Maths Champions scale-up
Evaluation Study Plan

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Education Endowment Foundation

Evaluation summary

PROJECT TITLE	Maths Champions scale-up evaluation
DEVELOPER (INSTITUTION)	National Day Nurseries Association (NDNA)
EVALUATOR (INSTITUTION)	Oxford MeasurEd
PRINCIPAL INVESTIGATOR(S)	Lydia Marshall
EVALUATION PLAN AUTHOR(S)	Jonah Bury, Lydia Marshall, Sara Bonetti
STUDY DESIGN	Mixed-methods implementation and process evaluation
PUPIL AGE RANGE AND KEY STAGE	Early Years (3–4-year-olds)
NUMBER OF SETTINGS	1810
NUMBER OF CHILDREN	18,100 3–4-year-olds

Study Plan version history

VERSION	DATE	REASON FOR REVISION
1.2 [*latest*]		
1.1		
1.0 [*original*]		*[leave blank for the original version]*

Contents

Background and study rationale

The attainment gap

The attainment gap between children from lower socio-economic backgrounds and their peers is already apparent at the end of Reception. During the academic year 2023/24, **52% of pupils eligible for free school meals (FSM)** achieved a Good Level of Development (GLD), compared with **72% of non-FSM pupils** (Social Mobility Commission, 2025)

Children from lower-income backgrounds show lower early number knowledge and mathematical language at age 3-4 than their less disadvantaged peers (Short and McLean, 2023). Early Years Foundation Stage Profile (EYFSP) data also shows that only 67% of children in the most deprived areas achieve a GLD, compared with 77% of children in the least deprived areas (DfE, 2024). At primary level, the attainment gap widens. The most recent Key Stage (KS) 2 assessments show that just 74% of children meet the expected standard in maths at the end of primary school, an increase of 3 percentage points since 2021. However, there remains a stubbornly high 20-percentage point attainment gap between disadvantaged pupils and their less disadvantaged peers in KS2 maths (DfE 2025a).

Tackling the attainment gap through early maths

To help reduce attainment gaps, it is essential to support children's early maths development. This is because maths skills at school entry are predictive of both later maths attainment and general educational attainment (Claessens et. al, 2009; EEF 2020; Duncan et al., 2007; Watts et al., 2014). Early numeracy can therefore be seen as a key lever for reducing the attainment gap (Butterworth et al. 2011).

Quality early years provision, with an enriching numeracy curriculum, is important to support children's maths development and long-term outcomes (Asmussen et al., 2018; Scerif et al., 2023). Longitudinal evidence from the Effective Provision of Pre-School Education Project (EPPE) (Sammons et al., 2004; 2008) and Effective Pre-School, Primary and Secondary Education Project (EPPSE) (Sammons et al., 2011; Sylva et al., 2014) studies demonstrates that both attendance and the quality of early years provision have sustained effects on attainment. High-quality preschool, particularly where early number concepts are effectively supported, predicts higher maths and reading attainment at Key Stage 1 and 2 (Sammons et al., 2004; 2008), improved maths and science outcomes at Key Stage 3 (Sammons et al., 2011), as well as stronger GCSE performance (Sylva et al., 2014).

Barriers to supporting children in early maths

However, practitioner confidence remains a barrier and practitioners feel less secure in supporting children's mathematical development than in other areas of learning (von Spreckelsen et al., 2019; Ofsted, 2024). Research from National Numeracy demonstrates that more than one in three adults in the general UK population (35%) say that doing maths makes them feel anxious, while one in five are so fearful it makes them physically sick (National Numeracy, 2023). Moreover, many nursery practitioners lack training in maths provision, particularly those working in more disadvantaged areas (von Spreckelsen et al., 2019).

The UK government's interest in early numeracy in England is mirrored in the revised Early Years Foundation Stage (EYFS) framework. It includes several key areas of early mathematics learning, and states that 'developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically' (DfE, 2025d). Moreover, the DfE have recently made available an online module for EY practitioners on early numeracy (DfE, 2025b), and lists Maths Champions as a funded programme within the guidance *Early years continuing professional development and support* (DfE, 2025c).

