# Development and initial evaluation of a school-based intervention for ADHD

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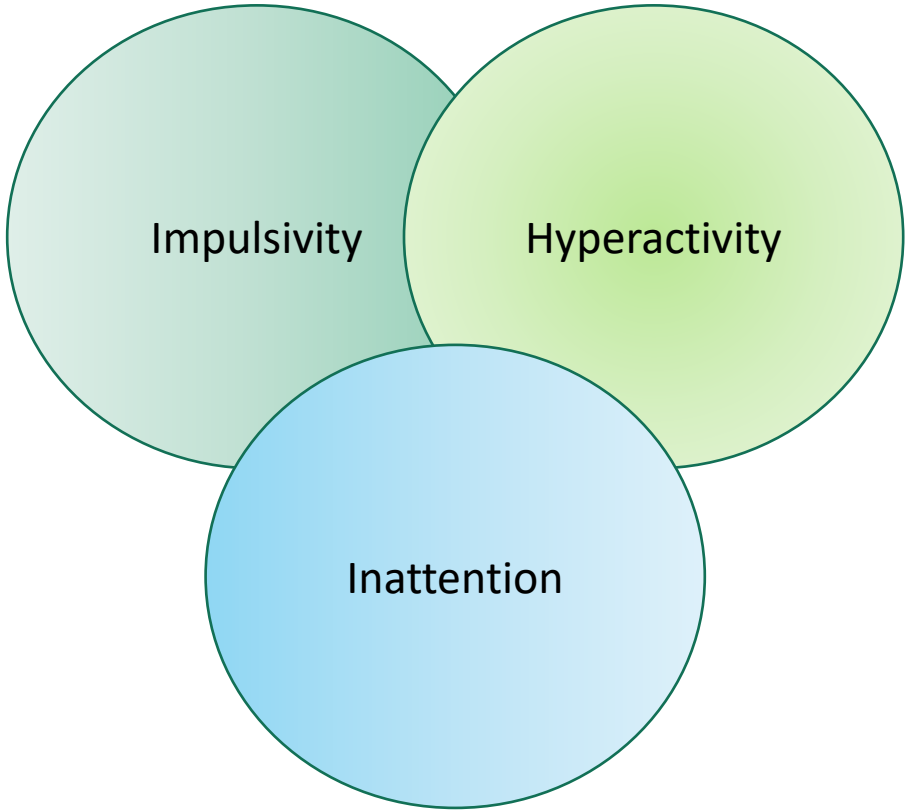
# Overview

- ADHD
- What’s the evidence about what works?
- What resources would I recommend
- Introduction to Tools for Schools project
- How you can be involved

# ADHD



# What is the evidence about what works?

- Using functional behaviour analysis to understand behaviours (don't simply attribute to ADHD)
- Classroom contingency management: behaviour strategies such as **Daily report cards**, token economies, time-out from positive reinforcement, labelled praise, effective commands and requests, planned ignoring- used more intensively than for other students as those with ADHD often have a lot of (negative) corrective feedback
- Academic interventions
- Organisation skills training, time management (especially for adolescents)
- Homework support
- Training adaptive skills (e.g. note taking, social skills)

# Educators experiences of managing ADHD: a qualitative study

- How do educators respond to ADHD?

Broad strategies

Student-centred

Inclusive strategies

- Encouraging appropriate classroom behaviour, increasing study skills, helping students to work with peers
- Using physical activity: movement breaks, lots of opportunities/reasons to get up
- Rewards? (delay aversion, smaller-sooner)
- Pupil passport
- Engaging individual interests
- Academic work that is appropriately challenging but *can be completed*, need to achieve things

- What are the barriers and facilitators?

