizure disorder) 18
24. Mother's worry about infant's health	Not Worried 0	Minor Worries 1	Moderate Worries 2	Very Worried 3

<sup>1</sup> Alcohol/drug use includes: use of illegal substances or alcohol, misuse of prescription drugs or non-prescription substances.

# BRIDGES SCREEN

Screener's Initials: \_\_\_\_\_

Screen Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Hospital:** \_\_\_\_\_

**Mother's Name:** \_\_\_\_\_

**Referral Status:**     Ineligible: Already Receiving Services     Auto Referral to: \_\_\_\_\_

<i><b>Mother</b></i>	<i><b>None</b></i>	<i><b>Low</b></i>	<i><b>Moderate</b></i>	<i><b>High</b></i>
1. Mother's age	0	6	12	18
2. Mother's marital status	0	2	4	6
3. Number of other children in the home	0	1	2	3
4. Mother's use of English	0	1	2	3
5. Mother's highest education level	0	3	6	9
6. Annual household income level	0	3	6	9
7. Adequate and timely prenatal care?	0	4	8	12
8. Health coverage	0	1	2	3
9. Medical or mental health problem (circle which)	0	6	12	18
10. Tobacco smoke in home?	0	1	2	3
11. Current housing conditions	0	3	6	9
12. Level of family support	0	2	4	6
13. Transportation a barrier?	0	1	2	3
14. Adequate food in the house	0	3	6	9
15. Infant feeding issues	0	3	6	9
16. Mother's intent to remain current with well-baby care & IZ for infant	0	1	2	3
17. Mother's demonstrated awareness of available resources.	0	1	2	3
18. Strength of maternal bond w/infant	0	5	10	15
19. History of domestic violence or child abuse/neglect?	0	N/A	12	18
20. History of excessive alcohol or other drug use by people who impact...?	0	6	12	18
<i><b>Infant</b></i>	<i><b>None</b></i>	<i><b>Low</b></i>	<i><b>Moderate</b></i>	<i><b>High</b></i>
21. Health care coverage	0	1	2	3
22. Source of medical care	0	1	2	3
23. Medical problems	0	6	12	18
24. Mother's worry about infant's health	0	1	2	3
<b>Instructions: Add circled numbers down the columns to obtain subtotals. Add subtotals to derive score and record in box at far right. Use interpretation table below to determine referral category.</b>	$0 + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \boxed{\hspace{2cm}}$ <div style="display: flex; justify-content: space-between; width: 100%;"> <span><b>Subtotals</b></span> <span><b>Score</b></span> </div>			

25. What does the mother consider her most immediate need(s)/concern(s)?

26. Other Comments/ Explanation of Auto Referral or Already Receiving Services:

**Interpretation of Score**

**0 – 45**      FRC Referral: Refer to a FRC or other non-Bridges service if some intervention or assistance is needed (referral to FRC strongly encouraged for score of 40-45).

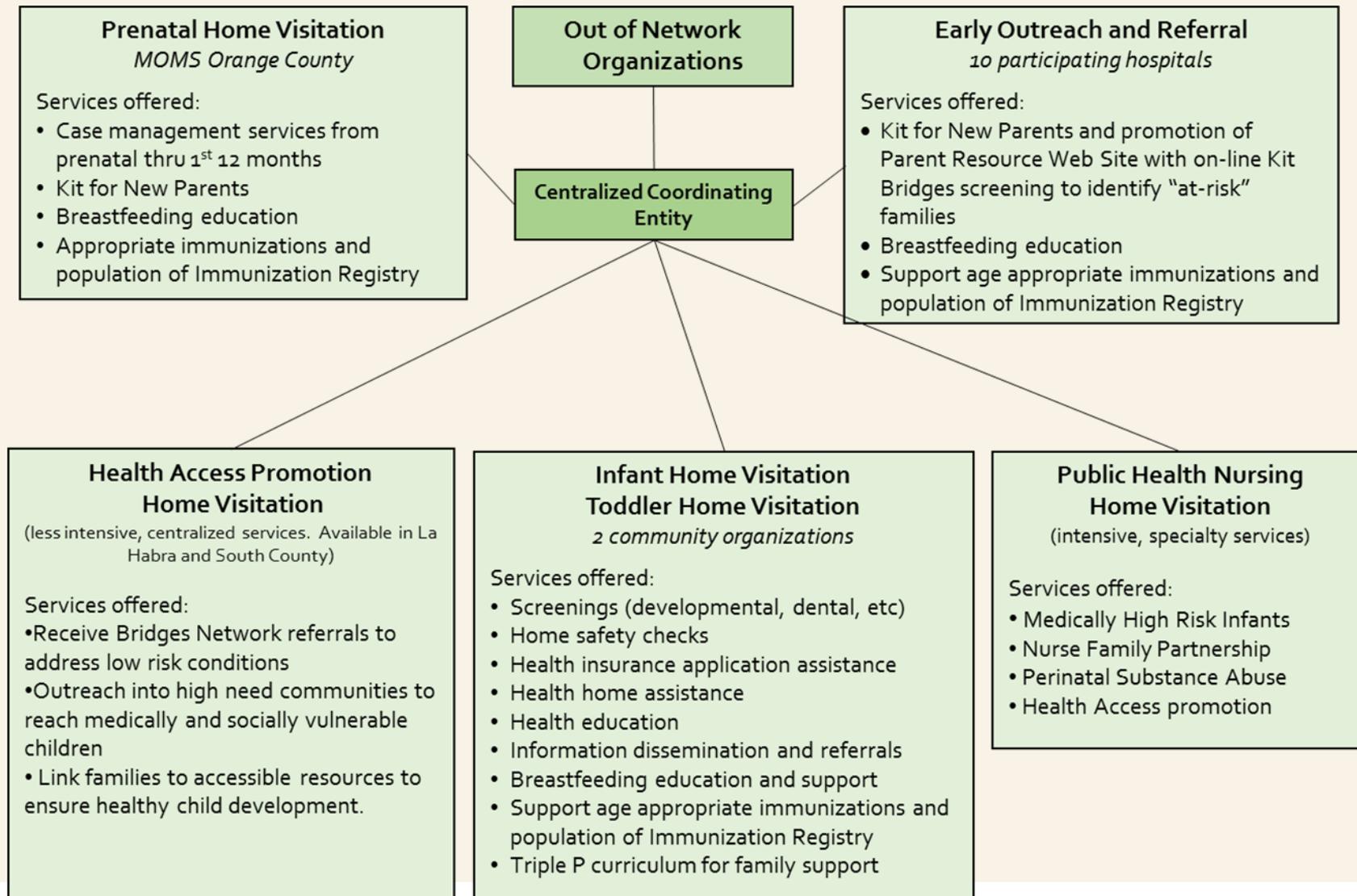
**46 – 204**    Service Provider Referral: Refer to Bridges Service Provider, or alternative support service, based on client need and location.

