Developing a population measure of child development at 2-2 ½ years

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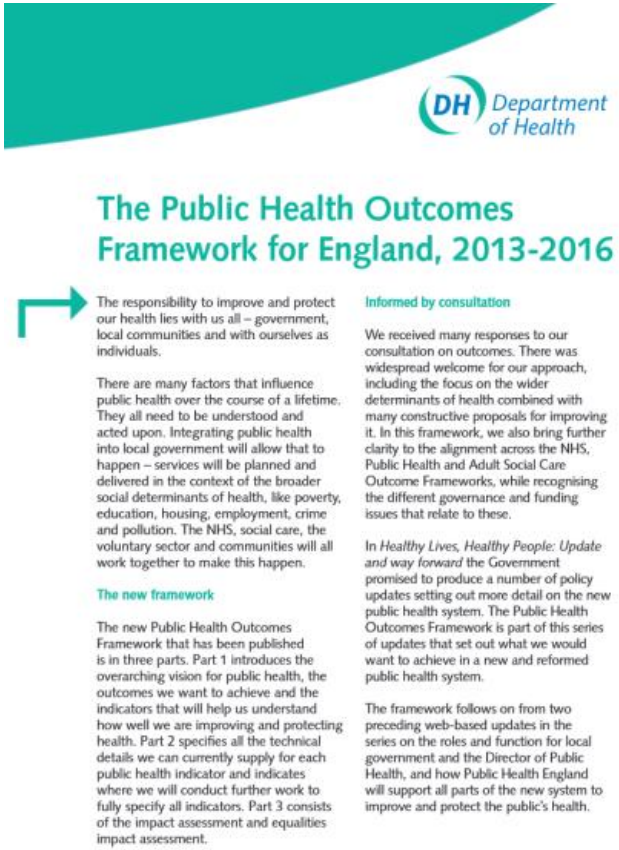
Policy background

- The Government has committed to introduce an public health outcome measure of child development at age 2-2½, to be included in the Public Health Outcomes Framework from 2015

- This will help to…..
  - ➢build a picture of child development at age two across the country and by local area
  - ➢assess effectiveness and impact of services for 0-2 year olds
  - ➢plan appropriate services for children age 2 and beyond

- Data will be collected at the universal HCP two year review, or integrated review where in place.



DH Department of Health

The Public Health Outcomes Framework for England, 2013-2016

The responsibility to improve and protect our health lies with us all – government, local communities and with ourselves as individuals.

There are many factors that influence public health over the course of a lifetime. They all need to be understood and acted upon. Integrating public health into local government will allow that to happen – services will be planned and delivered in the context of the broader social determinants of health, like poverty, education, housing, employment, crime and pollution. The NHS, social care, the voluntary sector and communities will all work together to make this happen.

The new framework

The new Public Health Outcomes Framework that has been published is in three parts. Part 1 introduces the overarching vision for public health, the outcomes we want to achieve and the indicators that will help us understand how well we are improving and protecting health. Part 2 specifies all the technical details we can currently supply for each public health indicator and indicates where we will conduct further work to fully specify all indicators. Part 3 consists of the impact assessment and equalities impact assessment.

Informed by consultation

We received many responses to our consultation on outcomes. There was widespread welcome for our approach, including the focus on the wider determinants of health combined with many constructive proposals for improving it. In this framework, we also bring further clarity to the alignment across the NHS, Public Health and Adult Social Care Outcome Frameworks, while recognising the different governance and funding issues that relate to these.

In *Healthy Lives, Healthy People: Update and way forward* the Government promised to produce a number of policy updates setting out more detail on the new public health system. The Public Health Outcomes Framework is part of this series of updates that set out what we would want to achieve in a new and reformed public health system.

The framework follows on from two preceding web-based updates in the series on the roles and function for local government and the Director of Public Health, and how Public Health England will support all parts of the new system to improve and protect the public's health.

Research - Phase 1

- Aim – to identify a measure of child development that could be used to inform population measure
- domains of interest:
  - Physical development
  - Social and emotional development
  - Cognitive development
  - Speech and language development

Research – Phase 1

- DH shopping list of requirements for a population measure
  - updatable annually
  - allows population level child development at 2-2 ½ yrs to be tracked over time
  - valid and reliable measure
  - applicable to different groups
  - standardised norms for 2 year old children
  - compiled at local and national level
  - simple to apply and acceptable to families and professionals
  - can be integrated with existing contacts with all families around this age

What are we aiming to measure?