Labelling

Medication

Relationships

School Mental Health (2019) 11:72–91
https://doi.org/10.1007/s12310-018-9267-2

ORIGINAL PAPER

# Best Practices in School Mental Health for Attention-Deficit/Hyperactivity Disorder: A Framework for Intervention

Gregory A. Fabiano[1] · Kellina Pyle[1]

Review of Education
An International Journal of Major Studies in Education
BERA BRITISH EDUCATIONAL RESEARCH ASSOCIATION

Research Synthesis | Full Access

# School-based interventions for attention-deficit/hyperactivity disorder: A systematic review with multiple synthesis methods

Darren A. Moore, Abigail E. Russell, Justin Matthews, Tamsin J. Ford, Morwenna Rogers, Obioha C. Ukoumunne, Dylan Kneale, Jo Thompson-Coon, Katy Sutcliffe, Michael Nunns ... See all authors

Child: care, health and development
Original Article
doi:10.1111/cch.12448

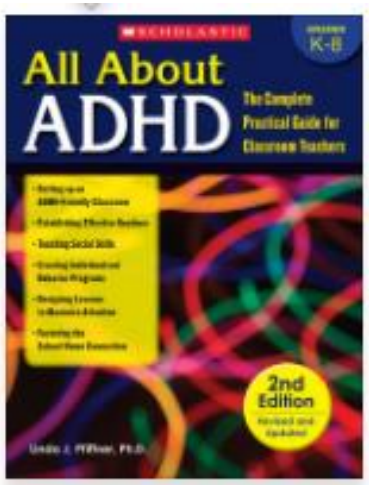
# Educators' experiences of managing students with ADHD: a qualitative study

D. A. Moore,* A. E. Russell,* S. Arnell† and T. J. Ford*

# Key authors

- Qualitative study in the South West (Russell et al., Moore et al.)
- Reviews of school-based interventions for ADHD (Moore, Richardson, Du Paul, Fabiano, Daley)
- “Big names” in ADHD and psychological interventions: those above plus Linda Pfiffner, Andrea Chronis-Tuscano, Marina Danckaerts, Josh Langberg & Steven Evans (organisation skills), Edmund Sonuga-Barke (parent interventions), Russell Barkley and James Pelham (the “OGs”)

# Resources




https://www.adhdfoundation.org.uk/

https://www.minded.org.uk/

https://www.acamh.org/ (ADHD topic guide, blogs, article summaries)

https://www.nice.org.uk/guidance/cg72/evidence/full-guideline-pdf-241963165

www.blogs.exeter.ac.uk/toolsforschools

# Development and initial evaluation of a school-based intervention for ADHD

Principal Investigator: Abby Russell
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Phase 1 (2020-2022)

- Evidence synthesis of interventions for outcomes targeted by toolkit
- Develop prototype toolkit using Intervention Mapping

Phase 2 (2022-2025)

- Experimental feasibility study in 8 primary schools
- 16-32 children with impairing traits of ADHD
- Multiple baseline case series to refine and adapt prototype toolkit

**Toolkit targets**

ADHD symptoms (inattention, hyperactivity, impulsivity)
classroom functioning
conflict with teachers and peers
executive functioning
global functioning/quality of life
organisation skills
self-esteem