# Bridges Maternal Child Health Network Evaluation



Children & Families Commission of Orange County

# Bridges Maternal Child Health Network: Scope of Services





### **Background and Contextual Data**

Data on the child birth rate were collected and reported by each hospital for Fiscal Years 2008-2013.

### **Bridges Connect and Grant Evaluation and Management System Databases Provided Basis for Detailed Analysis:**

- Aggregate case data to understand number and characteristics of services
- Case-level intake and exit data on services provided to the Bridges Network families to assessment impact and outcomes of services

### **Bridges Network Provider Survey**

To evaluate the impact and effectiveness of the redesign, a survey was conducted with 137 Bridges Network provider staff on the six redesign evaluation areas.

# Bridges Maternal Child Health Network Evaluation

## Convening



- Brought together Maternal Child Health evaluation and policy leaders to discuss the Children and Families Commission's evaluation of the Bridges Maternal Child Health Network
- Received feedback on the evaluation methodology, findings and implications for future Maternal Child Health services in Orange County
- Discussed available and existing data, identify gaps and opportunities to make this information available and accessible
- Discussed partnering for future evaluations

# Summary of Referrals From July 1, 2012-June 30, 2013



26,980 Births at 10 Bridges Hospitals (representing approximately 71% of all births in the county)

21,846 Prescreened (81.0% of births at the Bridges Hospitals)

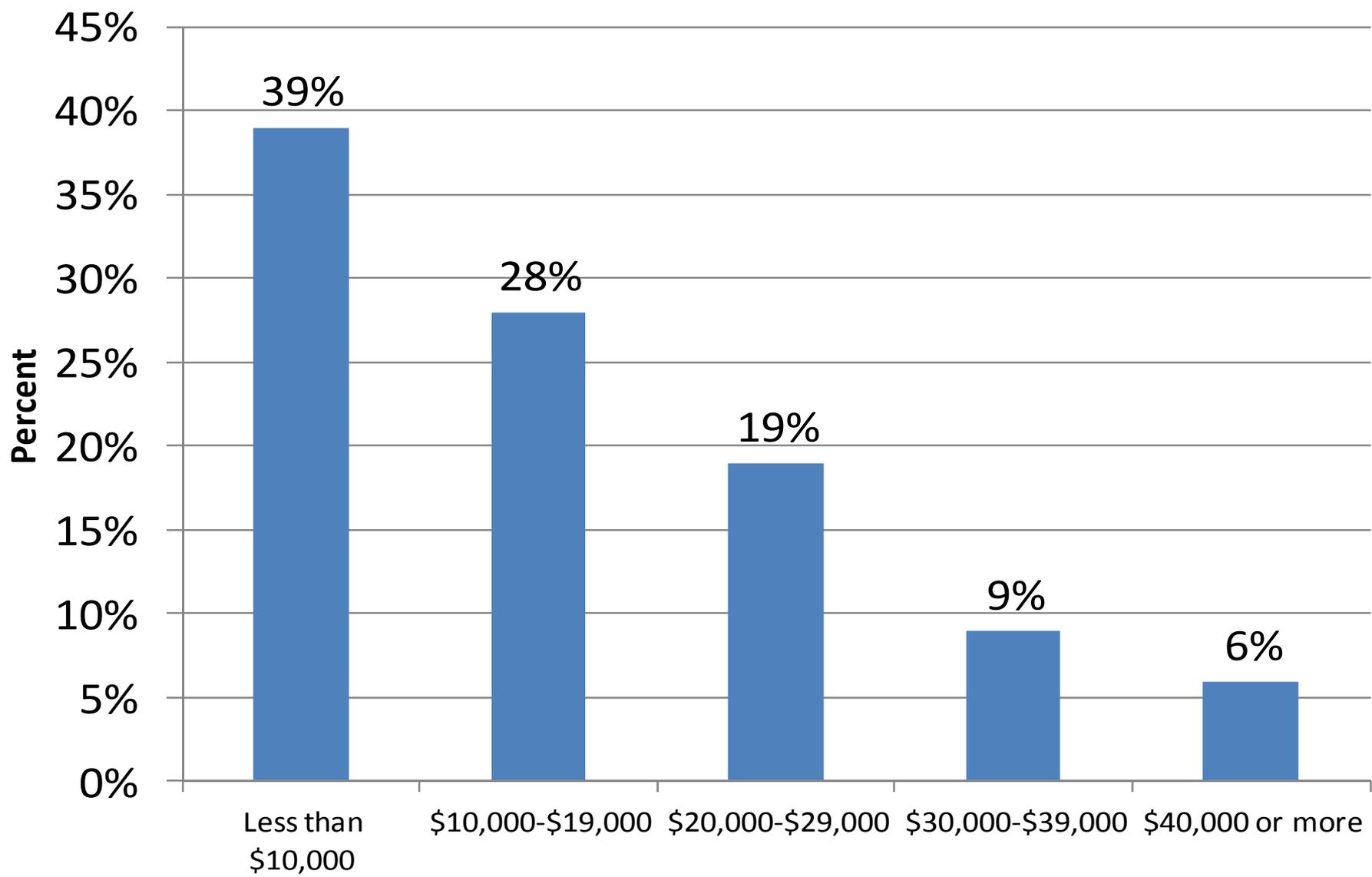
13,554 Screened (62.0% of Prescreened)

4,974 Referred (36.7% of Screened)