- The challenge of measuring child development
  - dynamic nature
  - each developmental domain individually complex they are all inter-related.
  - children develop in spurts not in a linear fashion- slipping in and out of ‘normality’, particularly at a young age.
  - other factors may affect a child’s ‘performance’
  - a single test provides only a snapshot of abilities - if child tested a week later - may yield different results.

  - Parental report does not suffer from this weakness - based on a detailed knowledge of the child, made over a period of time.

Research - Phase 1

- Methods
- Review using systematic methods
- Search threw up 20,620 records
  - Identified and considered in detail 35 possible measures
  - Detailed information on strengths and weaknesses of 13 measures - considered against DH shopping list

Ref: Bedford H., Walton S., Ahn J. Measures of Child Development: A review. 2013. http://www.ucl.ac.uk/cpru/documents/review_of_measures_of_child_development

The measures

- 13 measures cover all domains of interest
- Completed by parents:
  - *Ages and Stages (ASQ-3), *Parents' Evaluation of Developmental Status (PEDS), Parents' Evaluation of Developmental Status – Developmental Milestones (PEDS-DM)
- Completed by health professionals and parents through direct assessment of the child and parent report:
  - Child Development Inventory (CDI), Child Development Review (CDR)
- Completed by health professionals alone by directly assessing children's skills:
  - Bayley, Mullen, Battelle, BDI-2, Brigance, Denver –II, Griffiths, Schedule of Growing Skills.

Ages and Stages Questionnaires®: (ASQ™)

- Developed in USA
- Screening for developmental delay
- 1 month to 66 months (5 ½ years).
- developmental screening system - 21 age specific questionnaires (for 2, 4, 6, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 27, 30, 33, 36, 42, 48, 54, and 60 months).
- appropriate age questionnaire can be given to parents in person, mailed or completed online
- Each questionnaire
  - short demographic section
  - 30 questions about the child's development divided into five domains with response options of *'yes', 'sometimes' 'not yet'.*

COMMUNICATION *(continued)*

	YES	SOMETIMES	NOT YET	
6. Does your child correctly use at least two words like "me," "I," "mine," and "you"?	○	○	○	____
		COMMUNICATION TOTAL		____

GROSS MOTOR

	YES	SOMETIMES	NOT YET	
1. Does your child walk down stairs if you hold onto one of her hands? She may also hold onto the railing or wall. *(You can look for this at a store, on a playground, or at home.)*	○	○	○	____
2. When you show your child how to kick a large ball, does he try to kick the ball by moving his leg forward or by walking into it? *(If your child already kicks a ball, mark "yes" for this item.)* 	○	○	○	____
3. Does your child walk either up or down at least two steps by herself? She may hold onto the railing or wall. 	○	○	○	____
4. Does your child run fairly well, stopping herself without bumping into things or falling? 	○	○	○	____
5. Does your child jump with both feet leaving the floor at the same time? 	○	○	○	____
6. Without holding onto anything for support, does your child kick a ball by swinging his leg forward? 	○	○	○	____*
		GROSS MOTOR TOTAL		____

**If Gross Motor Item 6 is marked "yes" or "sometimes," mark Gross Motor Item 2 "yes."*

Use of ASQ

- translated and used in:
  - France, Norway, Finland, Spain, the Netherlands, North America, South America, Asia and Australia
- few studies examined its psychometric properties in their own cultural setting after translation
- general paediatric population
- for follow up of children at increased risk for disability such as prematurity (less than 31 weeks gestation) and after various environmental exposures, medical conditions and assisted reproductive technologies.
- part of the HCP two year review in some areas of England, and by Family Nurse Partnership

ASQ - Strengths as a population measure - 1

- covers developmental domains of interest.
- reported to have been used as a population measure
- produces scores (out of 60) for each domain and an overall score - may allow measurement of small changes longitudinally.
- format allows flexibility in administration
  - could be incorporated into 2 yr review in a number of ways: sent to parents in advance,
  - the individual conducting the review could go through the items with the parent at the time of the review. This would be a useful way of widening access for parents with literacy issues.
- ASQ allows parents to be active participants in their child's development and encourages enjoyable interaction between parent and child.

ASQ - Strengths as a population measure - 2

- results provide a good basis for discussion about current and future development.
- it is designed to be a strengths based measure not to show what children cannot do
- It has been used among children at high risk of developmental problems.
- quick and easy to complete and to score.