**Toolkit co-creation:**

Parents
People with ADHD
School staff
Psychologists

FUNDED BY NIHR | National Institute for Health Research

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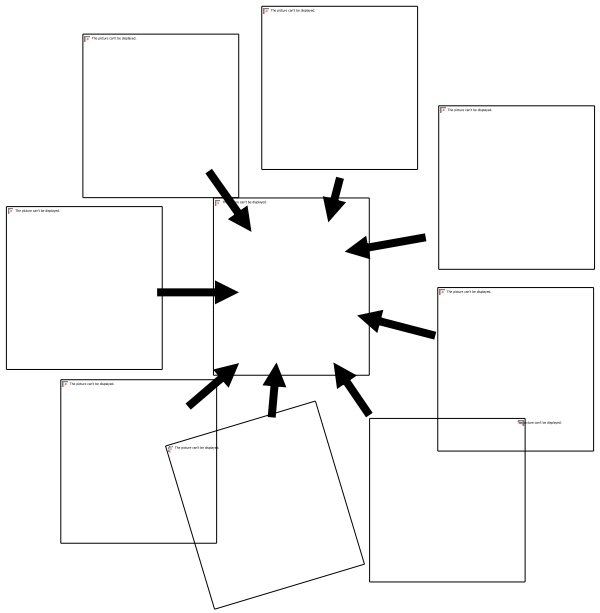
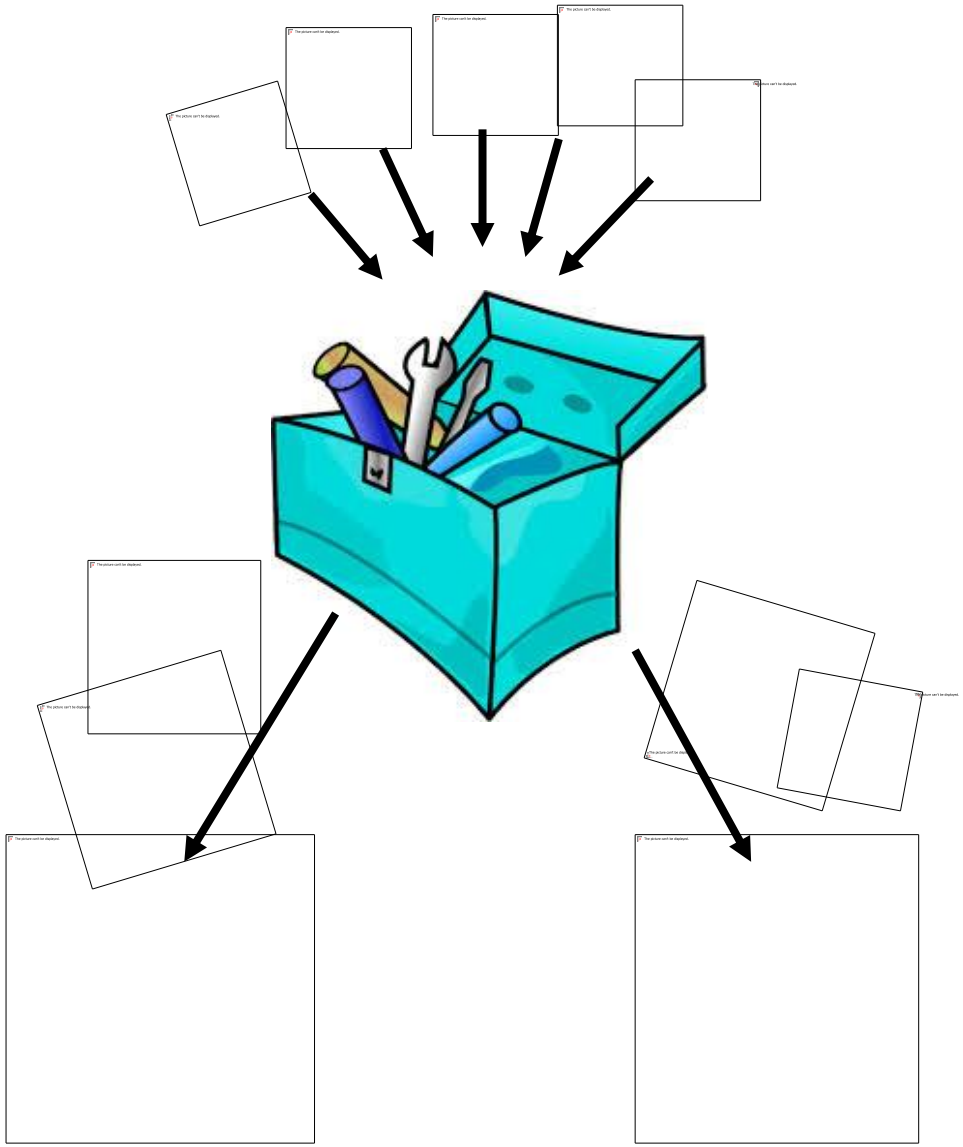
# The problem



# The solution



“Toolkit” of intervention strategies

Overarching Aim:

To develop an acceptable and feasible intervention for ADHD in primary schools that is feasible to further evaluate in a methodologically rigorous trial. The intervention will take the form of a ‘toolkit’ of strategies.

