NIHR | Policy Research Unit Children and Families

Improving data completeness in the Community Services Dataset (CSDS): a focus on the Ages & Stages Questionnaire (ASQ)

Summary of findings

Background

The Ages & Stages Questionnaire (ASQ; 3rd Edition) is a measure of child development used at the universal health review. This takes place for all children in England when they are aged 2 to 2½ years and is carried out by health visiting teams. The ASQ is used as a population measure of child development to monitor trends and disparities, and to evaluate policies and interventions. The ASQ data is collated nationally and held in the Community Services Dataset (CSDS) for research purposes.

Through our work comparing CSDS to records in 'Health Visiting metrics' by the Office for Health Improvement and Disparities (OHID), we know that the ASQ data in the CSDS is incomplete – it does not contain as many ASQ records as we would expect. In addition, about 32% of ASQ records are duplicates. So around one third of children (35%) have more than one record for their 2 to 2 ½ ASQ. About 1% of CSDS ASQ data also have missing scores for at least one of the ASQ domains.

We wanted to understand where data was getting lost between completion of the ASQ with a child and the CSDS. This would help to identify the best place to improve data completeness. We consulted with data managers who work with ASQ data and/or the transfer of health visiting data from local authorities (LA) to the CSDS.

Who we consulted

Between May 2023 and March 2024 we consulted with 10 data managers or related professionals across 8 local authorities in England. In addition we carried out a secondary qualitative analysis of six focus groups with health visitors.

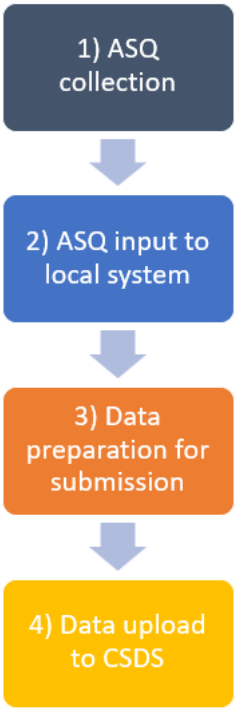
We wanted to understand: 1) the barriers to accurate ASQ data in the Community Services Data Set (CSDS); 2) the reasons for duplicates and missing data identified in our quantitative analyses; 3) possible solutions to these problems.

What we found

We found a range of perspectives about data inaccuracies and missingness in the CSDS that ranged from contextual factors to data collection issues.

a. The data process

Based on early discussions, we structured our consultations around a four-stage process from ASQ data collection to upload to the CSDS to capture where errors might occur:



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b. Practice and system issues affecting data accuracy

The table below summarises the key issues affecting data accuracy at each stage of the process with an additional category for CSDS processes:

1) ASQ collection	• Parents do not complete ASQ questionnaires and mobile populations aren't captured: refugees, asylum seekers, people from overseas, people going private or opting out • Multiple ASQs administered over a period of time • Two different age questionnaires administered at the same time • Problems with digital ASQ links means parents cannot complete
2) ASQ input to local system	• Completeness not checked by health visitor or manager • Input errors such as: typos, file not attached, data inconsistencies not prevented by local system • Incompatibility between digital ASQ and local system • Improvements identified but not implemented by practice team
3) Data preparation for submission	• No data warehouse to sense check before upload • No sense check by people who understand the data • Outsourcing of data preparation adds complexity • Poor quality data from local systems
4) Data upload to CSDS	• Technical issues such as mapping, field filling mismatches, postcode errors • Incompatibility between local system and CSDS • Who submits the data – LA, team distant from practice, no data team • Team focus on interim submissions or quality of other data
5) CSDS processes	• Challenging timeframes for monthly submissions, unable to correct errors • Lack of detail from CSDS on numerators/denominators so unable to come with internal data • National codes not yet mapped to picklist items in local system

c. Contextual factors affecting data accuracy

In our discussions around the process, we identified a range of wider, contextual factors that affected data accuracy. These factors were out of the immediate control of data managers and health visitors involved in the input, cleaning and upload of ASQ data to the CSDS:

Factor	Details
1) Policy & guidelines	• Lack of clarity in current standards to ensure data standardisation • NHS-Digital back track on data quality campaign
2) Commissioning & contracting	• Contracts do not specify who is responsible for CSDS submission (i.e. LA or NHS) • Key Performance Indicators (KPIs) focus on contacts, not ASQ completion • Additional challenges for data teams covering multiple areas with different systems, providers and data requirements
3) Health visiting teams	• High numbers of vacancies (so visits and notes are prioritised) • Age, experience and IT confidence of staff affecting both data input and acting on error reports • Lack of knowledge about national use of data
4) Data teams	• High turnover of data staff • Lack of specialised data teams • Distant from practice teams (and therefore less awareness of data nuances)

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d. Issues related to specific errors

When we explored how the practice and system issues related to the duplicate and missing data identified in our quantitative analyses, we found that consultees focused on stages 1 and 2 (i.e. the collection and input of ASQ data):

Stage	Issue	Error(s)
1)	Parents not completing ASQ	Missing data
1)	Multiple ASQs administered	Missing and/or duplicate data
1)	Two different age questionnaires administered	Duplicate data
2)	Input errors	Missing data
2)	Completeness not checked	Missing data
4)	Technical issues	Duplicate data

e. Suggestions for ASQ data accuracy improvement

Suggestions for improvement related to upgrading and increasing functionality of technology and data systems, with additional recommendations for improved practice in local data and practice teams, and the CSDS team.

1) Technology and data systems

- Use digital ASQs which only offer one age questionnaire and parents can't leave gaps. (*For discussion of potential harms of digital ASQs see Lysons et al., 2024*)
- Make it easier for clinicians to enter data: have a clear front end; provide enough funding for licences for HVs to enter in tableaux; automate entry data processes e.g. with digital ASQs; programme local systems to pick up date inconsistencies and prompt for missing data.
- Increase functionality in local team data so it's easier for them to view and extract data and develop a sense of ownership of their data.

2) Local data and practice teams

- Ongoing data audit processes in practice teams.
- More regular checks of CSDS data – by both practice and data teams.
- Data warehouse staff to have meaningful interaction with both CSDS and practice teams.
- Map all local system picklists to national codes.

3) CSDS team

- Extend timeline for CSDS submission i.e. less frequently than monthly.
- Better, more detailed feedback from CSDS team to local authorities.
- Clarity and agreement about denominator used.

Conclusion

Consulting data managers has served to identify key areas for improving ASQ data completeness. Whilst there are variations in data management across LAs, and the different information systems will need their own processes, there are improvements that could be made across all LAs. We recommend a focus on improving the technology so that data processes are automated as far as possible to reduce the burden involved in data submission. Commissioning guidance that includes information about contracts and submission processes, needs to be provided to relevant staff in local contracts and operations department. Dialogue between the CSDS team and local authorities could improve local data submissions.

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