

## Year 9: Additional exploratory analyses for frequency and duration (9.17.2012)

### *Excluding RSP records*

- If all RSP records were removed from the frequency analyses, the weighted population estimate for frequency would decline from 83.5% (confidence interval of 82.4% - 84.6%) to 79.9% (78.4% - 81.3%).
- If all RSP records were removed from the duration analysis, the weighted population estimate for duration would improve from 70.2% (confidence interval of 68.8% - 71.6%) to 71.8% (70.2% - 73.4%).
- Students with OHI experience the largest decline in frequency when removing RSP (8.1 percentage points), suggesting that non-RSP services are provided at lower rates than RSP services for these students. For duration, students with SLD experience the largest improvement (3 percentage points). Please note that the number of students with SLD in the analysis drops from 925 to 263, indicating that the majority of students with SLD in our sample (72%) have RSP as their *only* service.

### *Excluding services that missed the required frequency by one*

- If services that missed the required frequency of 8 or 16 (1x or 2x weekly) by 1 were removed from the analysis, the weighted population estimate for duration would increase from 70.2% (confidence interval of 68.8% - 71.6%) to 72.9% (71.5% - 74.3%).
- If all services that missed the required frequency by 1 were removed from the analysis, the weighted population estimate for duration would increase from 70.2% (confidence interval of 68.8% - 71.6%) to 72.9% (71.5% - 74.3%).
- The minor improvement in duration when excluding services that missed the frequency by one session suggests that the challenge with meeting duration is services that miss frequency by a larger margin.

### *Increasing the duration flexibility*

- From 2% to 10%: Under the current rule, if the total duration provided across an 8-week/2-month period is within 2% of the requirement, the duration requirement is considered to be met. If this allowance was extended to 10% of the requirement, the weighted population estimate for duration would increase from 70.2% (confidence interval of 68.8% - 71.6%) to **75.4% (74.1% - 76.8%)**, still well below the MCD outcome of 85%.
- From 2% to 15%: If this allowance was extended to 15% of the requirement, the weighted population estimate for duration would increase from 70.2% (confidence interval of 68.8% - 71.6%) to **81.8% (80.6% - 83.0%)**, still short of the MCD outcome of 85%.

*Services that miss both frequency and duration*

- Among the services included in both the frequency and duration analysis, 3% missed frequency only (3%), 13% missed both frequency and duration, and 15% missed duration only.

**Exhibit 1: Number and percentage of services that missed both frequency and duration, frequency only, or duration only, among records that were included in both the frequency and duration analysis**

	Services in both the freq and dur analysis			Missed both frequency and duration		Missed frequency only		Missed duration only	
	N	Missed freq %	Missed dur %	N	%	N	%	N	%
APE	717	9%	27%	52	7%	10	1%	141	20%
DHH	397	16%	16%	45	11%	19	5%	18	5%
LAS	1,548	18%	28%	240	15%	32	2%	187	12%
LRE	167	14%	25%	23	14%	1	1%	18	11%
OT	395	28%	33%	96	24%	13	3%	35	9%
PT	108	16%	18%	16	15%	1	1%	3	3%
SMH	509	31%	33%	130	25%	27	5%	38	7%
VI	364	4%	15%	15	4%	1	0%	38	10%
PRE	60	0%	0%	3	0	0	0	12	0
NPA	112	12%	43%	13	11%	1	1%	36	32%
RSP	1,611	13%	33%	161	10%	47	3%	368	23%
<b>Total</b>	<b>5,988</b>	<b>16%</b>	<b>28%</b>	<b>794</b>	<b>13%</b>	<b>152</b>	<b>3%</b>	<b>894</b>	<b>15%</b>
Most common frequency across 8-wks/2-months				8 (61%)		8 (40%)		8 (42%)	
Most common duration across 8-wks/2-months				240 (49%) <1>		240 (38%)		480 (16%) & 240 (14%) <2>	

<1> 17% of the services that missed both frequency and duration had required duration amounts that exceeded 480 minutes.

<2> 58% of services that missed duration only had a required duration amount that exceeded 480 minutes.

**Exhibit 2: Service intervals of services that missed both frequency and duration, frequency only, or duration only, among records that were included in both the frequency and duration analysis**