**Toolkit targets**

- ADHD symptoms (inattention, hyperactivity, impulsivity)
- classroom functioning
- conflict with teachers and peers
- executive functioning
- global functioning/quality of life
- organisation skills
- self-esteem

The main aims are to:

1. **Develop** a prototype toolkit
2. **Refine** the toolkit so that it is feasible and acceptable to implement in the school setting
3. **Establish** whether a future definitive trial of efficacy is feasible

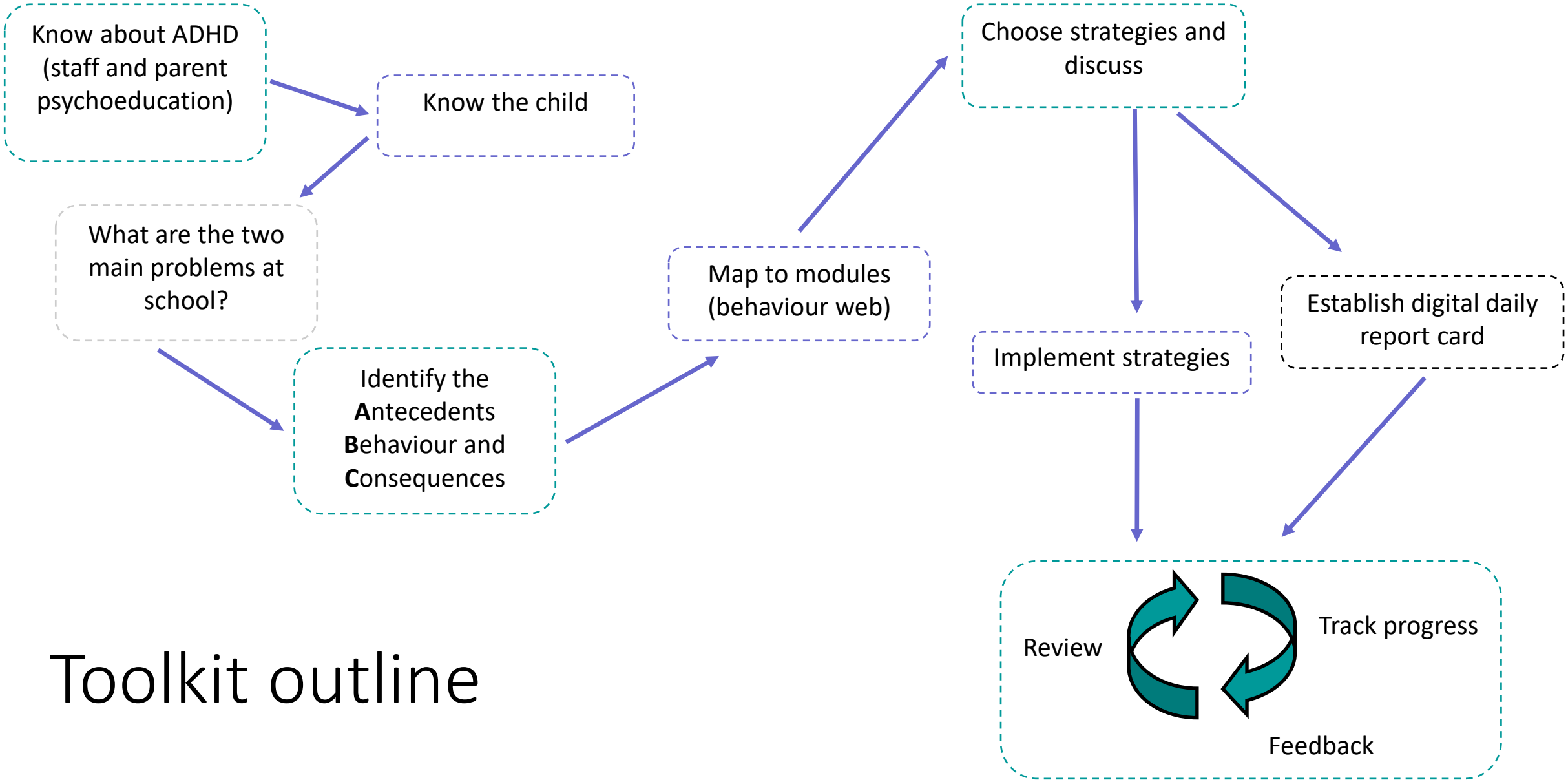
# Planning group members

| | Primary expertise |
|---|---|
| **1** | SENCo |
| **2** | SENCo |
| **3** | Educational psychologist |
| **4** | Educational psychologist |
| **5** | Occupational therapist, ADHD |
| **6** | Adult with ADHD |
| **7** | Parent |
| **8** | Parent |
| **9** | ADHD and parent |
| **10** | Trainee health psychologist |
| **11** | Parent, prior SEN teacher |
| **12** | CAMHS clinician |

