



## Precision Medicine to Save Lives and Resources

PILOT SITES	# OF BABIES	BABIES DIAGNOSED**	BABIES WHOSE CARE WAS CHANGED	DAYS TO RESULTS*
CHILDREN'S HOSPITAL ORANGE COUNTY	22	11 (50%)	8 (36%)	2.5
RADY CHILDREN'S HOSPITAL-SAN DIEGO	43	16 (37%)	13 (31%)	3
UC DAVIS CHILDREN'S HOSPITAL (Sacramento)	33	12 (36%)	8 (24%)	2
UCSF BENIOFF CHILDREN'S HOSPITAL OAKLAND	21	10 (48%)	7 (33%)	3.5
VALLEY CHILDREN'S HOSPITAL (Madera)	35	17 (49%)	9 (26%)	3

**TOTAL PROJECT BABY BEAR CASES**

*\*Median # days to delivery of provisional positive results*  
*\*\* Results confirmed 19 babies were already receiving appropriate care*

154

66

45

3

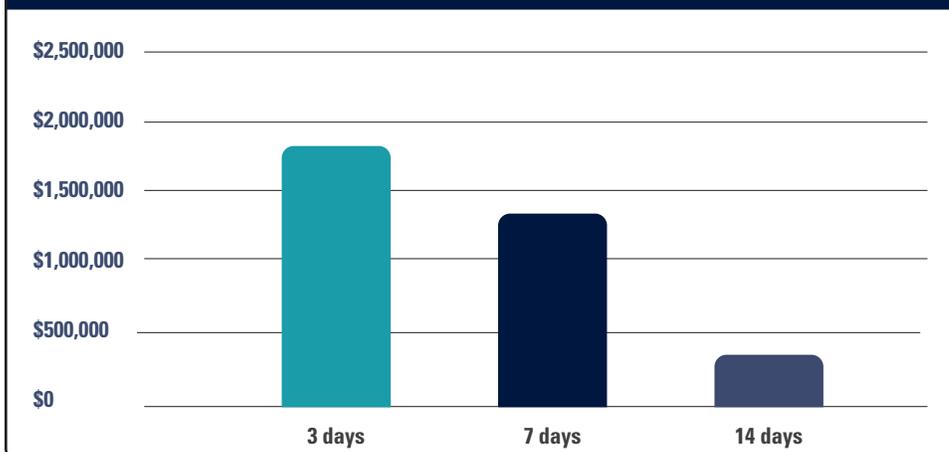
### Key Results of rapid Whole Genome Sequencing (rWGS)

- 43% of rapid genomes resulted in a diagnosis that was confirmed by the treating physician
- 29% of babies with rapid genomes had resulting changes in the way they were cared for
- Median turnaround time for provisional results was three days
- Rapid Genomes substantially reduced Medi-Cal spending and hospital costs largely because it allowed babies to be discharged sooner and reduced the number of unnecessary procedures they were subjected to

### These changes led to

- More than 430 fewer hospital days
- 11 fewer major surgeries (including a major reconstructive surgery on the upper airway and a bowel surgery)
- 17 fewer invasive diagnostic tests (including open muscle, liver and other biopsies under general anesthesia)

### Cost Savings by Time to Result



## Total Project Savings

**\$2.4 M**

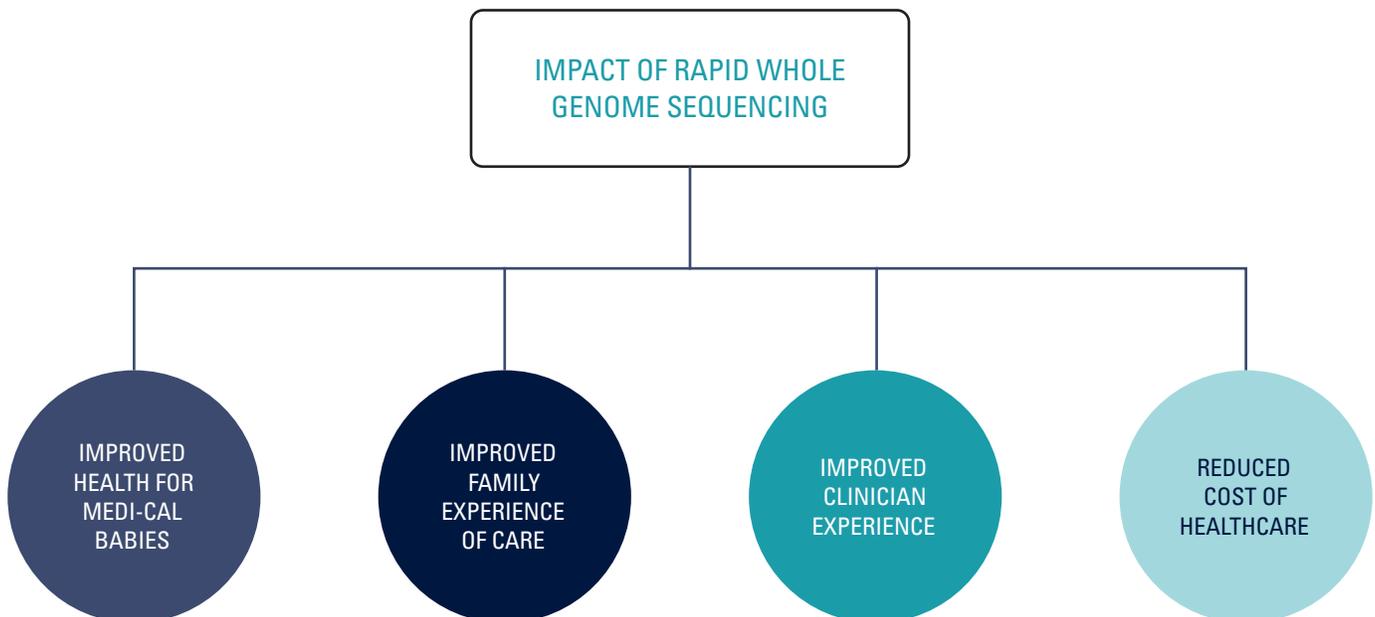
REDUCTION IN PATIENT CARE SPENDING

Conservative savings based on single acute hospitalization of only 26 patients



## Michael's Case

- 3-month-old baby boy who suddenly began to fatigue easily, breathe with difficulty, eat and drink less
- Echocardiogram showed enlarged heart
- Medication prescribed to improve heart function and discharged home.
- Returned to ER 2 months later with cough and labored breathing
- Echocardiogram showed worsening heart function
- Rapid genome results in 2 days showed variant known to damage heart muscle, reducing adequate pumping of blood and oxygen
- Guided by genome results, doctors added intensive medication for heart failure
- Baby given earlier priority for heart transplant



The introduction of rapid genome sequencing in the most vulnerable of babies covered by Medi-Cal had a profound impact on four key dimensions of healthcare. At the Project Baby Bear pilot sites, rapid whole genome sequencing resulted in:

1. Improved the health outcomes of babies by providing rapid diagnoses, which led to beneficial changes in their management.
2. Improved the experience of care for families by providing timely diagnostic and prognostic information, reducing uncertainty and empowering families to make life-altering medical decisions.
3. Improved the clinicians' experience by bolstering their confidence in treatment decisions, their comfort with the implications of those decisions and their satisfaction by fostering delivery of more effective care in an efficient, collaborative team environment.
4. Lowered the cost of delivering care by reducing unnecessary tests, procedures and time spent in the hospital.

FOR MORE INFORMATION VISIT [www.RadyGenomics.org/project-baby-bear](http://www.RadyGenomics.org/project-baby-bear)