Developing the Maths Champions programme and evidence to date

The National Day Nurseries Association (NDNA) developed the Maths Champions programme in 2014 with the aim of building the confidence and knowledge of nursery practitioners to support the development of children's early maths skills (NDNA, 2024). Thus far, the EEF has run two randomised controlled trials (RCTs) of the Maths Champions programme in England, which both showed positive outcomes for children's mathematical attainment. The EEF first trialled and published an evaluation for Maths Champions in 2018, which found an impact of +2 months progress (Robinson-Smyth et al., 2018); however, the first trial had low security (2 padlocks) due to significant attrition related to children moving nurseries (see EEF, 2023b). The EEF then recommissioned a trial of Maths Champions at effectiveness level, designed to overcome the evaluation issues of the first trial (Robinson-Smith et al., 2024). The evaluation showed +3 months progress in maths outcomes for all children and received the highest security rating of five padlocks. There was also a positive spillover effect to language outcomes (+3 months additional progress). Moreover, the evaluation showed +6 months for children receiving Early Years Pupil Premium (EYPP) although the analysis for the EYPP subgroup was underpowered. This study included 134 nurseries comprised of private, voluntary, and independent (PVI) settings and school-based nurseries (the first trial was exclusively focused on PVIs) across multiple areas of England.

Furthermore, recent longitudinal findings have shown that children who received Maths Champions made +2 months' additional progress on maths and literacy EYFSP scales. Moreover, they were slightly more likely than children in control nurseries to attain a GLD, with the EYPP subgroup analysis indicating that the greater gains for this group found at the end of the effectiveness trial were maintained (+6 additional months' progress). Whilst this is caveated, as with the immediate post-test findings, given the smaller sample, this is encouraging and suggests that the programme is a gap closer in the longer term.

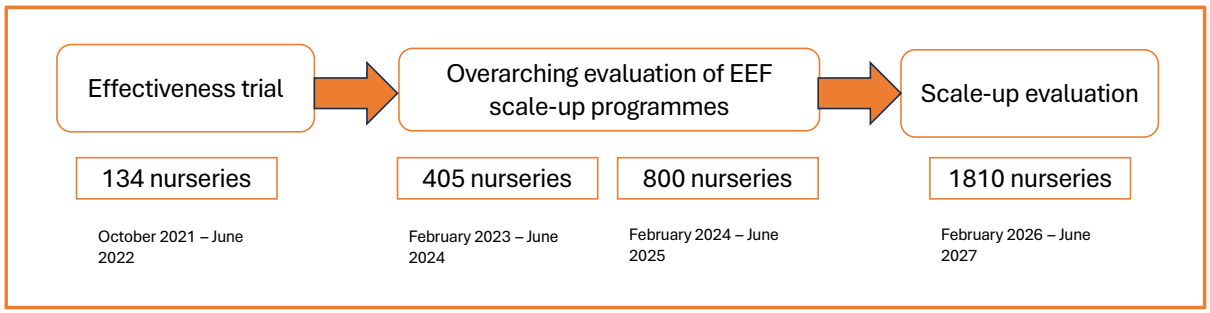
Scale-up evaluation

Oxford MeasurEd is conducting a mixed-methods implementation and process evaluation (IPE) of the Maths Champions scale-up, which will be delivered between February 2026 and June 2027 to five 'cohorts' of nurseries starting the twelve-month programme on a rolling basis. NDNA are aiming to

deliver the programme to 1,810 nurseries in England, with around 362 nurseries per cohort. Participating nurseries include PVIs, school-based nurseries and children's centre settings.

The proposed scale of delivery - reaching 1,810 settings - represents a substantial expansion beyond what has been delivered and evaluated to date (see Figure 1). The most recent effectiveness trial included around 134 settings (treatment and control), while the most recent evaluation cohort taking part in the overarching scale-up evaluation includes 405 settings (Taylor et al., 2025). In February 2025, delivery of the programme was expanded to a further 800 settings, who will finish delivery in June 2026. Because of this significant growth, and the potential for further long-term scale-up, an implementation and process evaluation will be essential for understanding how the programme operates at scale.

