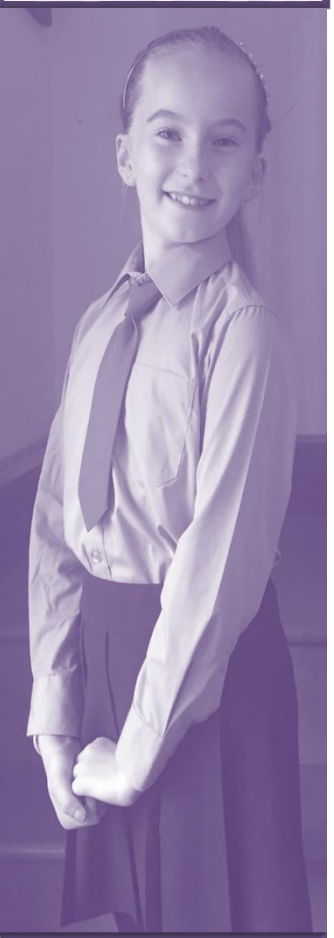
Growing Up in Ireland
National Longitudinal Study of Children



Prevalence of speech and language difficulties at ages 3 and 5 in the ROI, & attendance at Speech & Language Therapy services

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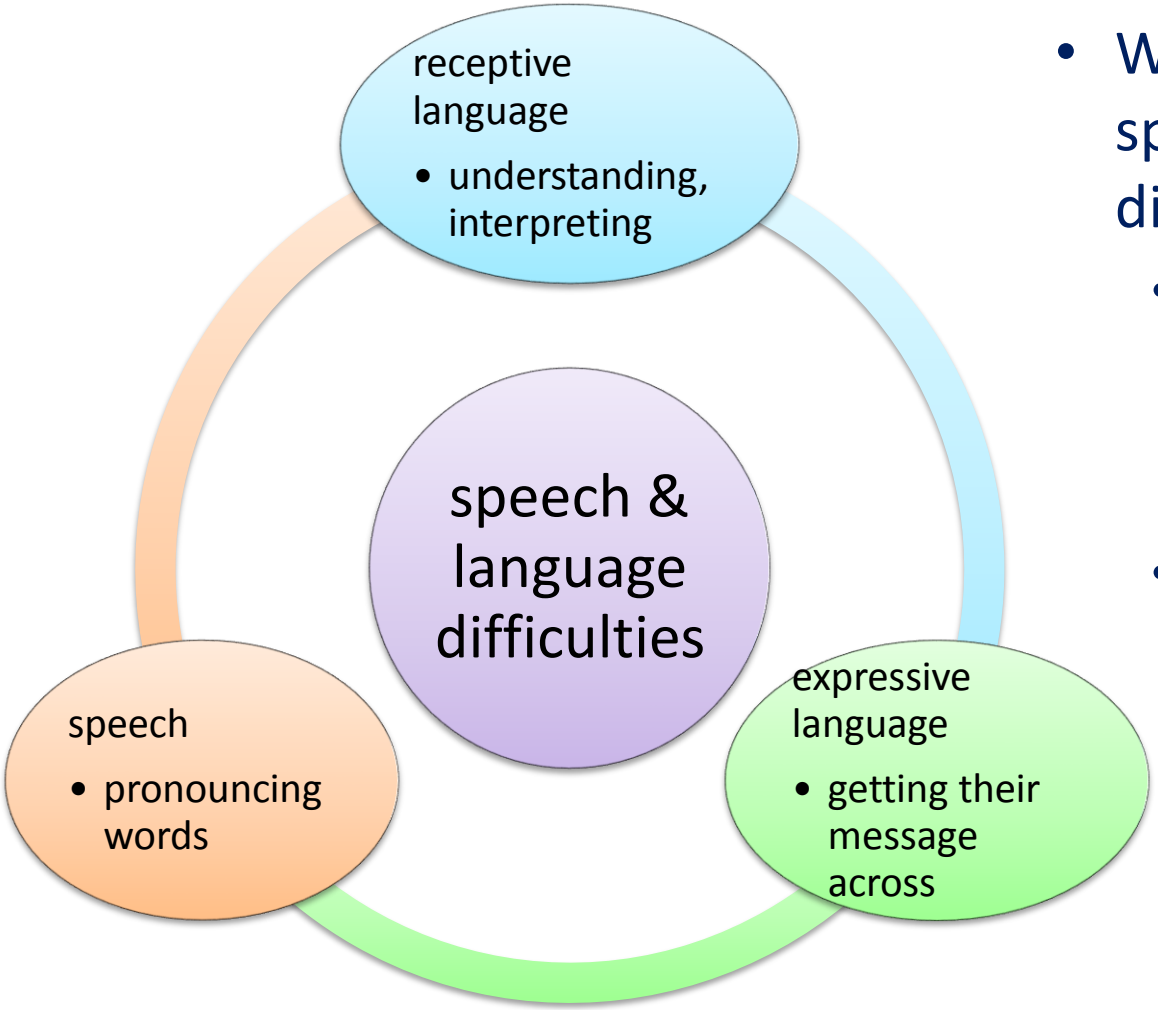
What and Who?



- Who are children with speech and language difficulties (SLD)?
  - a small proportion due to some other condition e.g. hearing impairment, ASD, Down Syndrome
  - the vast majority appear to be developing as expected in all respects except speech and/or language, which is not developing at the normal rate

Why does it matter?

Research shows that persistent speech and language difficulties (SLD) are associated with negative long-term consequences :

impaired literacy skills (Catts et al 2002)	poorer academic achievement (Durkin et al 2009; Johnson et al 2010)	difficulty with peer relations (St Clair et al 2011; Durkin and Conti-Ramsden 2010; Mok et al 2014)	lower occupational status (Johnson et al 2010)

- provides a strong impetus for the early identification of speech and language difficulties to alter the child's developmental trajectory and prevent secondary complications (Guralnick 2005)

Are we fulfilling the needs?

