

MMR/Autism Agenda

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Date: February 20, 2002

- 1) Data Privacy Issues
 - a. 308(d) Exemption
 - b. Will we be creating a public use database?
 - c. What variables will be included in that database?
- 2) Update on Data Checks / Final Database
 - a. Original controls are in database
 - b. Review exclusionary criteria
 - c. Isolated autism cases without Delay < 1 all vaccinated < 36 mo ???
- 3) Discussion of Preliminary Descriptive Statistics
 - a. Total Sample
 - b. Birth Certificate Sample
- 4) Analyses
 - a. Discussion of MMR Exposure Variable
 - b. Analysis of Total Sample
 - i. Isolated
 - ii. Non-Isolated
 - iii. Delay < 1 and Pre-existing Condition
 - iv. Age of 1st Concern
 - c. Analysis of Birth Certificate Sample
 - i. Isolated
 - ii. Non-Isolated
 - iii. Delay < 1 and Pre-existing Condition
 - iv. Age of 1st Concern
 - d. Examine influence of each school system

≤ 18

≤ 29

 -- Mismatched Analyses: Univariate

The FREQ Procedure

MMR1MON	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1	0.04	1	0.04
1	3	0.12	4	0.16
2	2	0.08	6	0.24
3	4	0.16	10	0.40
4	5	0.20	15	0.60
5	1	0.04	16	0.64
6	4	0.16	20	0.80
7	3	0.12	23	0.92
8	6	0.24	29	1.16
9	6	0.24	35	1.40
10	4	0.16	39	1.56
11	6	0.24	45	1.80
12	61	2.44	106	4.23
13	30	1.20	136	5.43
14	177	7.07	313	12.50
15	953	38.04	1266	50.54
16	319	12.73	1585	63.27
17	162	6.47	1747	69.74
18	122	4.87	1869	74.61
19	92	3.67	1961	78.28
20	45	1.80	2006	80.08
21	43	1.72	2049	81.80
22	31	1.24	2080	83.03
23	30	1.20	2110	84.23
24	21	0.84	2131	85.07
25	26	1.04	2157	86.11
26	21	0.84	2178	86.95
27	31	1.24	2209	88.18
28	16	0.64	2225	88.82
29	7	0.28	2232	89.10
30	12	0.48	2244	89.58
31	5	0.20	2249	89.78
32	8	0.32	2257	90.10
33	10	0.40	2267	90.50
34	10	0.40	2277	90.90
35	9	0.36	2286	91.26
36	11	0.44	2297	91.70
37	9	0.36	2306	92.06
38	6	0.24	2312	92.30
39	5	0.20	2317	92.50
40	3	0.12	2320	92.61
41	8	0.32	2328	92.93
42	7	0.28	2335	93.21
43	8	0.32	2343	93.53
44	3	0.12	2346	93.65
45	9	0.36	2355	94.01
46	2	0.08	2357	94.09
47	3	0.12	2360	94.21
48	11	0.44	2371	94.65
49	10	0.40	2381	95.05
50	6	0.24	2387	95.29
51	7	0.28	2394	95.57
52	7	0.28	2401	95.85
53	2	0.08	2403	95.93
54	4	0.16	2407	96.09
55	6	0.24	2413	96.33
56	9	0.36	2422	96.69
57	1	0.04	2423	96.73
58	5	0.20	2428	96.93

59	2	0.08	2430	97.01
60	2	0.08	2432	97.09
61	6	0.24	2438	97.33
62	8	0.32	2446	97.64
63	6	0.24	2452	97.88
64	3	0.12	2455	98.00
65	4	0.16	2459	98.16
66	1	0.04	2460	98.20
67	5	0.20	2465	98.40
68	1	0.04	2466	98.44
69	4	0.16	2470	98.60
71	1	0.04	2471	98.64
72	2	0.08	2473	98.72
74	1	0.04	2474	98.76
79	1	0.04	2475	98.80
80	1	0.04	2476	98.84
82	4	0.16	2480	99.00
83	2	0.08	2482	99.08
85	1	0.04	2483	99.12
88	1	0.04	2484	99.16
89	1	0.04	2485	99.20
90	1	0.04	2486	99.24
91	1	0.04	2487	99.28
92	1	0.04	2488	99.32
93	2	0.08	2490	99.40
97	1	0.04	2491	99.44
98	1	0.04	2492	99.48
100	2	0.08	2494	99.56
112	1	0.04	2495	99.60
113	1	0.04	2496	99.64
117	1	0.04	2497	99.68
118	2	0.08	2499	99.76
125	1	0.04	2500	99.80
126	1	0.04	2501	99.84
129	2	0.08	2503	99.92
9999	2	0.08	2505	100.00