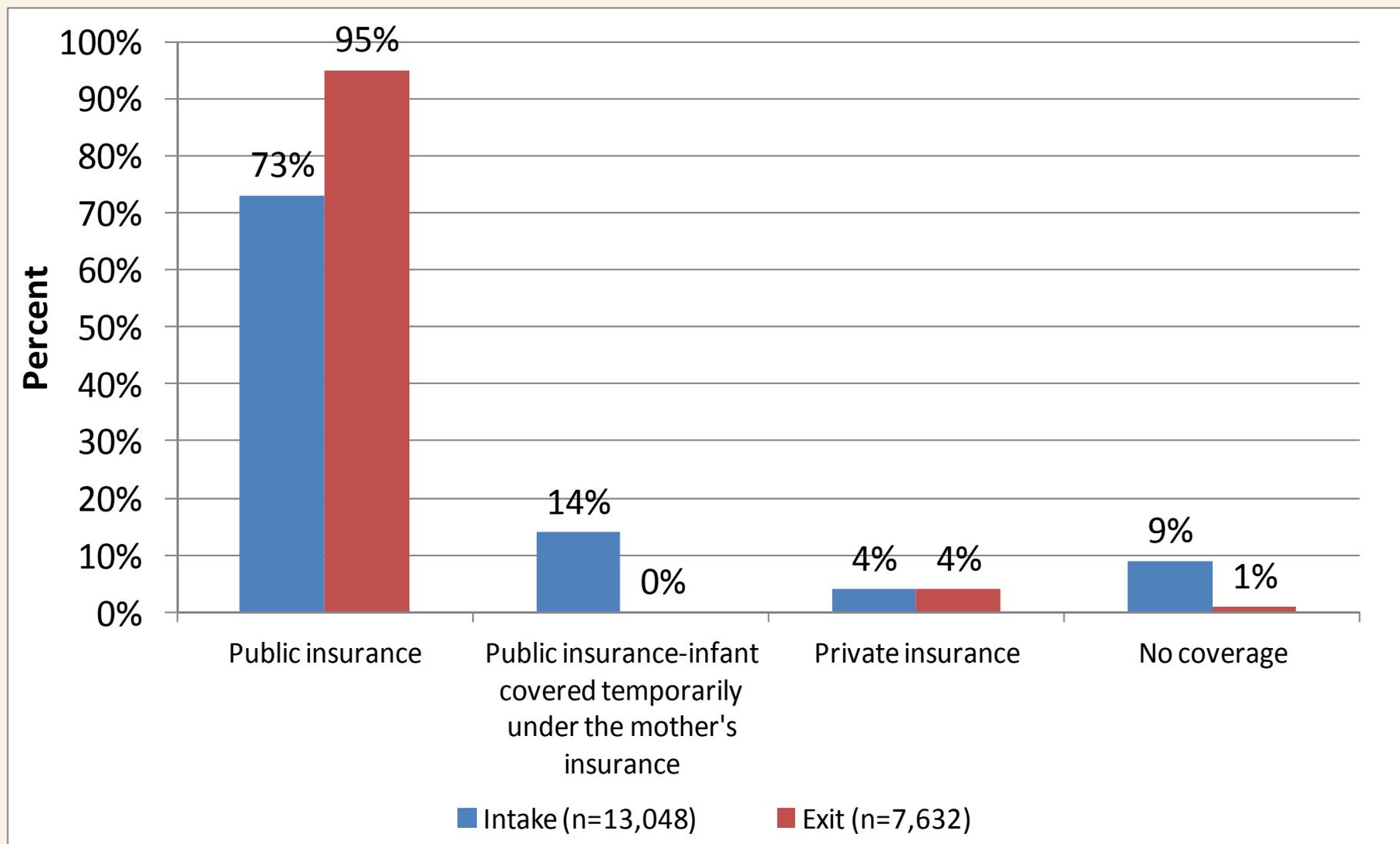
4,874 Referrals Accepted (98.0% of Referred)

**76.7%**  
**successfully**  
**closed**

# Annual Income of Bridges Network Families, FY 2010/11-2012/13



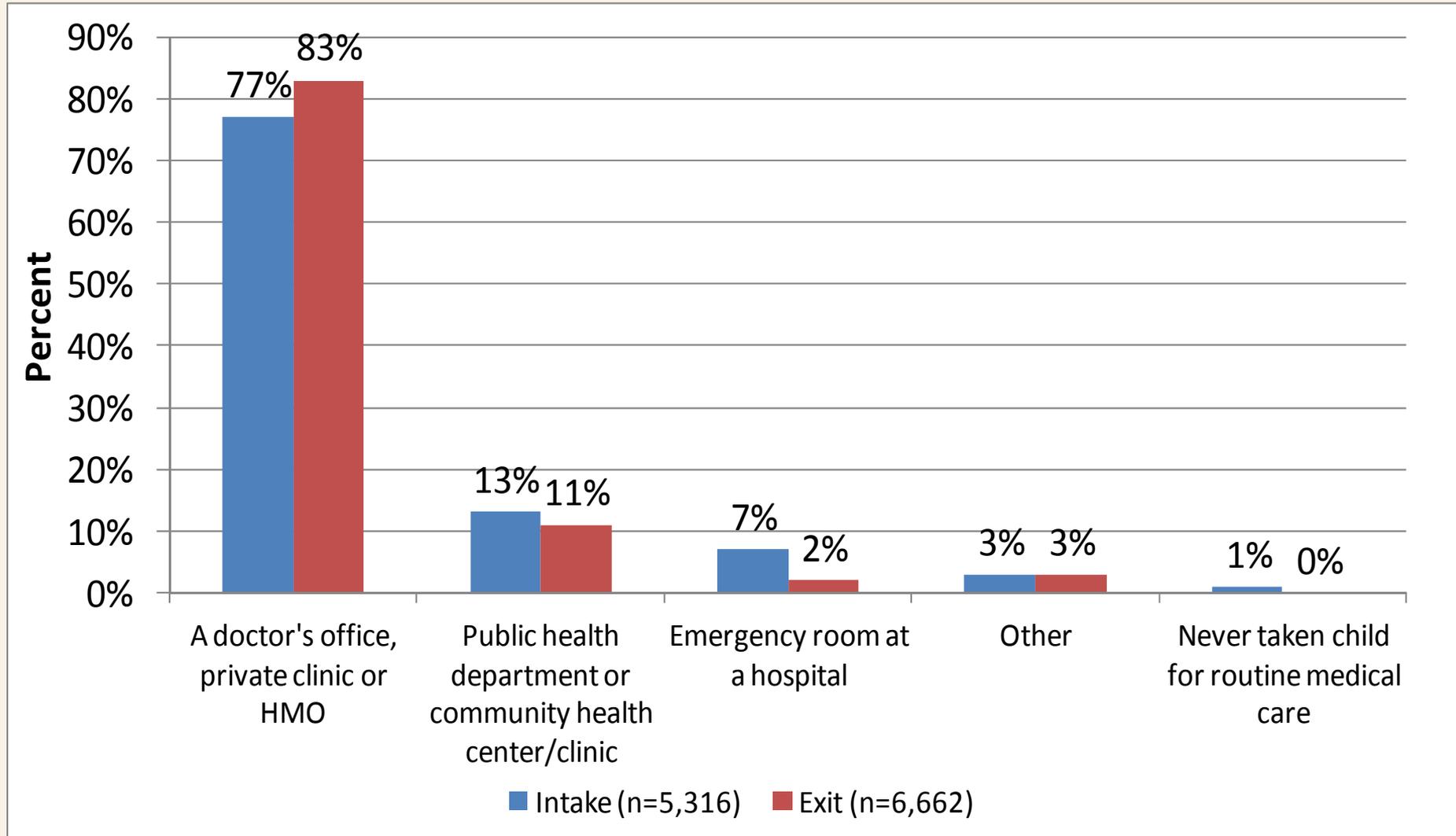
# Type of Medical Insurance for Child\*, 2010/2011-2012/13