BUT

Rooke *et al.* (2013) – teachers reported 2.2% of all children aged 9 have speech impairment severe enough to limit activity

Irish Examiner

IRELAND ▸ WORLD SPORT ▸ BUSINESS VIEWS ▸ LIFE ▸

Call to recruit 100 speech and language therapists to address 37,0000-person waiting list

BreakingNews.ie

Children's charity Barnardos said that there are widespread regional inconsistencies in the time children are left to wait for speech and language services, child and adolescent mental health services and disability assessments.

THE IRISH TIMES

Over 15,000 people waiting for speech assessment…

thejournal.ie
READ, SHARE AND SHAPE THE NEWS

HSE reveals thousands of children left waiting for assessment, despite 3 month legal deadline

Why do we need to know the prevalence?

Planning

- allows for planning of service delivery

Identification

- gap between prevalence and number presenting for services allows calculation of under-identification
- identification is imperative to allow for effective intervention

Intervention

- allows calculation at an epidemiological level of the impact of intervention
- successful intervention should result in a decline in prevalence (Law 2000)

Prevalence internationally

- Law et al (2000) systematic review of 21 prevalence studies:
  - median prevalence of 5.95%, range 5%-19% in 2 to 5 year c
- **More recent studies:**

rates similar for parent report and direct Ax

Study	Age	Sample	Condition	Measure	Prevalence
Okalidou & Kampanaros (2001)	4-5	Greece n=1113	Speech & language	Pre-school teacher check list	**14.4–18.7%**
Campbell et al. (2003)	3	USA cohort, n=639	Speech	SDSC (Shriberg 1993, direct)	**15.6%**
Reilly et al. (2010)	4	ELVS cohort Australia n=1919	Language	CELF P2 >-1.25 SD	**20.6%**
McLeod and Harrison (2009)	4-5	LSAC cohort Australia n=4983	Speech & language	parent report teacher report	**25.5%** **22.3%**
Hughes et al (2016)	4-5	Australia n= 53,256	Speech & Language	Parent report	**15%**
McKean et al. (2017)	7	ELVS cohort Australia n=1204	Language	CELF 4 (Aus) >-1.25 SD	**18.9%**
Zambrana (2014)	3 5	Norway cohort, n=108,000	Language	ASQ parent checklist >1.5 SD	**8%** **9.5%**

would expect ~13% on a normed test

expect 6.68%

Aims of this study

establish the prevalence of SLD in an Irish cohort at ages 3 and 5

describe the nature/prevalence of difficulties reported

establish persistence of SLD from age 3 to 5

report number who have accessed SLT services

Data collection

- Presence and type of SLD established by questionnaires administered to Primary Care Giver in own home by a trained interviewer

9 mths

3 years

5 years

Validity of caregiver report as a measure of speech & language difficulties (SLD)

advantages of parent report

- can identify functional deficiencies that may remain undetected by direct assessment (Bishop and McDonald 2009; Thomas-Stonell et al. 2010, 2013)
- non-compliant/underperforming children
- large sample, representative of the population can be included (Zambrana et al. 2014)

accuracy of parent report

- Massa et al. (2008)
  significant relationships between parent ratings of SLD and children's scores on standardised tests of language
- Bishop et al. (2006)
  - Children's Communication Checklist ratings were as effective as standardized tests at identifying children with language impairment
- Harrison et al (2017),
  - 86%-90% level of agreement between parent report and direct assessment of SSD.

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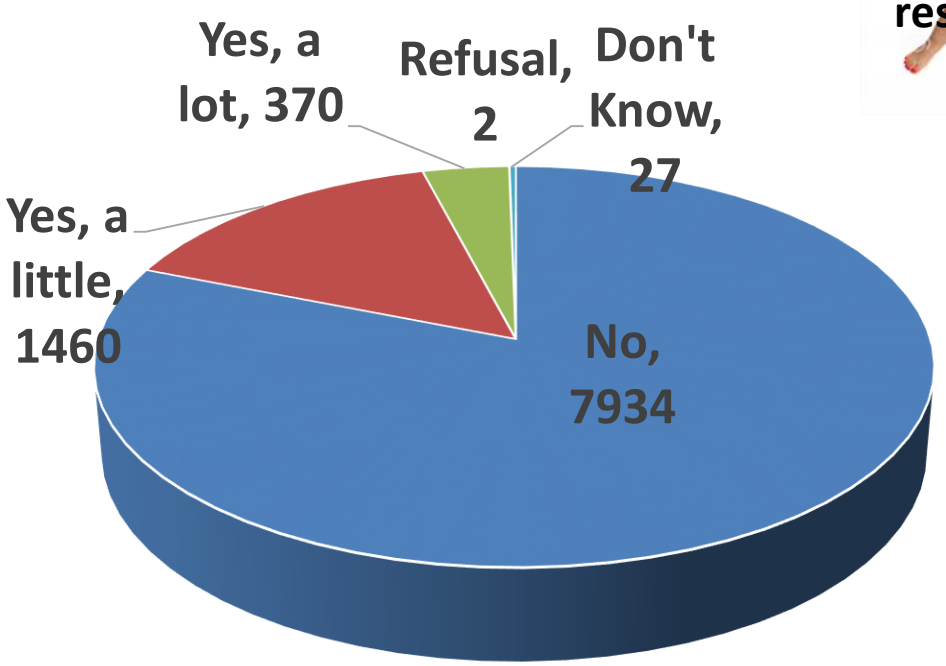
Prevalence at 3 years: **19.2%**

C17:"Do you have concerns about how your child talks and makes speech sounds?"