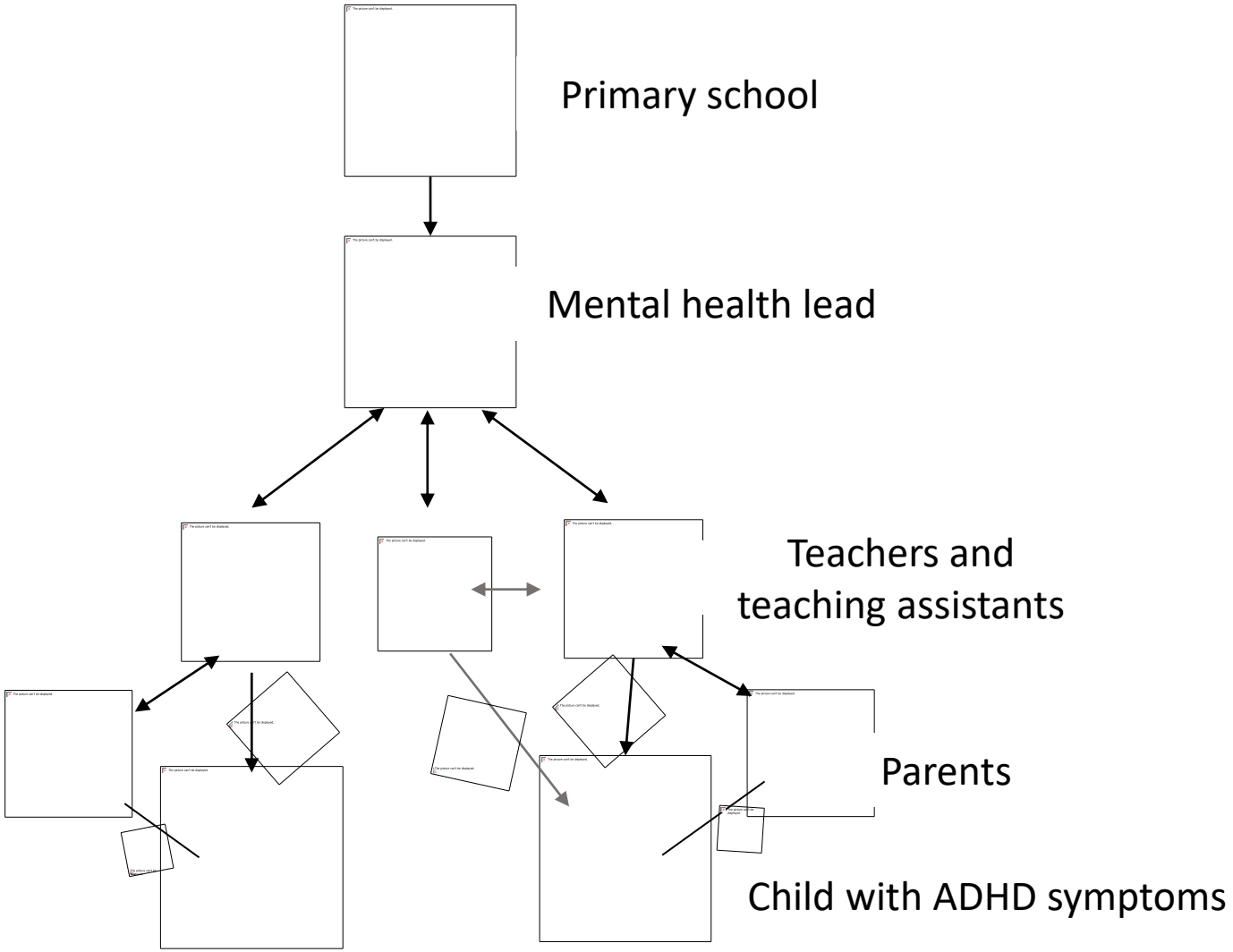
# How can you be involved?