\*Statistically significant at  $p < .05$

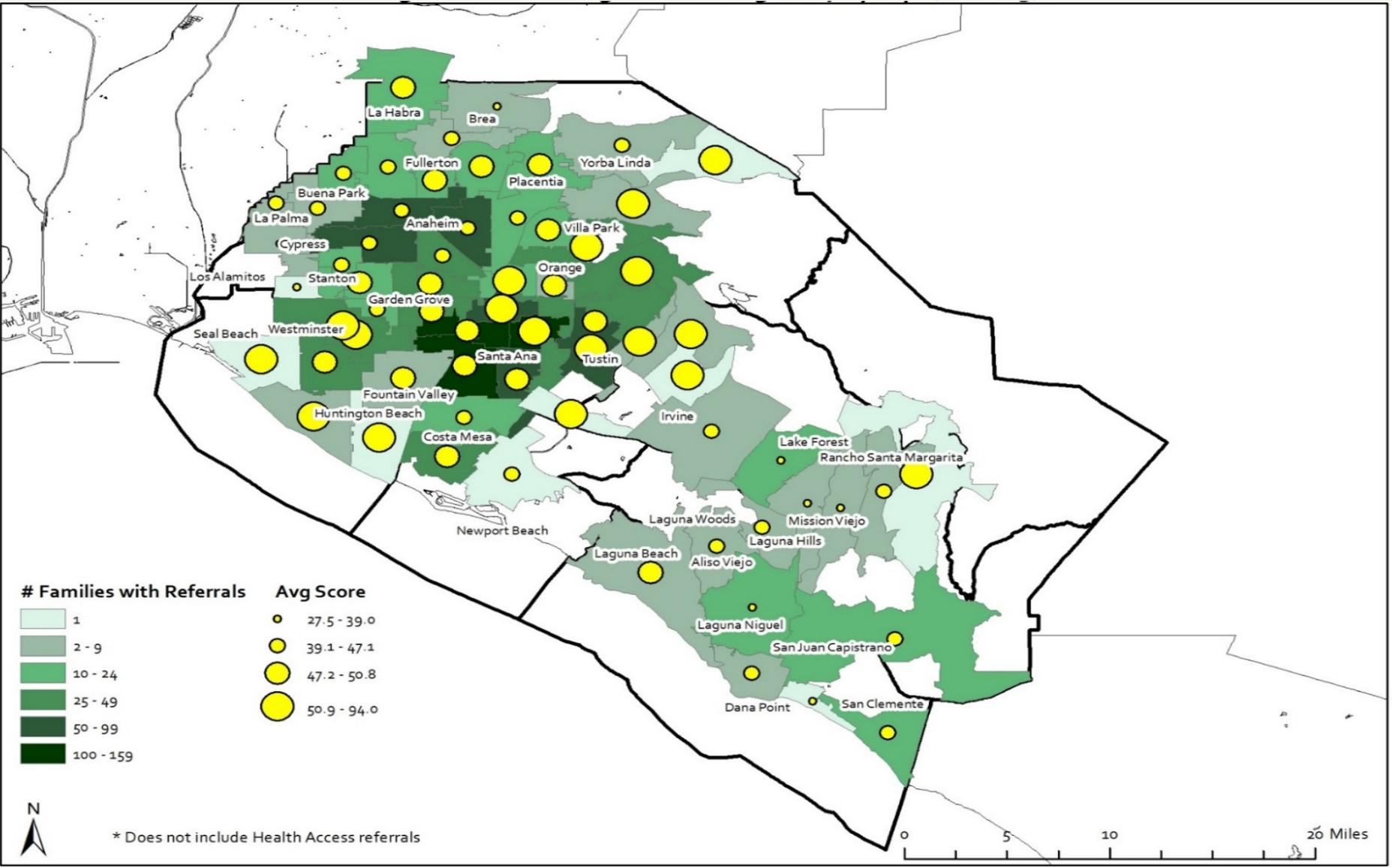
# Primary Location Child is Taken for Routine Medical Care\*