- PEDS scale (Glascoe, 2000)

- prevalence of (SLD) at age 3:
- 19.2%* overall
- 4%: "a lot"
- 15.2%: "a little"
- 64% male
- no difference by household social class $\chi^2(12) = 13.2$, $p = .354$



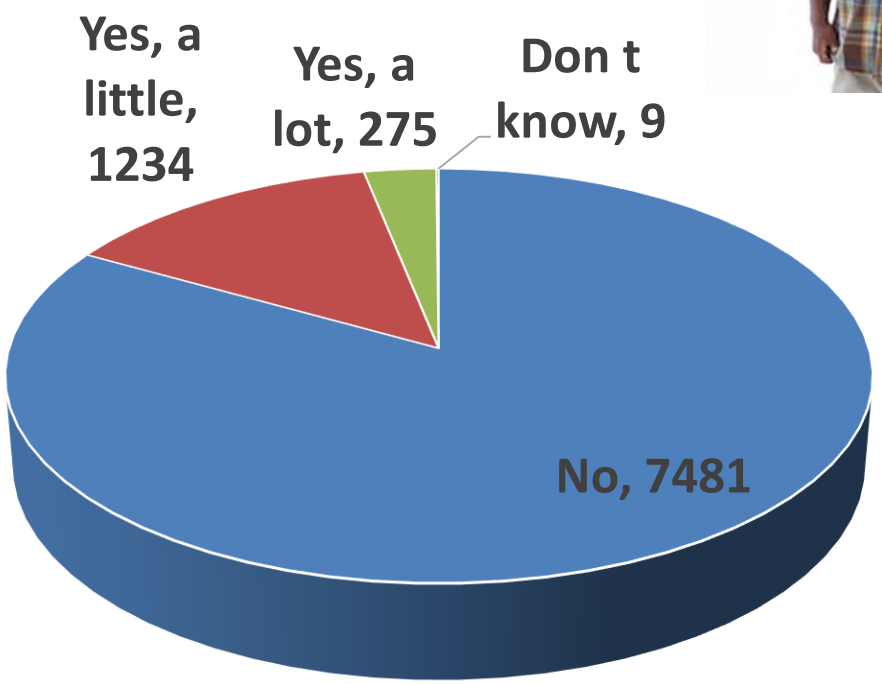
*all percentage figures in this presentation are weighted to compensate for any imbalances in the recruited sample as compared with the population of interest

Prevalence at 5 years: **16.5%**

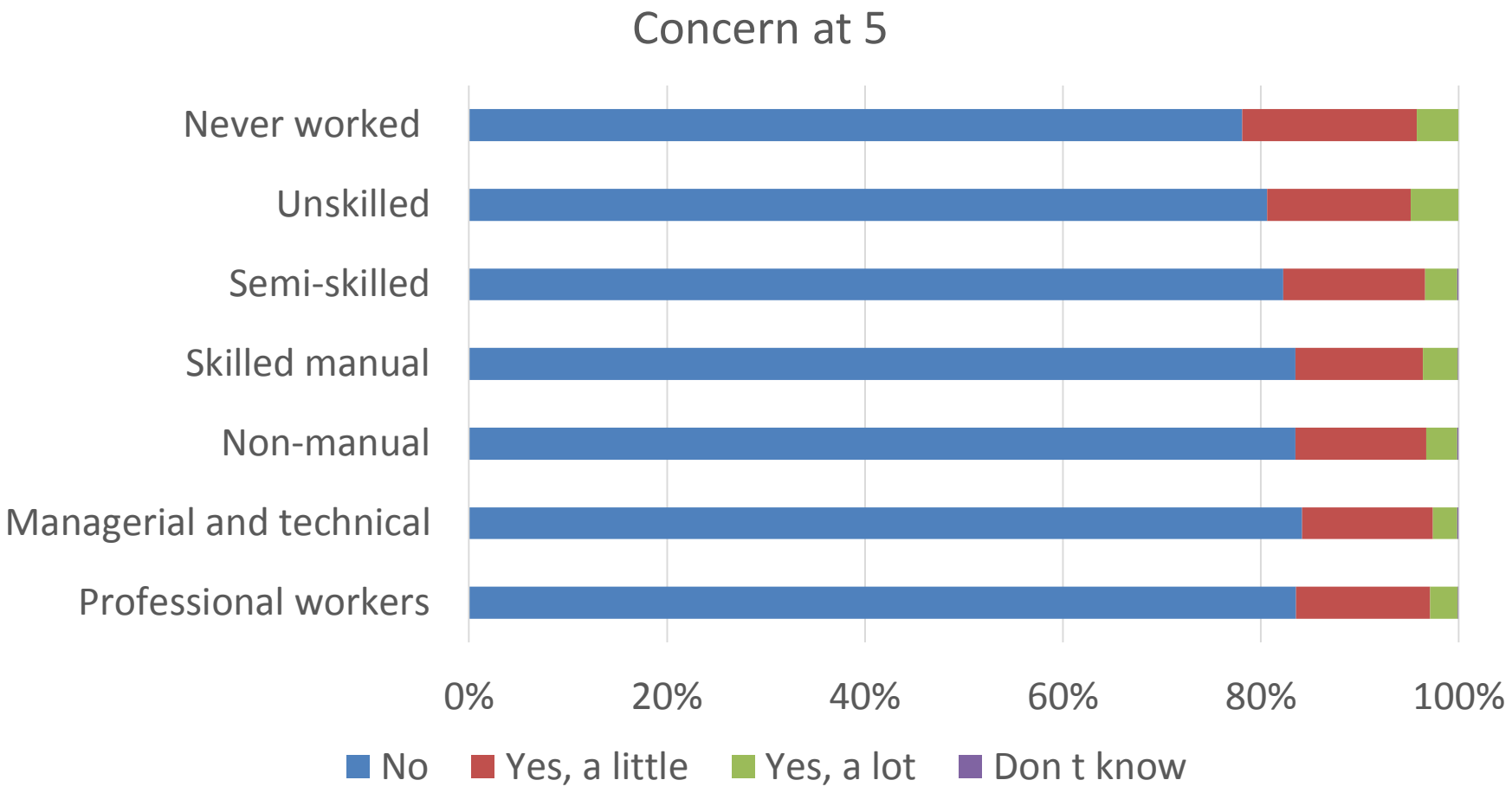
C21:"Do you have concerns about how your child talks and makes speech sounds?"

