Exhibit 2

Vaccine-preventable Diseases in Colorado's Children

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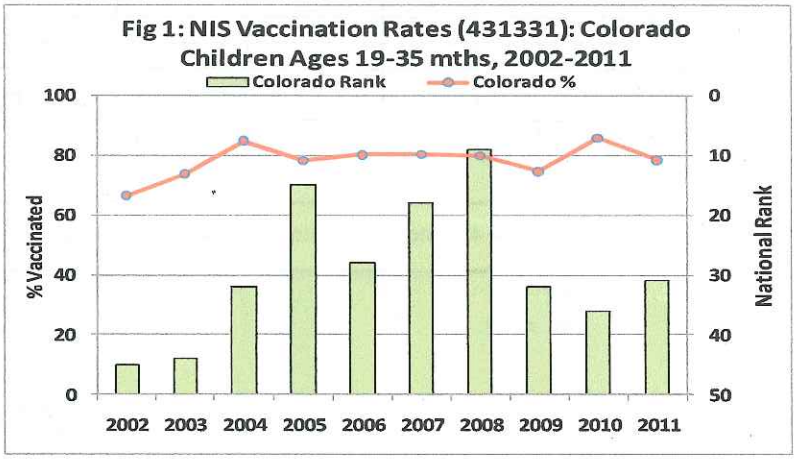
State of the HEALTH of Colorado's Children

❖ Summary

Delays in vaccinating our children in Colorado are putting the youngest and most vulnerable at increased risk of vaccine-preventable disease (VPD) and hospitalization resulting in excess morbidity, mortality and charges in the millions of dollars. Summarized below is our *State of the Health of Colorado's Children* most recent analysis of the *National Immunization Survey (NIS), Colorado Hospital Association (CHA)* discharge data and *Colorado Department of Public Health and Environment (CDPHE)* data. The results emphasize the need for improved access and delivery systems and increased efforts to better educate young parents who are often swayed by the misinformation that permeates our social media, exaggerating risks of vaccines and promoting the unproven benefits of alternate vaccination schedules. Current Colorado data shows:

- Colorado ranks in the bottom half of US States in the composite 431331 NIS vaccination rate for its children with 20% under-immunized at 19-35 months (Figure 1).
- Individual on-time vaccination completion rates vary dramatically in young Colorado children, ranging from 10% to over 50% non-compliance in children 36 months of age or less for common vaccines (Measles-Mumps-Rubella, Varicella, DTaP, *Haemophilus influenzae* and Pneumococcus) implying voluntary or involuntary barriers to timely vaccination (Figure 2).
- The majority (65%) of Colorado children hospitalized with vaccine-preventable disease are four years of age or younger (Figure 3).
- Serious vaccine-preventable disease (including 4 deaths) affects hundreds (probably thousands) of Colorado children yearly (primarily the youngest) with avoidable public and social costs amounting to tens of millions of dollars with hospitalization charges being just the tip of the iceberg (Table).
- All geographic regions of Colorado (RCCOs) are impacted by VPDs (Figure 4).

Over the past 10 years, Colorado has rarely exceeded an 80% early childhood vaccination rate with a commensurate predominance of vaccine-preventable diseases in very young children, highlighting the need for additional measures to improve access and delivery of vaccines to all Colorado children.



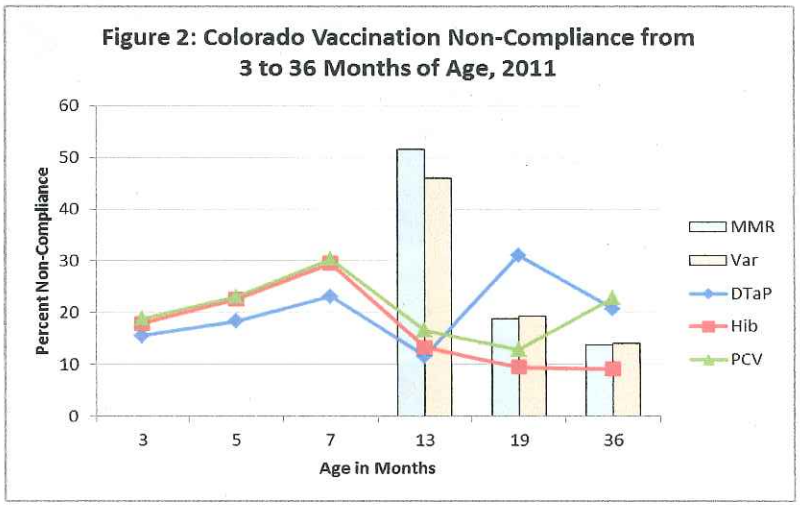
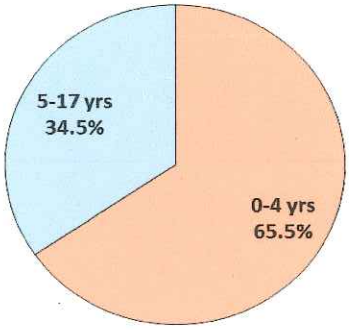