## FY 2010/11-2012/13

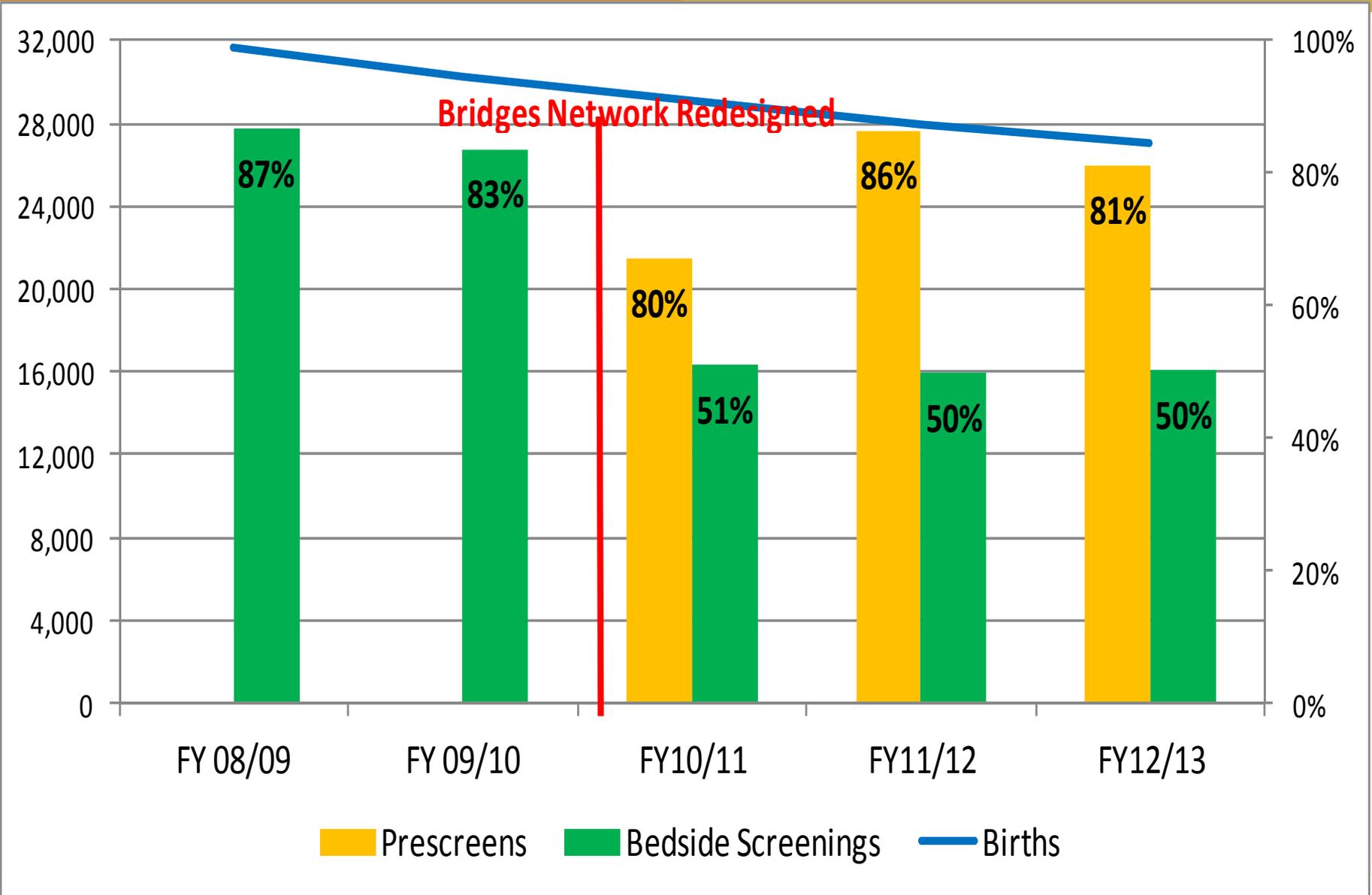


\*Statistically significant at  $p < .05$

# Bridges Referrals\* and Average Score on Bridges Screening Tool 2012/13



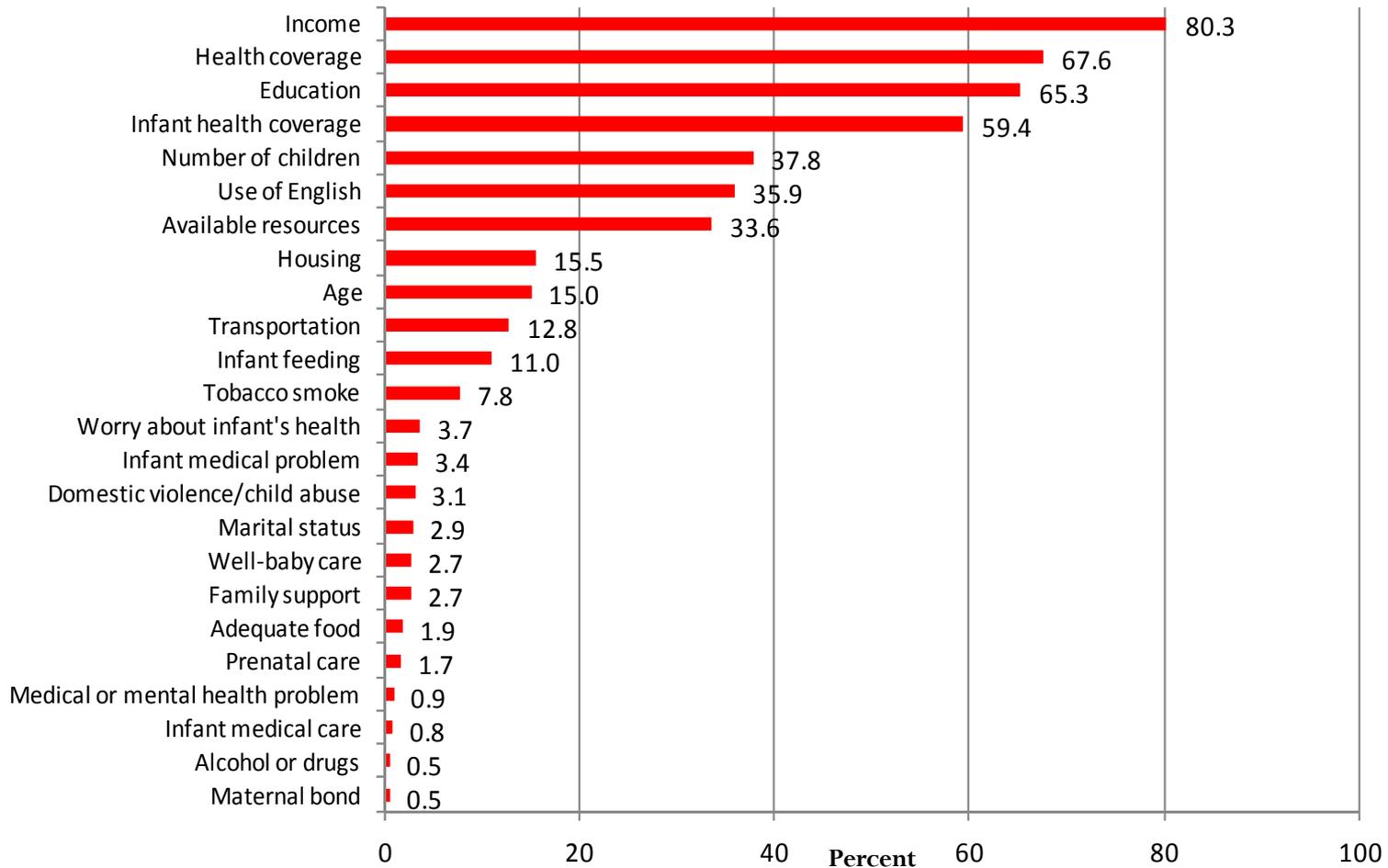
# Rate of Mothers Screened



# Types of Risks Identified Through the Bridges Screening Tool FY 2010-2013



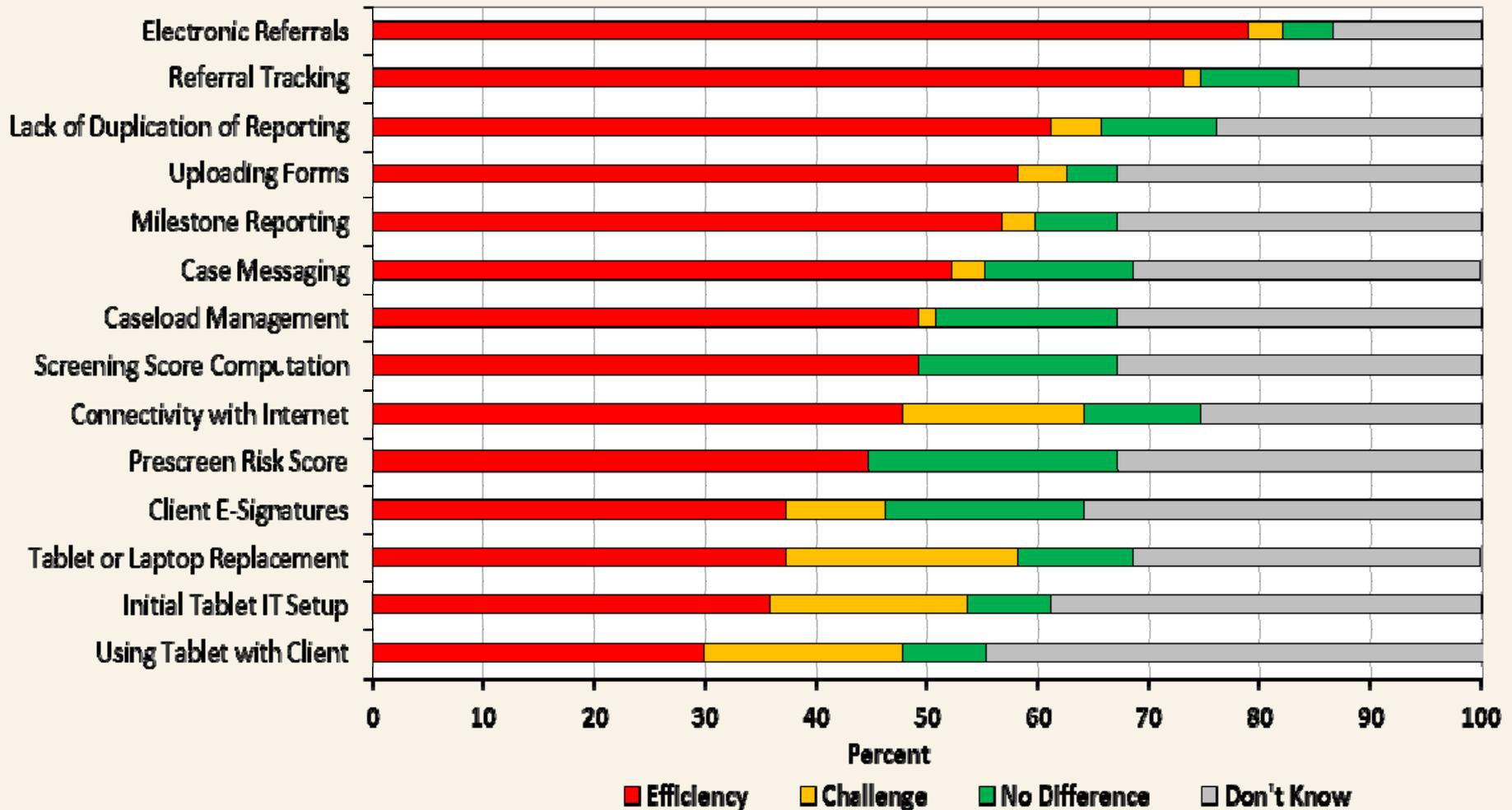
**Percent of Mothers Scoring Moderate or High on Each Risk Category at Hospital Screen  
(n=42,349)**