Table 1: Preliminary Descriptive Statistics For Entire Sample *

	Category	Controls		Cases	
		N	Percent	N	Percent
Age 1996	3 - 5 yrs	635	34%	215	34%
	6 - 8 yrs	973	52%	321	51%
	9 - 10 yrs	268	14%	93	15%
	Total	1876	100%	629	100%
Sex	Male	1506	80%	505	80%
	Female	370	20%	124	20%
	Total	1876	100%	629	100%
Race	White	930	52%	336	55%
	Black	674	38%	232	38%
	Other	175	10%	40	7%
	Total	1779	100%	608	100%
Co-Existing DD	CP	NA	NA	31	5%
	MR	NA	NA	378	60%
	VI	NA	NA	8	1%
	HI	NA	NA	7	1%
	Epilepsy	NA	NA	49	8%
	Non-Isolated Autism	NA	NA	400	64%
Pre-existing Condition	Yes	NA	NA	79	13%
Delay < 1	Yes	NA	NA	186	30%
Pre-existing Condition or Delay < 1	Yes	NA	NA	222	35%
	No	NA	NA	407	65%
Vaccination Exemption	Yes	1	0.1%	1	0.2%
Age of MMR <i>vaccination</i> <i>6 month Increment</i>	0 - 11 mo	37	2.0%	8	1.3%
	12 - 17 mo	886	47.2%	335	53.3%
	18 - 19 mo	459	24.5%	144	22.9%
	19 - 23 mo	184	9.8%	57	9.1%
	24 - 35 mo	131	7.0%	45	7.2%
	36+ mo	179	9.5%	40	6.4%
	Total	1876	100.0%	629	100.0%

* All subjects reported in table had date of receipt of MMR vaccine

* All cases are confirmed cases

Table 2: Preliminary Descriptive Statistics for Birth Certificate Variables

Variable	Category	Controls		Cases	
		N	Percent	N	Percent
Age in 1996	3 - 5 yrs	382	36%	127	35%
	6 - 8 yrs	552	53%	182	51%
	9 - 10 yrs	115	11%	50	14%
	Total	1049	100%	359	100%
Sex	Male	834	80%	286	80%
	Female	215	20%	73	20%
	Total	1049	100%	359	100%
Race	White	578	55%	201	56%
	Black	405	39%	139	39%
	Other	66	6%	19	5%
	Total	1049	100%	359	100%
Mothers Age	< 20 yrs	102	10%	16	4%
	20 - 34 yrs	823	78%	282	79%
	35+ yrs	124	12%	61	17%
	Total	1049	100%	359	100%
Maternal Race	White	618	59%	209	58%
	Black	399	38%	138	38%
	Other	30	3%	12	3%
	Total	1047	100%	359	100%
Maternal Educ	<= 12 yrs	485	46%	138	38%
	13 - 15 yrs	259	25%	100	28%
	16+ yrs	305	29%	121	34%
	Total	1049	100%	359	100%
Birth Weight	0 - 1499 gms	11	1%	12	3%
	1500 - 2499 gms	55	5%	37	10%
	2500 + gms	983	94%	310	86%
	Total	1049	100%	359	100%
Multiplicity	Singleton	1017	97%	333	93%
	Twin +	32	3%	26	7%
	Total	1049	100%	359	100%
Parity	1st Born	462	44%	151	42%
	2nd or Higher	578	56%	206	58%
	Total	1040	100%	357	100%

* All subjects reported in table had date of receipt of MMR vaccine

* All cases are confirmed cases

Table 3: Preliminary Statistical Analyses

	Cases	Univariate		
		OR	L95CI	U95CI
Total	629	1.13	0.92	1.39
Isolated	229	1.21	0.84	1.73
Non-Isolated	400	1.10	0.86	1.41
No Delay or Pre-Existing Condition	407	1.13	0.88	1.47
<i>Delay or pre-existing condition</i>				

Birth Certificate Sample	Cases	Univariate			Multivariate		
		OR	L95CI	U95CI	OR	L95CI	U95CI
Total	359	1.00	0.72	1.38	0.947	0.673	1.333
Isolated	139	0.77	0.45	1.30			
Non-Isolated	220	1.16	0.77	1.76			
No Delay or Pre-Existing Condition	226	1.15	0.76	1.74			

≤ 18 months

≤ 23 months