Figure 3: VPD Hospitalizations of Colorado Children in 2011, Including Influenza



Children's Hospital Colorado

Table: Cases, rates, and charges for children in Colorado with vaccine-preventable diseases, 2011.

Vaccine-preventable Disease**	0-4 Years of Age					5-19 Years of Age				
	CDPHE Reported cases		Hospitalizations (CHA)			CDPHE Reported cases		Hospitalizations (CHA)		
	Reported Cases	Case Rate per 100,000*	Hospitalized Cases	Rate per 100,000	Hospital Charges	Reported Cases	Case Rate per 100,000	Hospitalized Cases	Rate per 100,000	Hospital Charges
Pertussis	146	45.6	14	4.4	$754,708	191	18.0	3	0.3	$94,530
Pneumococcus (Invasive)	38	11.9	47	14.7	$4,195,609	24	2.3	40	3.8	$2,997,322
Influenza (Hospitalized)	206	64.4	230	71.9	$5,938,265	120	11.3	118	11.1	$3,704,175
H.influenzae (Invasive)	5	1.6	6	1.9	$463,967	5	0.5	1	0.1	$387,625
Varicella	114	35.6	4	1.3	$145,370	295	27.7	10	0.9	$645,622
Total	**509**		**301**		**$11,497,919**	**635**		**172**		**$7,829,274**

*** Population estimates for Colorado children for 2011 by age range were obtained from the Census Bureau using DataFerrett**

**** Four fatal cases in 2011**

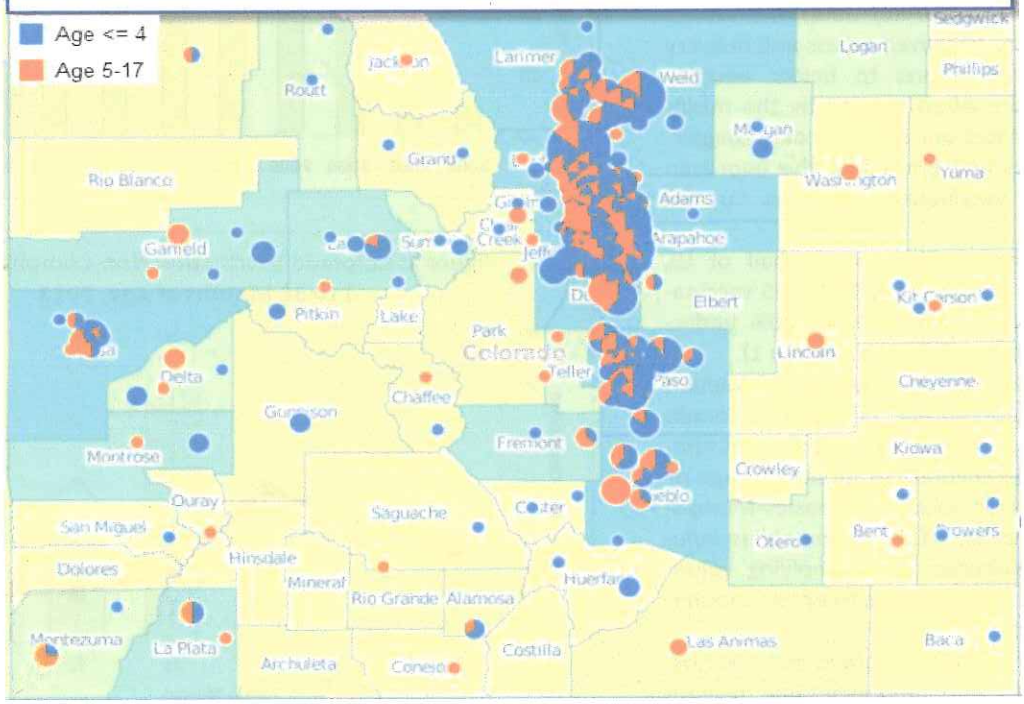



Figure 4: Colorado Children Hospitalized with Vaccine-preventable Diseases, 2010-11