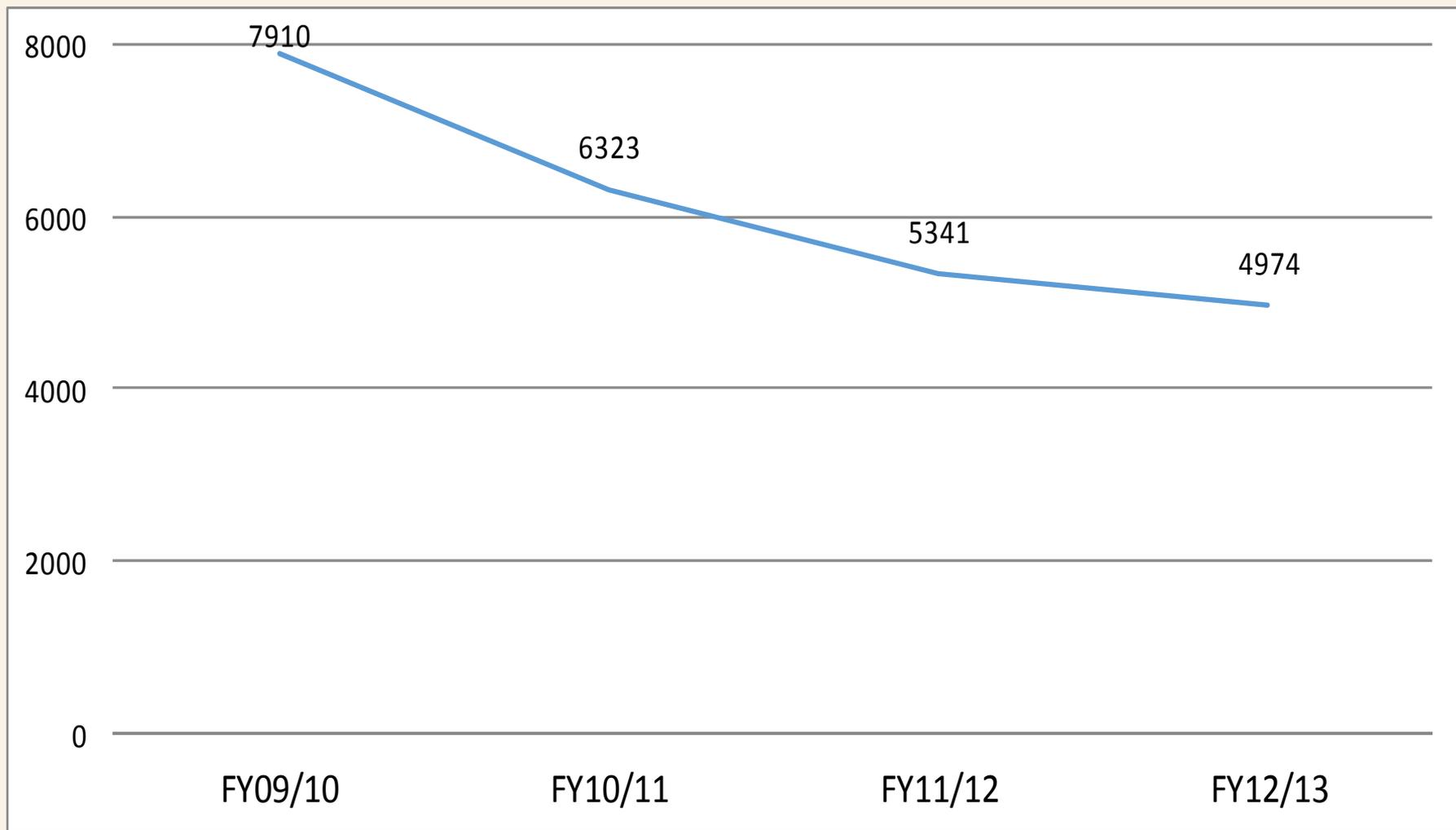
# Has Electronic Technology Made Work More Efficient or Challenging?