- Linking up with schools, teachers, TA’s
- Families and children with ADHD
- Patient/public engagement (planning group)
- vs research participants (feasibility study)

# Toolkit outline



# Participant structure



| | School | Summer 2022 | Autumn 2022 | Spring 2023 | Summer 2023 | Autumn 2023 | Spring 2024 | Summer 2024 | Autumn 2024 | Spring 2025 |
|---|---|---|---|---|---|---|---|---|---|---|
| Recruitment cohort 1 | 1 | | | | | | | | | |
| | 2 | | | | | | | | | |
| | 3 | | | | | | | | | |
| | 4 | | | | | | | | | |
| Recruitment cohort 2 | 5 | | | | | | | | | |
| | 6 | | | | | | | | | |
| | 7 | | | | | | | | | |
| | 8 | | | | | | | | | |

Grey- baseline, blue – intervention, green- follow-up.

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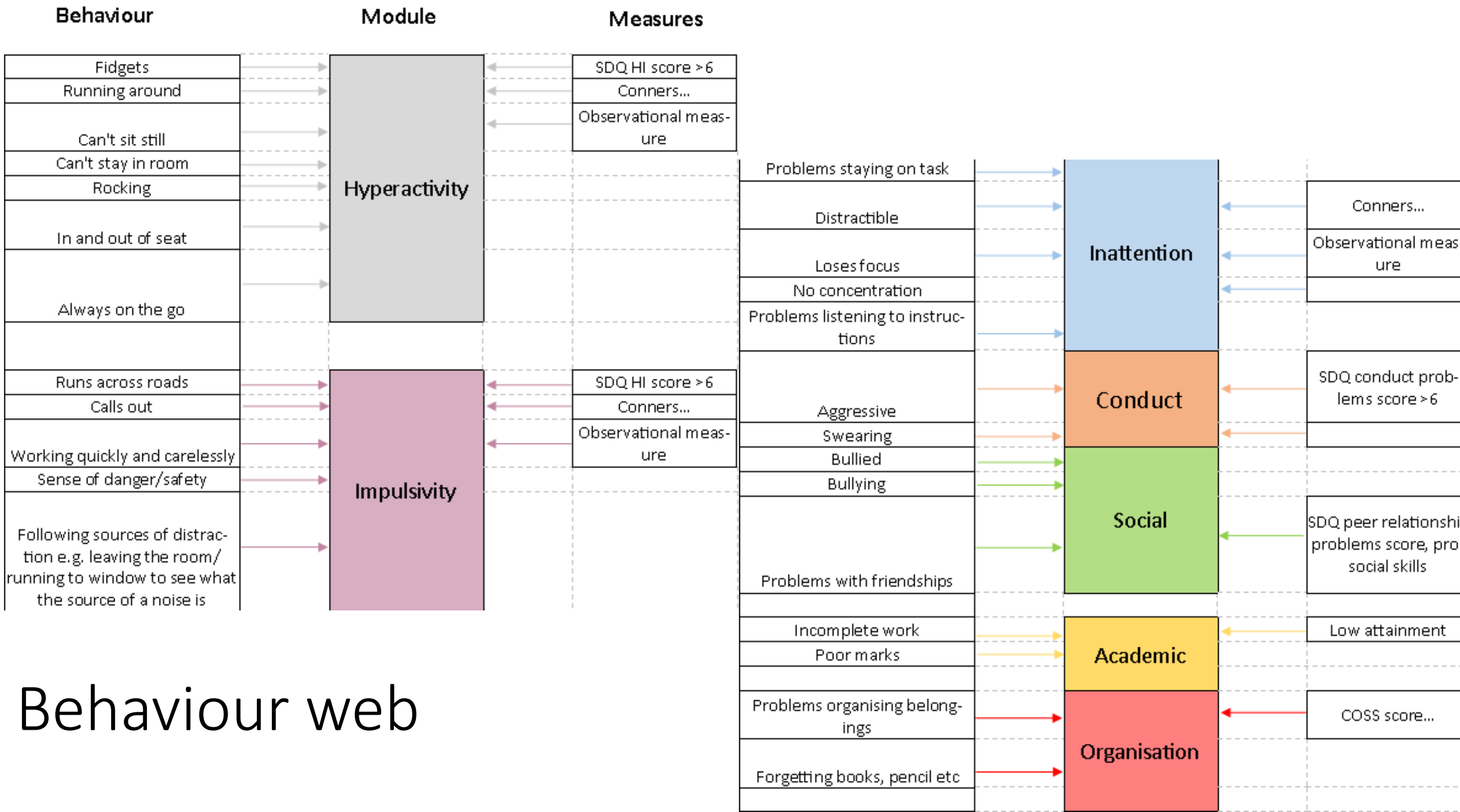
@DrAbbyRussell