However

- No standardised norms for England

- Not been validated in England –
  - this means we do not know how good it is at accurately identifying children with possible developmental problems

- lack of information about acceptability among UK parents and health professionals, other than anecdotal reports that ‘they like it’.
- a need to evaluate ASQ in the UK population to determine if it can be used with parents with potential language barriers, cultural differences and with literacy problems.
- 2-2.5 year review done at a range of ages different age specific questionnaires needed ? Validity of combining scores from age specific questionnaires into one overall score.
- designed as a system for developmental surveillance - validity and usefulness of using it as a one off measure is unclear.
- Some of the language used in ASQ is ‘Americanised’- may need adapting for use in UK.

Research- Phase 2

- Aims - To explore acceptability and understanding of ASQ-3 among parents and health professionals as part of the HCP 2 year review.
- Methods – Four study areas (health authorities/counties) known to be using ASQ-3™ selected to reflect differences in geography and socio-demographic characteristics. Use mixed methods:
  - Survey questionnaires from:
    - parents of children who had been invited for their child's 2 year review (153/988; response rate 15%)
    - health professionals (126/550; response rate 23%)
  - Focus groups with health professionals (n = 85)
  - Interviews with parents (n = 40)
  - Observations of two year reviews (n = 12)

Summary of key findings - 1

- Parents and professionals welcomed a measure that provides useful information about a child's development

"I'm not really sure where she should be at this stage, so it was useful tool to go through….so it's quite reassuring too" (parent)

- The ASQ-3 was seen as providing consistency in assessing development both within and across areas

"not a test, it just gives us an idea…every health care professional has their own way of looking at a child and…instead of it being a personal evaluation its more of an evaluation that you can measure against" (HP)

Summary of key findings - 2

- Parents enjoyed the opportunity to interact with their children and to learn something new about them.

" ….actually amazed at all the things he could do" (parent)

- Both parents and professionals welcomed the opportunity to work in partnership:

" with this you are working together with parents … you are encouraging the parents to have their own assessment with their child and see where they are before they come and see you" (HP)

Summary of key findings - 3

- Wide variation in how the ASQ-3 was incorporated into the 2 year review
  - this was often associated with a lack of training, or training that was inconsistent across areas.
- Parents and professionals critical of use of American English, cultural and gender issues and specific questions. e.g Cheerios, playing with dolls, kicking a ball, using a spoon or fork
  - *"Everything comes from America.' That's a comment isn't it? Always the Americans telling us how to do things, yeah." (HP)*
  - Variation in methods of scoring, recording and referral.

HPs reported key components of the 2 year review (e.g. immunisation status, weight, details of sleep, toilet training etc) to be "missing" from ASQ-3 suggesting lack of understanding that this is a **part** of the review.

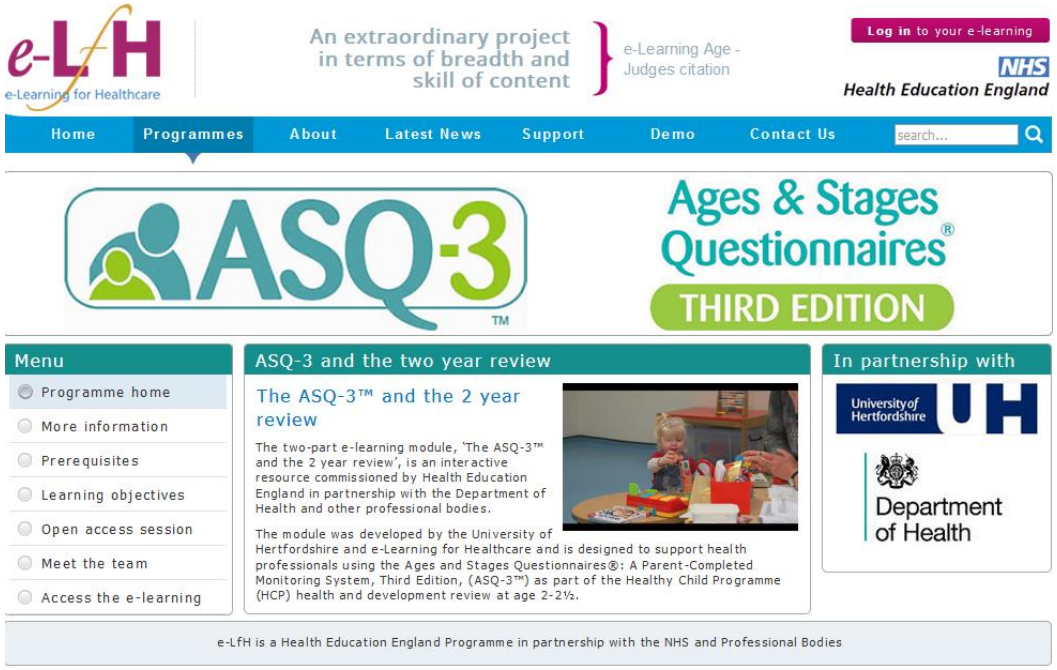
Implications for Policy and Practice

- Ensure that ASQ is used as part of the wider health and development review at 2 years
- Need for a standardised approach in using ASQ-3, including training
- The partnership approach to the child health review is valued and should be reinforced through professional development and training
- ASQ-3 needs to be reviewed and revised to plain English