- PEDS scale (Glascoe, 2000)

- prevalence of (SLD) at age 5 (weighted):
- 16.5% overall, down from 19.2%
- 3.1% "a lot")
- 13.4% "a little"
- 65% male

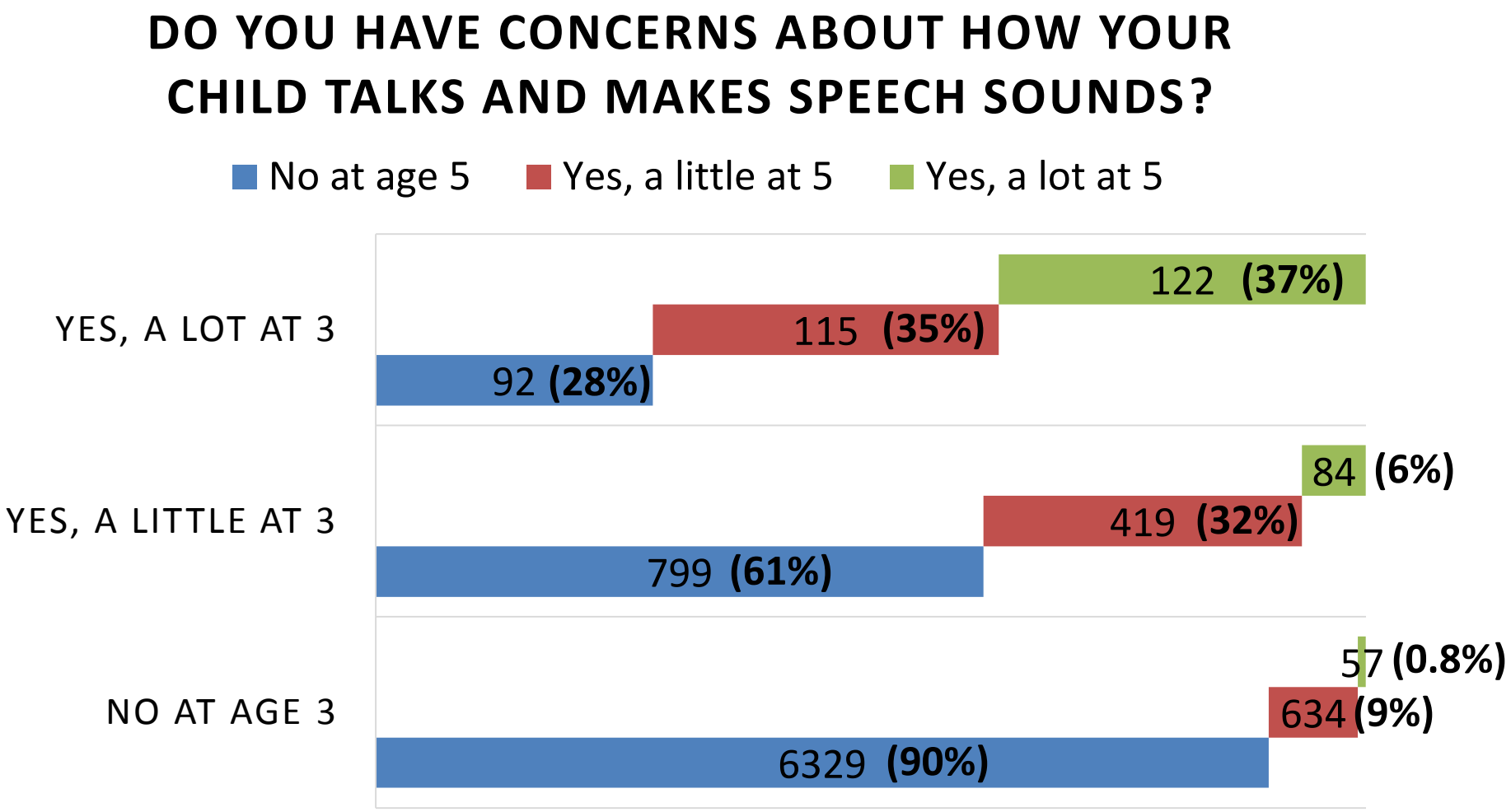


Prevalence of SLD by SES at age 5

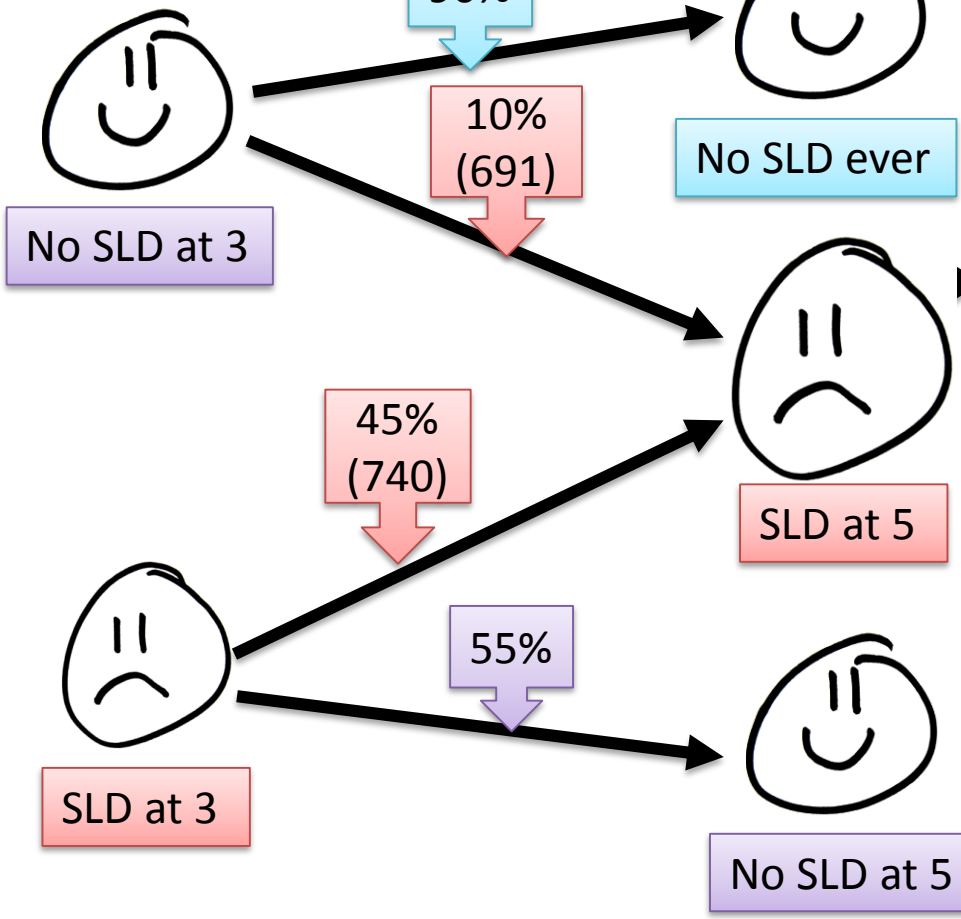


- no significant difference in prevalence by SES, $\chi^2(18) = 26.9$, $p = .080$

Were difficulties transient or persistent?