| Outcome | Measure |
|---|---|
| | |
| Child ADHD symptoms (primary outcome) | Strengths and Weaknesses of ADHD-symptoms and Normal-behavior |
| Classroom functioning (primary outcome) | Social Skills improvement system rating scales (measures social, academic and competing problem behaviours) |
| Child dimensional psychopathology | Strengths and Difficulties Questionnaire |
| Child satisfaction with school | How I Feel About My School |
| Child quality of life | Child Health Utility for Economic Evaluation |
| Healthcare and education resource use | Develop through drawing on the Client Service Receipt Inventory and measures in the Database of Instruments for Resource Use Management repository |
| Teacher wellbeing | Warwick-Edinburgh mental wellbeing scale, Work Productivity and Activity Impairment Questionnaire |
| Observational measures of classroom behaviour | Behavioral Observation of Students in Schools, Classroom observation code, Teacher-Pupil observation tool |




# Behaviour web

| **Time period (school terms)** | … | **Baseline** | | | | | **Term prior to intervention** | | | | | **Intervention term** | | | | | **Follow-up term** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Weeks** | | **01-05** | | | **6-10** | | **01-05** | | | **6-10** | | **01-05** | | | **6-10** | | **01-05** | | | **6-10** | |
| **Activity** | | | | | | | | | | | | | | | | | | | | | |
| Recruitment and consent | **X** | | | | | | | | | | | | | | | | | | | | |
| Randomisation | **X** | | | | | | | | | | | | | | | | | | | | |
| ADHD symptom measure, classroom functioning measure | | **X** | **X** | | **X** | **X** | **X** | **X** | | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| Preparatory stages | | | | | | | | | | | **X** | **X** | | | | | | | | | |
| Implement digital Daily Report Card | | | | **Half term** | | | | | **Half term** | | | **X** | | **Half term** | | | | | **Half term** | | |
| Implement module 1 | | | | | | | | | | | | **X** | | | | | | | | | **X** |
| Implement module 2 | | | | | | | | | | | | | | | **X** | | | | | | |
| Module outcome measures | | | | | | | | | | | | **X** | **X** | | **X** | **X** | | **X** | | | **X** |
| Verbal feedback on modifications | | | | | | | | | | | | | **X** | | | **X** | | | | | |
| Questionnaire measures (acceptability, feasibility) | | | | | | | | | | | | | | | | **X** | **X** | | | | |
| Resource use, quality of life | | X | | | X | | | | | | X | | | | | | **X** | | | | |
| Interviews, focus groups (acceptability, feasibility) | | | | | | | | | | | | | | | | | | | | | **X** |

# Continuation criteria

| | Green acceptable | Amber discuss, modify | Red stop |
|---|---|---|---|
| Recruitment of schools | 6 or more | 5 | 4 or fewer |
| Recruitment- teachers, children, parents | >65% | 20-65% | <20% |
| Retention of schools, teachers, children and parents in study | >65% | 40-65% | <40% |
| Training completed (teachers) | >90% | 70-90% | <70% |
| Introductory video watched (parents) | >50% | 20-50% | <20% |
| Child strengths activity completed | >50% | 20-50% | <20% |
| Adherence to digital Daily Report Card | >70% | 50-70% | <50% |
| Teacher-completed measures | >70% | 50-70% | <50% |
| Parent-completed measures | >50% | 20-50% | <20% |
| Child-completed measures | > 70% | 50-70% | <50% |
| Observational measures | >50% | 20-50% | <20% |
| Attendance at toolkit-related meetings | >75% | 40-75% | <40% |
| Percentage of occasions toolkit reportedly used as instructed | >75% | 50-75% | <50% |
| Follow-up measures completed | >50% | 20-50% | N/A |