**Efficiencies and Challenges with Electronic Technology (n=67)**



# Referrals Received by Fiscal Year (n = 24,548)

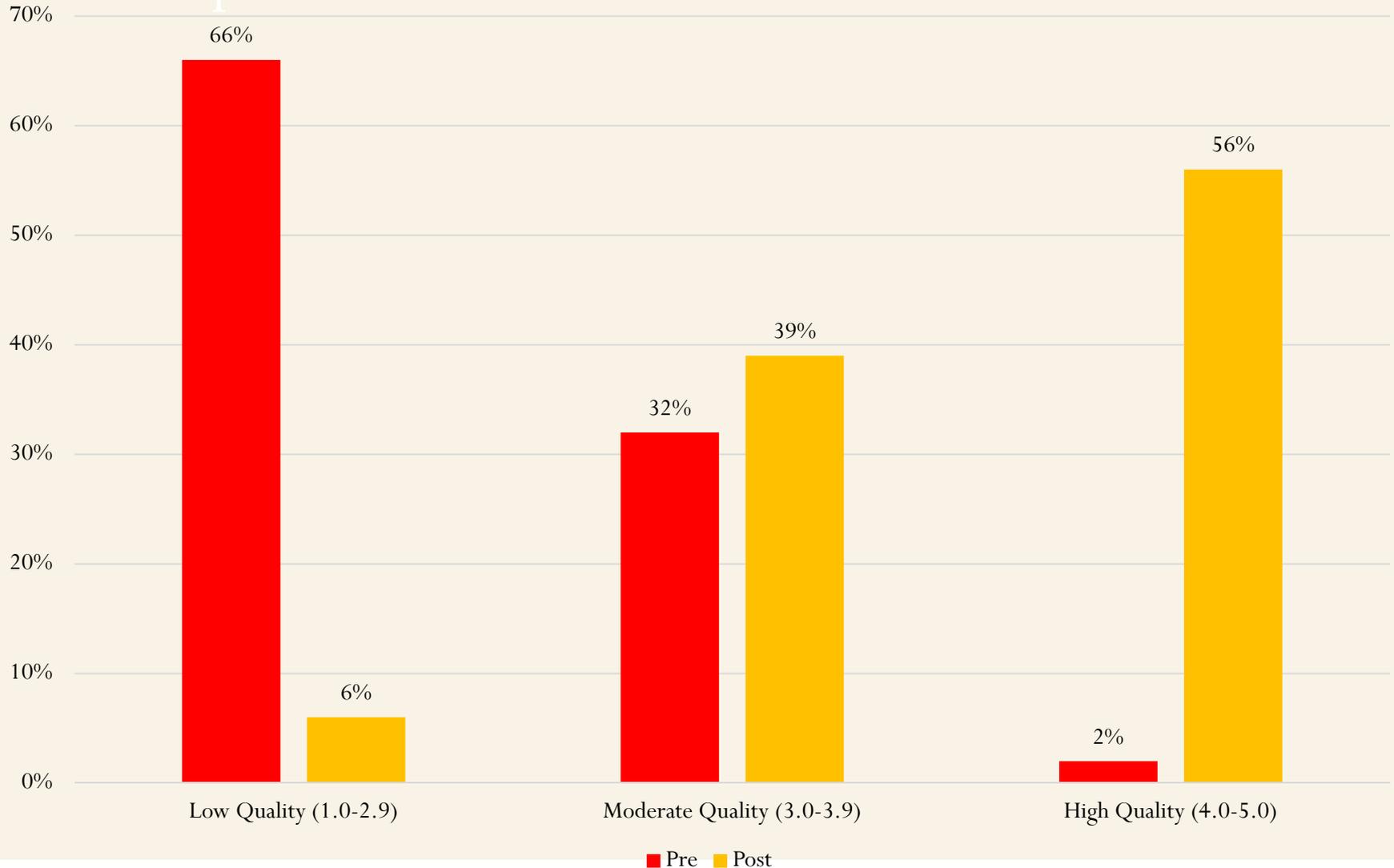


Note: Bridges Connect has a complete data set for the 10/11, 11/12 and 12/13 fiscal years. Public Health Community nursing is only reflected in the FY12/13.

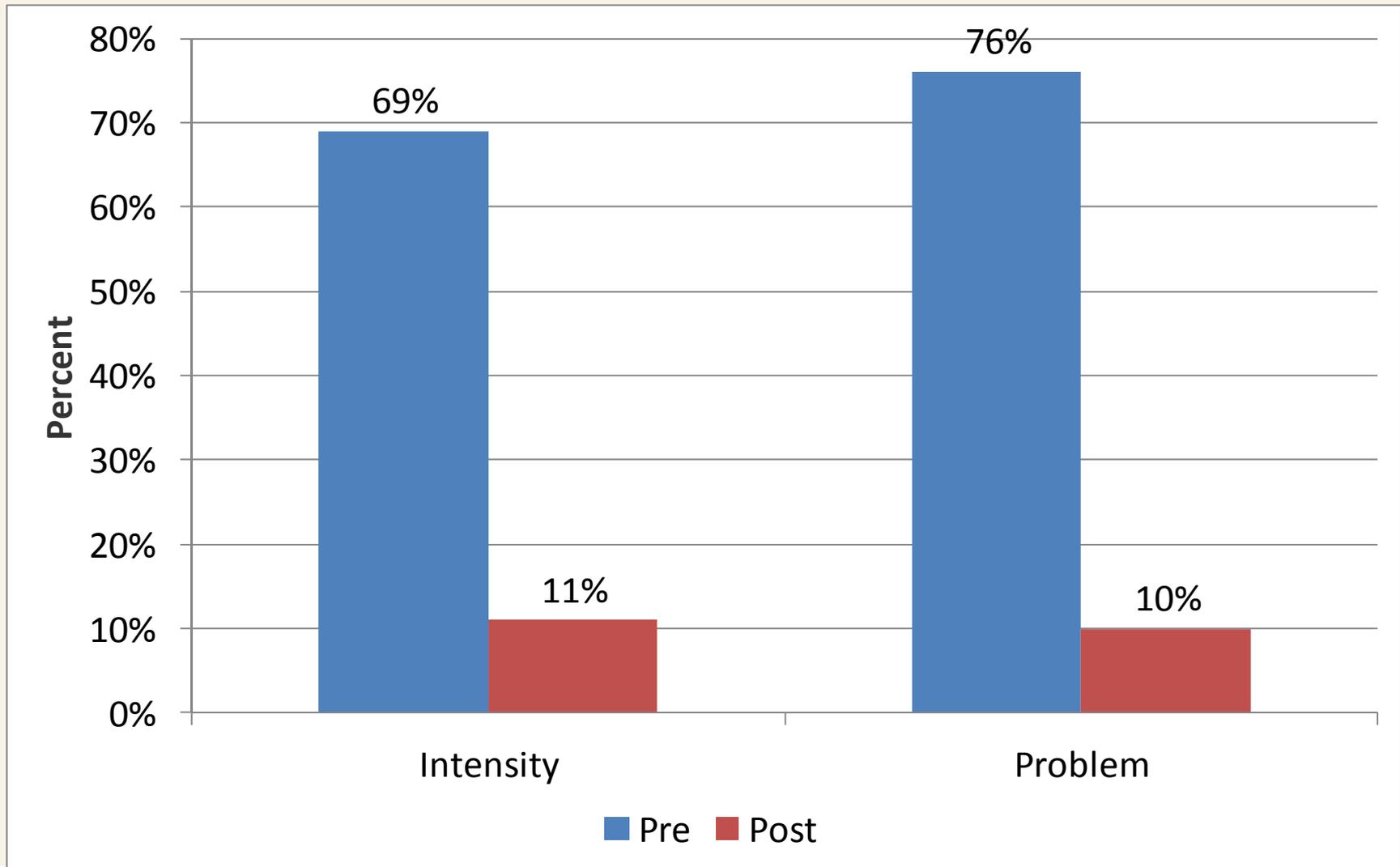
# Impact of Infant Home Visitation Partners in Parenting Education Evidence-Based Curriculum on Parent-Child Relationships