How many with SLD at age 5 were identified at age 3?



78 children not surveyed at age 3

- 55% of children with SLD at 3 resolved by age 5
- 51% of children with SLD at age 5 had not been identified as having SLD at age 3
- although prevalence at 3 and 5 is similar, they are not the same children

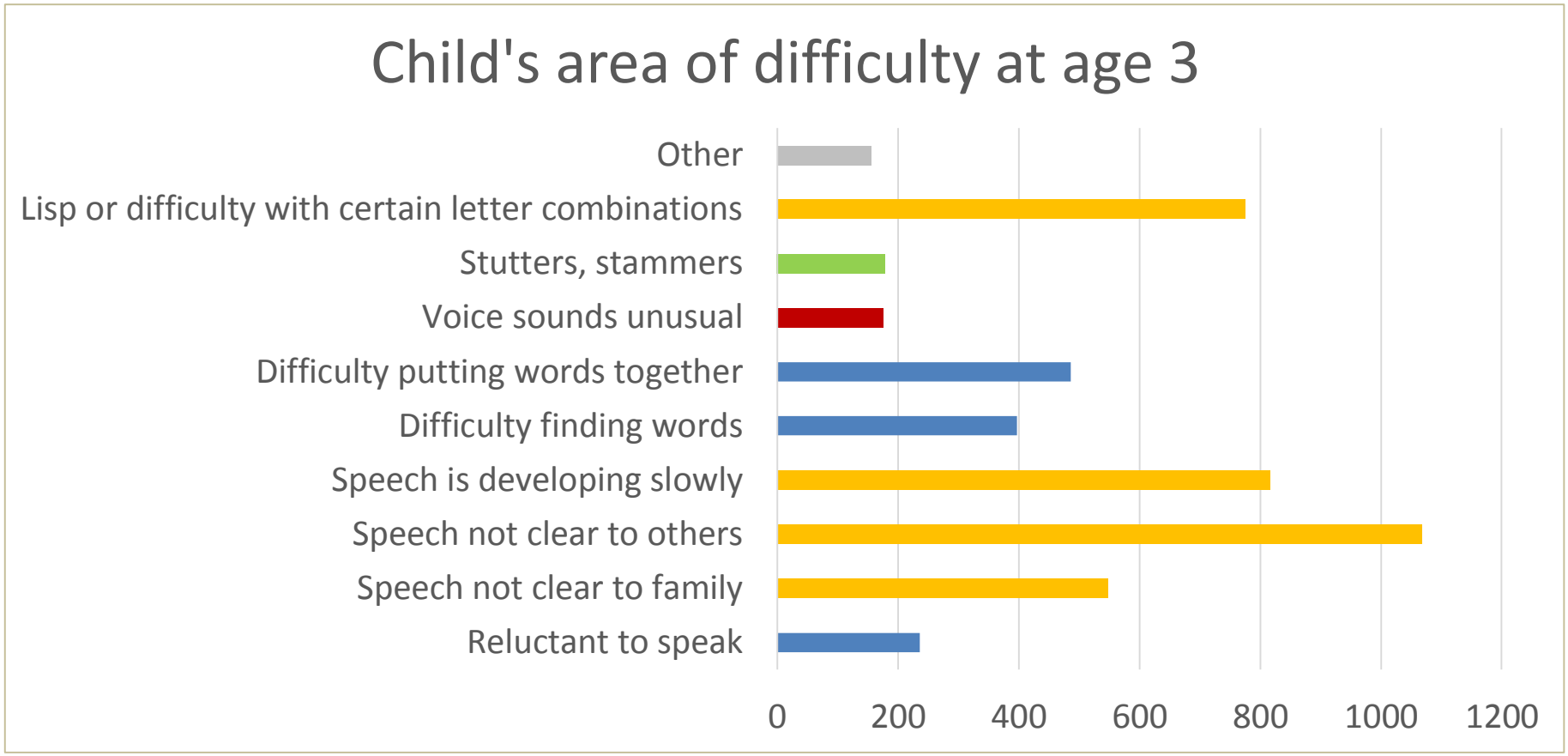
speech and language status very unstable

When can we identify SLD reliably?