Developments from research

- Need for standardised training and content informed by findings from research

- Live on e-Learning for Healthcare website (http://www.e-lfh.org.uk/programmes/asq-3-and-the-two-year-review/) (Kendall and Nash, 2014)



Developments from the research

'When playing with either a stuffed animal or a doll, does your child pretend to rock it, feed it, change its diapers, put it to bed and so forth'

'When playing with a favourite soft toy or doll, does your child cuddle it, pretend to feed it, put it to bed, etc.'

'little wagon, stroller'

'dump out the Cheerio'

'little truck, doll's buggy'

'tip out the raisin'

Public health outcome measure

- From April 2015 data collected on whether ASQ used in 2 year review
- Sept 2015 - scores will be collected for the public health outcome measure

PCHR – page

2-2½ year review / Integrated review

* Please place a sticker (if available) otherwise write in space provided.

Surname:

First names:

NHS number: Unit no:

Address: Sex: M / F

Post code: D.O.B: ...../...../.....

G.P: Code:

H.V: Code:

Date of contact:.....

Nature of contact/location: .....

.....

.....

By whom: .....

Weight (if indicated): .....

Age: .....

*ASQ-3™ completed Yes ☐ Date: ...../...../..... No ☐

**ASQ:SE completed Yes ☐ Date: ...../...../..... No ☐

Findings of review and any action to be taken:.....

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*Ages & Stages Questionnaires®, Third Edition (ASQ-3™)

**Ages & Stages Questionnaires®, Social – Emotional (ASQ:SE)

Follow-up required: No ☐ Yes ☐ HV ☐ GP ☐ Community Paediatrician ☐ Hospital ☐ Other:.....

Location/Clinic: ..... Date/Interval: .....

Reason: ..... Signature: .....

Top copy: stay in PCHR 2nd copy: HV 3rd copy: Community information system

Jan 2015

Further work - ongoing

- Decision to be made re also using Ages and Stages Questionnaire - Social Emotional (ASQ-SE) as part of the population measure

- Systematic review of all the studies of ASQ has been conducted and will report soon

Conclusions

- 2 – 2 ½ year HCP review is one of the 6 early years high impact areas
- AIMS
- Identify the child's progress, strengths and needs at this age in order to promote positive outcomes in health and wellbeing, learning and behaviour and promote school readiness.
- To facilitate appropriate intervention and support for children and their families, especially those for whose progress is less than expected.
- To generate information which can be used to plan services and contribute to the reduction of inequalities in children's outcomes.

Conclusions

- Using ASQ allows parents to be central to the child's review as active participants

- Information gathered from the review will inform discussions with parents about their child's progress

HOWEVER

- It should not be used as a screening test for individual children
- You should not refer a child on the basis of the ASQ score alone

Research Team

Phase 1

Measures of Child Development: A review

Bedford H*., Walton S*., Ahn J* 2013

http://www.ucl.ac.uk/cpru/documents/review_of_measures_of_child_development

Phase 2

Evaluating a population measure of child health and development at two years from the user perspective (parents and professionals)

Sally Kendall**, Avie Nash**, Andreas Braun**, Gonca Bastug**, Emeline Rougeaux*, Helen Bedford*

http://www.ucl.ac.uk/cpru/research/projects/ongoing-projects/population_measure_of_child_development

Development of e-learning

Avie Nash** and Sally Kendall**

www.e-lfh.org.uk/programmes/asq-3-and-the-two-year-review

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** Centre for Research in Primary and Community Care (CRIPACC) , University of Hertfordshire

Further reading

- National Children's Bureau. The Integrated Review. March 2015http://www.ncb.org.uk/media/1201160/ncb_integrated_review_supporting_materials_for_practitioners_march_2015.pdf
- Department of Health. Mandation Factsheet 1. Commissioning the national Healthy Child Programme mandation to ensure universal prevention, protection and health promotion serviceshttps://www.gov.uk/government/uploads/system/uploads/attachment_data/file/402447/Mandation_factsheet_1.pdf
- Department of Health. Early Years High Impact Areas: documents to support local authorities in commissioning children's public health services. https://www.gov.uk/government/publications/commissioning-of-public-health-services-for-children