**Interval of records that missed both frequency and duration**

	<b>N</b>	<b>%</b>
Daily	22	2.77
Monthly	129	16.25
Weekly	643	80.98
Total	794	100

**Interval of records that missed frequency only**

	<b>N</b>	<b>%</b>
Daily	5	3.29
Monthly	26	17.11
Weekly	121	79.61
Total	152	100

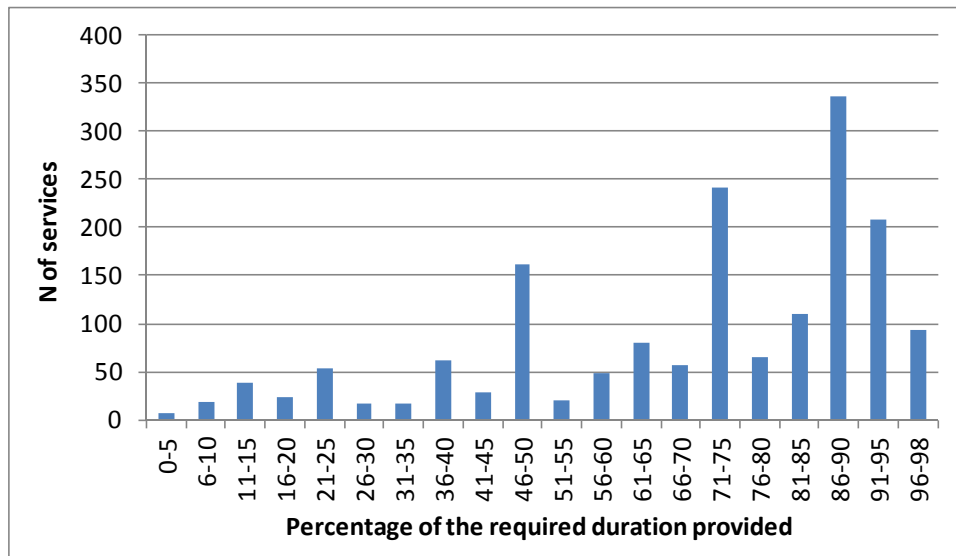
**Interval of records that missed duration only**

	<b>N</b>	<b>%</b>
Daily	7	0.78
Monthly	283	31.66
Weekly	604	67.56
Total	894	100

*Distribution of provided duration in relation to the required duration*

Exhibit 3 shows the number of services that missed the duration requirements by the percentage of the required duration that was actually provided. For example, 7 services that missed the duration requirement provided between 0 and 5% of the required duration. Nearly 38% of the services that did not meet the duration requirement (638 of 1,688 services) were within 86% of the required duration. At the same time, more than half of the services (874 of 1,688) had actual durations that were 75% or less of the required amount.

**Exhibit 3. Number of services by the percentage of required duration provided (among 1,688 services that did not meet the duration requirement)**



*School level*

- Aside from the higher rates for special education centers, rates by school level were relatively similar (no statistical tests conducted at this time).
- Exhibit 5 shows that 34% of the services in elementary schools that missed duration were LAS. RSP was the most common service at the middle and high school levels to miss duration.

**Exhibit 4. Frequency and duration rates by school level/type**

		Frequency			Duration		
		Freq met	Freq not met	Total	Dur met	Dur not met	Total
Elem	N	2,969	573	3,542	2,485	1,052	3,537
	%	83.82	16.18	100	70.26	29.74	100
Middle	N	785	142	927	656	268	924
	%	84.68	15.32	100	71	29	100
High	N	817	175	993	713	279	992
	%	82.36	17.64	100	71.88	28.13	100
SE Centers	N	478	55	533	445	88	533
	%	89.68	10.32	100	83.49	16.51	100
<b>Total</b>	<b>N</b>	<b>5,049</b>	<b>945</b>	<b>5,994</b>	<b>4,299</b>	<b>1,687</b>	<b>5,986</b>
	<b>%</b>	<b>84.23</b>	<b>15.77</b>	<b>100</b>	<b>71.82</b>	<b>28.18</b>	<b>100</b>

Note: The total numbers of services do not match with the overall results due to not being able to distinguish a school level for some service records.

**Exhibit 5. Distribution of services that did not meet duration, by school level/type**

	Elem		Middle		High		SE Center		Total N
	N	%	N	%	N	%	N	%	
APE	92	9%	31	12%	46	16%	24	27%	193
DHH	26	2%	19	7%	12	4%	6	7%	63
LAS	361	34%	34	13%	19	7%	13	15%	427
LRE	20	2%	12	4%	9	3%	0	0%	41
OT	110	10%	5	2%	2	1%	14	16%	131
PT	8	1%	2	1%	0	0%	9	10%	19
SMH	60	6%	45	17%	62	22%	1	1%	168
VI	35	3%	9	3%	5	2%	4	5%	53
PRE	13	1%	0	0%	0	0%	1	1%	14
NPA	28	3%	5	2%	1	0%	15	17%	49
RSP	299	28%	106	40%	123	44%	1	1%	529
<b>Total</b>	<b>1,052</b>	<b>100%</b>	<b>268</b>	<b>100%</b>	<b>279</b>	<b>100%</b>	<b>88</b>	<b>100%</b>	<b>1,687</b>

*Number of services*

- The number of services required does not seem to impact the frequency rates.

**Exhibit 6. Number of services that met frequency or duration, by the number of services required per student**

N of services per student	Freq met	Freq not met	Total	Dur met	Dur not met	Total
1	2,257	408	2,665	1,917	747	2,664
2	1,639	337	1,976	1,403	570	1,973
3	710	114	824	604	220	824
4	299	57	356	252	103	355
5 or more	146	30	176	125	48	173
Total	5,051	946	5,997	4,301	1,688	5,989

**Exhibit 7. Percentage of services that met frequency or duration, by the number of services required per student (based on Exhibit 6 figures)**

N of services per student	Freq met	Freq not met	Dur met	Dur not met
1	85%	15%	72%	28%
2	83%	17%	71%	29%
3	86%	14%	73%	27%
4	84%	16%	71%	29%
5 or more	83%	17%	72%	28%