10.3% of 3-year olds	•transient SLD
8.6% of 3 year olds	•persistent SLD
8% of 5-year olds	•late onset SLD

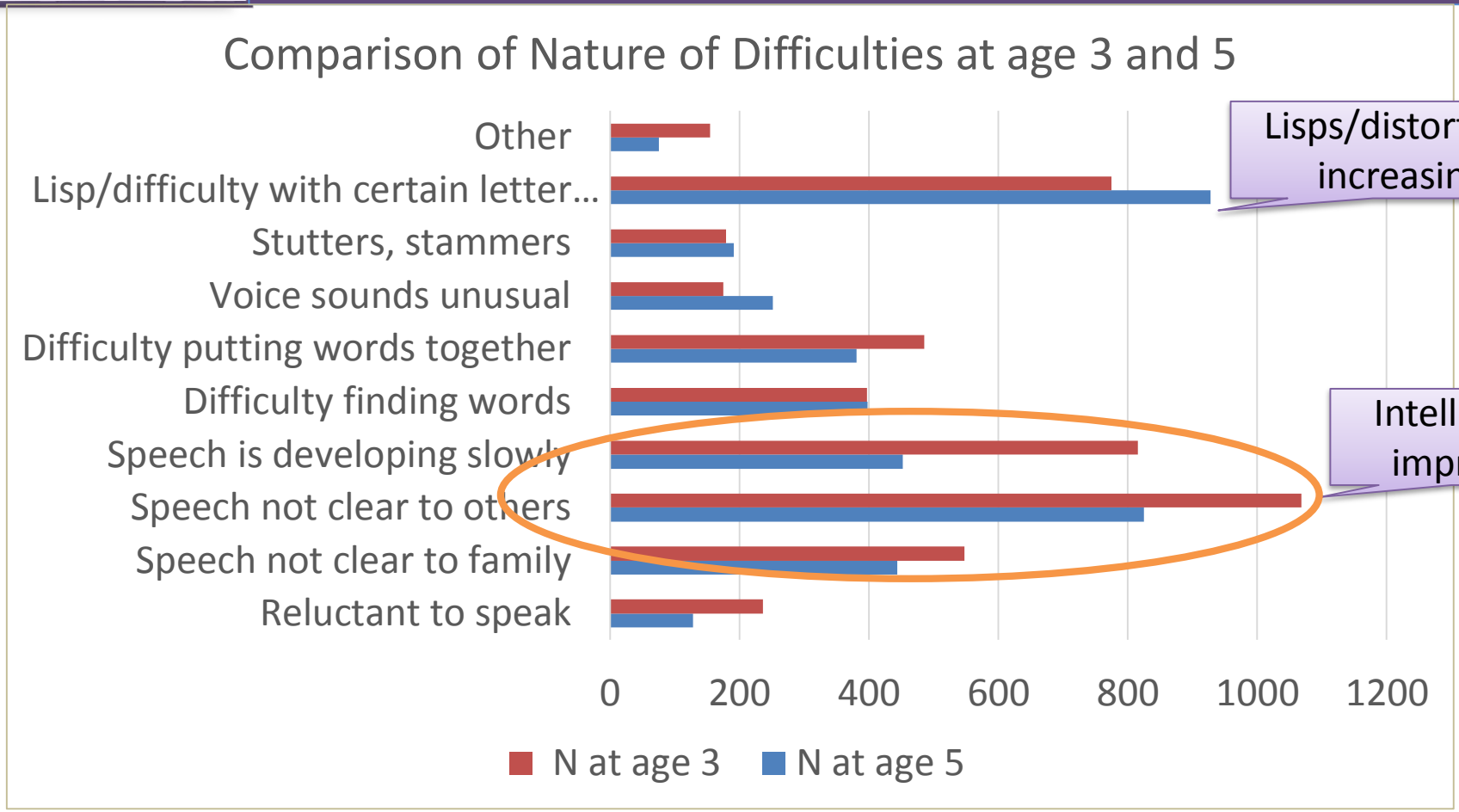
Nature of difficulties identified

Parents could choose more than 1 area:



- Survey not well designed for this purpose:
- Difficult to tell the exact nature of difficulties
- Do parents fail to identify language difficulties, speech easier to identify?

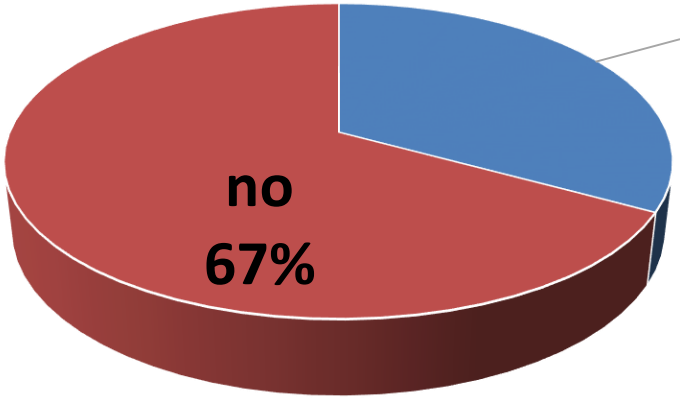
Change in difficulties between 3 and 5



- Some conditions appear stable, but they are not the same children, e.g. :
  - 51% of those stammering at 3 were no longer stammering at 5
  - only 41% of those with word-finding difficulties at 5 had shown them at 3