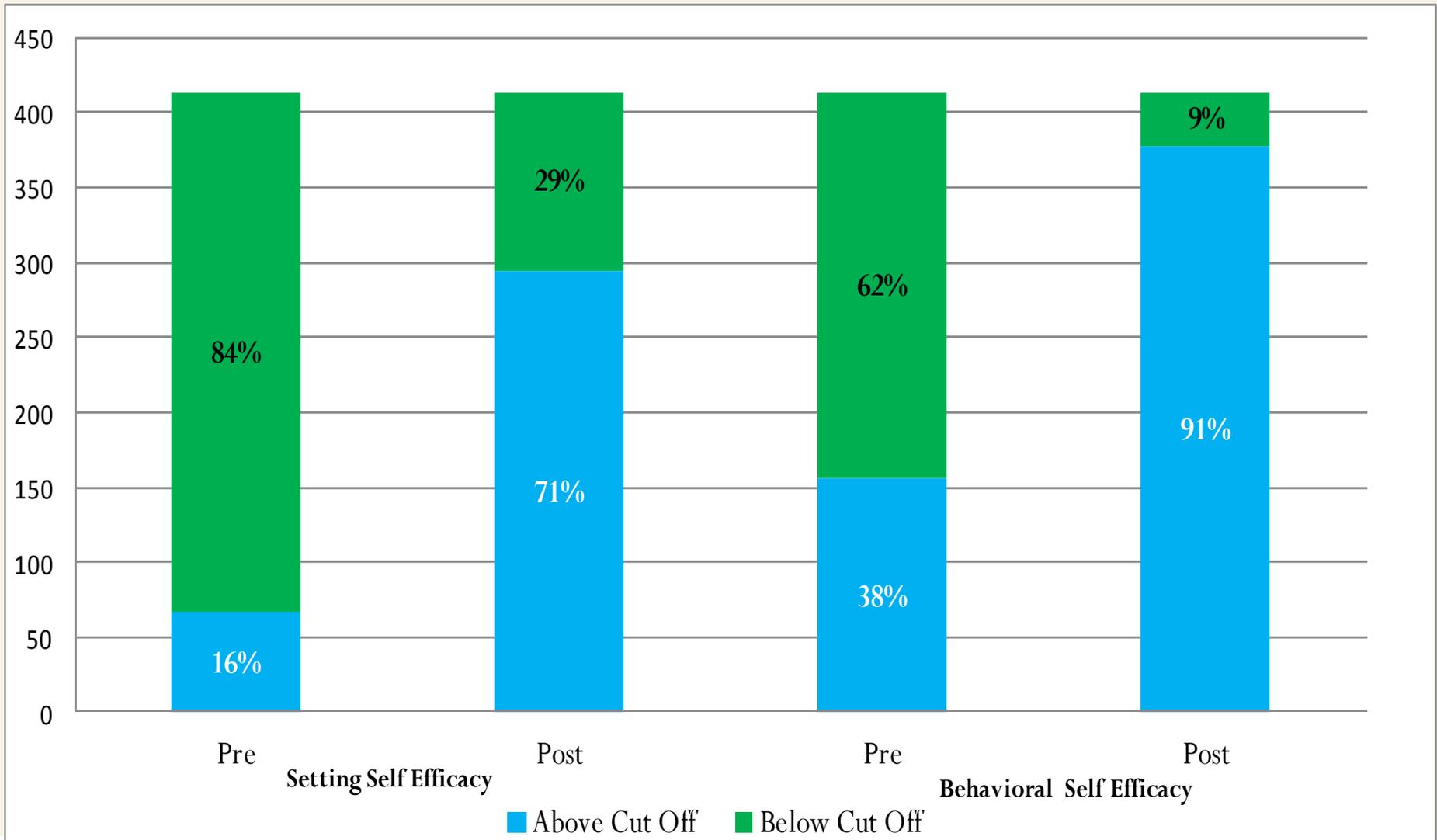
## Relationships



# Impact of Toddler Home Visitation Triple P Positive Parenting Program on Parent-Child Relationships



# Impact of Toddler Home Visitation Programs on Parenting Self-Efficacy (Parenting Task Checklist)





## Benefits:

- Collaboration among Providers
- Access to Services
- Speed and Efficiency
- Access to Information
- Serving At-Risk Families
- Standardization of Information and Assessments

## Challenges:

- Communication and Referral Issues
- Resource Issues
- Challenges Identifying Risk Factors
- Data Collection and Technology Issues



## Recommendations

### **The Bridges Network is reaching women most at risk:**

- Commission is reaching approximately 70% of the births in OC through the hospital-based outreach program.
- 96% of those screened for additional services had incomes below 200% of the Federal poverty level (\$23,000 for a family of four).

### **The Bridges Network is reducing risk through early intervention:**

- Of those referred, 98% were successfully connected with services and 76% of those referrals were successfully closed.
- The Bridges Network programs are continuing to achieve strong outcomes for young children.

### **The Bridges Network is collectively the Commission's largest program investment:**

- Since program inception, the Network has generated over \$8 million reimbursements in Medicaid: Targeted Case Management and \$5 million in Medicaid: Medi-Cal Administrative Activities.
- As Commission revenue declines, there is a growing need to diversify the funding base.



## APPENDIX

# Acknowledgements



For their help in completing this project, we would like to give special thanks to:

- Hospital Association of Southern California
- Net Chemistry, Inc.
- Orangewood Children's Foundation
  
- Limor Zimskind, Evaluation Consultant, Children and Families Commission of Orange County
  
- Mothers and staff at each of the Hospitals, Home Visitation Agencies, Health Access Program and Public Health Nursing Programs:
  - AHMC Anaheim Regional Medical Center, LP
  - Coastal Communities Hospital
  - Fountain Valley Regional Hospital and Medical Center
  - Hoag Memorial Presbyterian Hospital
  - Mission Hospital Regional Medical Center
  - Prime Healthcare Systems-Garden Grove, LLC, DBA Garden Grove Hospital and Medical Center
  - St. Joseph Hospital
  - St. Jude Hospital, DBA St. Jude Medical Center
  - WMC-A, DBA Western Medical Center Anaheim
  - WMC-SA, Inc, DBA Western Medical Center Santa Ana
  
- Children's Bureau of Southern California
- County of Orange Health Care Agency, Public Health Nursing
- MOMS Orange County
- Orange County Child Abuse Prevention Center, DBA Child Abuse Prevention Center
- The Raise Foundation

# Evidence-Based Curriculums Implemented



Evidence-Based Curriculum	Bridges Network Provider Using Curriculum
Keys to Interactive Parenting Scale	Infant Home Visitation
Partners in Parenting Education	Infant Home Visitation, Nurse-Family Partnership®
Positive Parenting Program	Toddler Home Visitation
Eyberg Child Behavior Index	Toddler Home Visitation
Depression Anxiety Stress Scale	Toddler Home Visitation
Parenting Tasks Checklist	Toddler Home Visitation
Ages and Stages Questionnaire: Social Emotional	Infant Home Visitation, Toddler Home Visitation, Public Health Nursing
Edinburgh Postnatal Depression Scale	All Bridges Network Programs
Nursing Child Assessment Satellite Training	Nurse-Family Partnership®
Dyadic Assessment of Naturalistic Caregiver-Child Experiences	Nurse-Family Partnership® to begin using in FY 13/14
<b>Best Practices</b>	
Breastfeeding Education and Support	All Bridges Network Programs
Father Involvement	All Bridges Network Programs