Treatment for those with SLD at age 3*

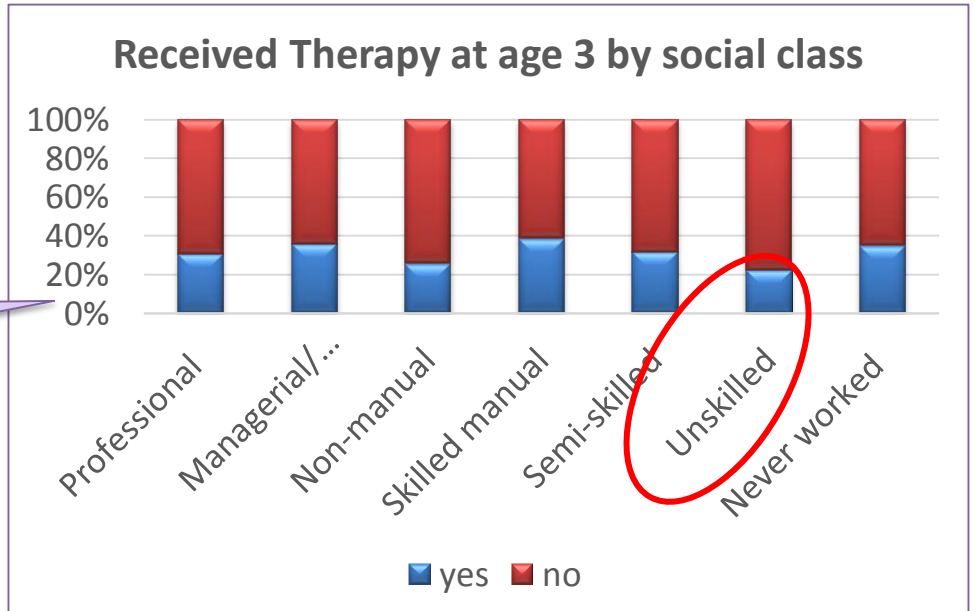
C19. Has <child> received any treatment for his/her speech or language problem?



68% of those with a lot of concern,
24% of those with a little

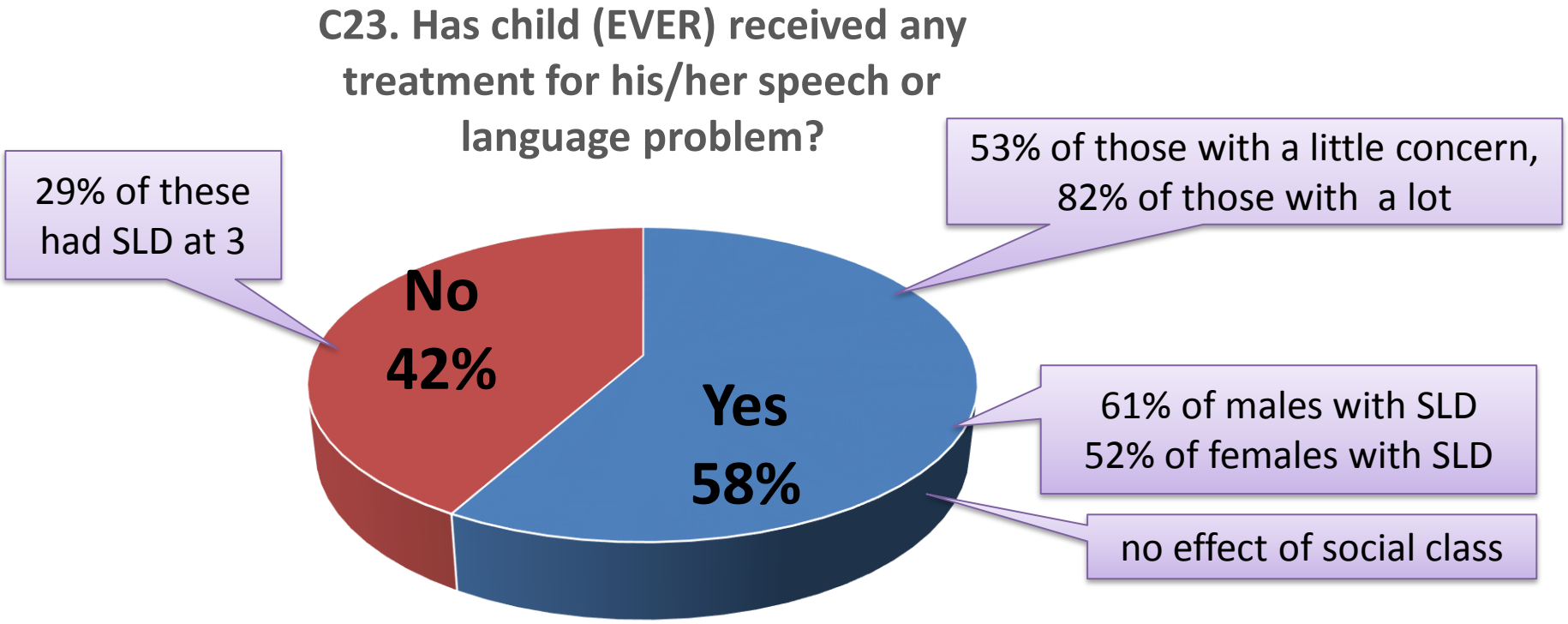
36% of males with SLD
27% of females

significant difference by social class: $\chi^2(7) = 17.3$, $p = .015$



*Percentages weighted for population

Treatment for those with SLD at age 5*

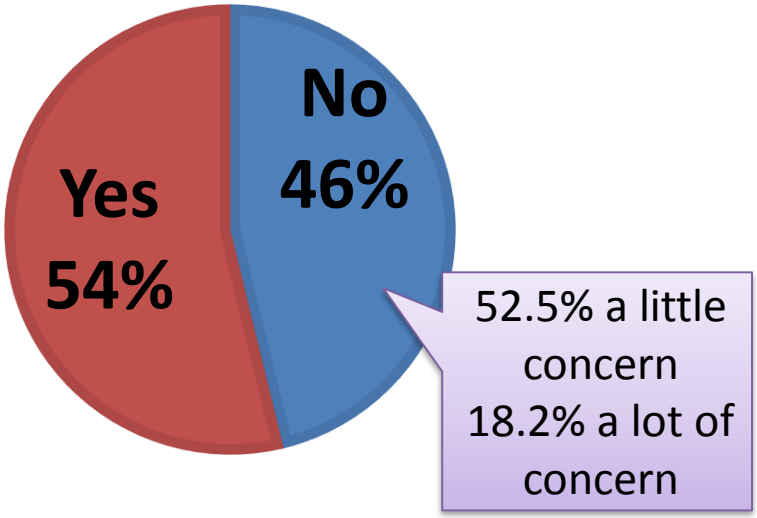


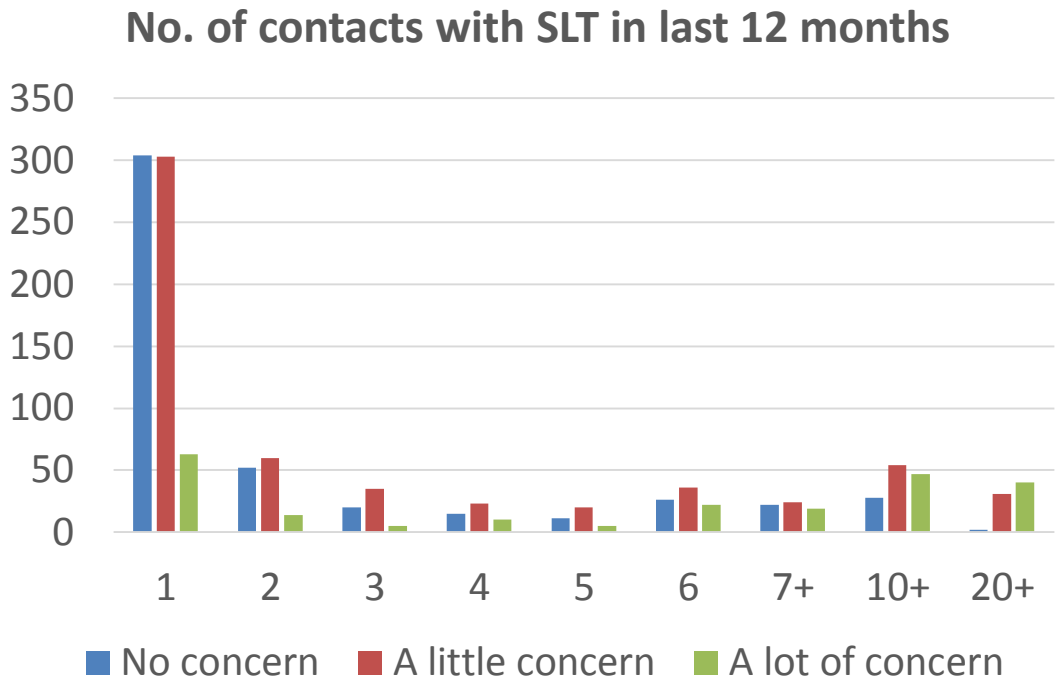
- Limitation: parents were not asked whether they had looked for SLT services

*Percentages weighted for population

Amount of service at age 5

CHILDREN WITH SLD AT 5: SEEN AN SLT IN LAST 12 MONTHS





- 46% of children with SLD at 5 had **not** seen an SLT within the last 12 months
- Of those who had seen an SLT, only 55% had seen one more than once
- 255 5-year-olds were on a waiting list to see an SLT:
  - = 1933 in the whole population of 5-year-olds when the grossing factor is applied
  - 12% of these had no concern regarding SLD

Discussion: prevalence & persistence

- Results align with other recent studies

19.2% at age 3, 16.5% at age 5	Resolved difficulties between 3 →5: 55%	Late onset of difficulties at 5: 10%
• similar to other recent studies • larger than median of 5.95% in 2 to 5 year olds reported by Law et al in 2000	• Roulstone et al (2003): 29% 2→3 • Dale et al (2003): 60% 2→4 • Zambrana et al (2014): 62.5% 3→5 • Bishop & Edmundson (1987): 44% 4 → 5½ • McKean et al (2017): 39% 4 → 7	• Dale et al (2003): 8.5% at age 4 but not 2 • Zambrana et al (2014): 6.5% at age 5 but not 3 • McKean et al (2017): 8.5% at age 7 but not 4

- Reinforces existing evidence regarding prevalence
- Adds to evidence regarding transience of difficulties in pre-schoolers
  - around half of those identified at 3 will resolve, half of those with SLD at 5 will not be identified at 3

Access to SLT services for children with SLD

How many children with SLD have accessed services?

33% of those with SLD at age 3, 58% at age 5

31% of children who had SLD persisting from age 3 to age 5 had not seen an SLT in the last 12 months.

- McKean et al (2017), Australia: 38%-40% at age 4
- Tomblin et al (1997), USA: 29% age 5 to 6
- Skeat et al (2010), Australia: under 5s: 30%

How much service are they getting?

45% of children with SLD at 5 who had seen an SLT, had only 1 contact in the last 12 months

only 26% had 7 or more contacts

Access to SLT services for children with SLD

Are we reaching the right children? at age 5:

27% of children who had persistent SLD since the age of 3 had never seen an SLT

6.7% of children with no SLD had seen an SLT in the last year.

- **Skeat et al (2010): 40% of those for whom help was sought did not have SLD**
- **Roulstone et al (2003), UK: 16% of children with resolved difficulties still accessed therapy**

Implications for policy and practice

In the context of scarce SLT resources

We cannot cure SLD by putting all our resources into children who present to services in the pre-school years.

- Services need to recognise instability in children's language status in early years, & consider the costs of overserving the population as well as underserving it, as well as the opportunity costs for the families and children who would resolve without treatment

We need to develop and evaluate pathways for identification of SLCN throughout the school years

- Half the children with SLD at 5 are unlikely to be identified by pre-school screening

Implications for policy and practice

To improve access to SLT services, and improve outcomes

We need to take the services to the children: into schools & pre-schools

- Little more than half the children with SLD accessed services
- Need to develop and evaluate tiered pathways of intervention that are integrated into schools and preschools, so we can reach all children who need services

Service delivery that focuses on collaboration of SLT and education services in schools to identify and provide efficient intervention for children with SLD may result in improved support for children whose difficulties are likely to persist without help.

Future research

The good news

in association with the University of Limerick

THE IRISH TIMES

14 May, 2018: Schools speech and language scheme launched worth over €2m

- Government launch new project to bring specialised therapists into schools and pre-schools

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