Figure 1 Scale of delivery of Maths Champions to date



Although previous evaluations of Maths Champions have explored how the programme operates in practice, this study will focus on the processes of scaling – articulated in a scaling theory of change (sToC) – alongside retaining a focus on in-setting delivery. Such an evaluation will generate valuable insights for NDNA, the DfE and the EEF, helping to inform future decisions about scaling this and other early years interventions. The evaluation will explore how the programme is implemented in practice, barriers, and facilitators to scaling and how settings are supported in sustaining practices beyond the delivery period. Key evaluation activities include:

- Development of a scaling theory of change (sToC)
- Analysis of programmatic data collected by NDNA
- Interviews with NDNA staff
- Interviews with Early Years Stronger Practice Hubs (EYSPH), local authority staff and DfE representatives
- Interviews with Maths Champions at participating nurseries
- In-depth case studies of participating nurseries and nurseries taking part in a previous iteration of Maths Champions ('old' nurseries), drawing on ethnographic approaches
- Surveys with participating nurseries, 'old' nurseries and 'non-adopters' (nurseries who signed an expression of interest form but chose not to take part)

Intervention

The following includes a description of the programme, based on the TiDier framework. The description of the programme borrows heavily from the intervention description detailed in the most recent effectiveness trial report (Robinson-Smith et al., 2024), as the delivery model has remained the same.

Name

Maths Champions

Why

Maths Champions was developed in response to several challenges identified in the early years sector. These include:

- an attainment gap between disadvantaged children and their peers as shown in EYFSP results (Asmussen et al., 2018)
- EY practitioners having low confidence and professional understanding to support children's mathematical learning (Costa et al., 2025)
- practitioners being required to hold a GCSE in maths at grade C or above to achieve Level 3 qualification status, which subsequently meant that practitioners could not progress from Level 2 to Level 3, leading to concerns about workforce retention (McLeod, 2024)
- research tells us that children who start behind, stay behind (Sutton Trust, 2021)

Evidence suggests that enriching the maths curriculum in preschool results in gains for low-income children (Asmussen et al., 2018), particularly when embedding maths in daily routines and activities and using learning trajectories to monitor progress (Frye et al., 2013). Moreover, mathematical achievement, is consistently found to be the strongest predictor of children's overall school achievement, with a major impact on young people's educational progress and life outcomes (Asmussen et al., 2018)

The Maths Champions programme aims to reduce the attainment gap in EYFSP results between disadvantaged children and their non-disadvantaged peers, increase EY practitioners' confidence and professional understanding to support children's mathematical learning, and provide children with the best start in mathematical development.

Who – recipients

The following nursery types are eligible for the scale-up: private, voluntary, and independent (PVI) nurseries, maintained nursery schools or children's centres, or state-funded school-based nurseries.

Each nursery selects a Maths Champion (MC) (at least Level 3 practitioner) and Deputy Maths Champion (DMC) (at least Level 3 practitioner), who will be trained and supported. The MC is responsible for the quality of maths provision in their setting, and for building the confidence and skills of the practitioners working with children.

The programme explicitly targets 3–4-year-olds, although it is not required for the MC and DMC to be room leaders for this age group. The expectation is that 3–4-year-old children will form the main cohort (with key materials designed to support this age group and track their progress). Because the

dissemination of the Maths Champions programme is broadly intended for the whole setting, settings have the option to apply the programme to younger age groups.[1]

What – Materials, procedures, activities, and processes

Nurseries need to identify a suitable MC (qualified to at least Level 3) and DMC (qualified to at least Level 3) to participate in the programme.

Core (mandatory) components of the programme aimed at MCs include:

- Completing a one-hour webinar induction which covers each step of the programme including the timeline for completion. The session provides an overview of the support they will receive, information about webinars and social media platforms, and a question-and-answer session. The aim is to ensure that MCs leave informed and aware of their next steps on the programme. NDNA will record the webinar and provide catch-up sessions for those unable to attend.
- Completing key training modules (Developing Mathematical Confidence in the Early Years: The Big Ideas of Number Sense; and Developing Mathematical Thinking: Shape, Space, Measure and Pattern).
- Using two audit tools to evaluate early years maths teaching in the nursery, one focused on the learning environment and the other on staff confidence.
- Completing and continuing to use an action plan throughout implementation.
- Using 10 mandatory resources aimed at 3–4-year-olds and provided through the online platform.
- Engaging with a maximum of six one-to-one support provided by the NDNA via Early Years Advisors (EYAs) or Deputy Lead EYAs. This includes the session entitled 'meet your EYA', where the MC meets their EYA for an initial meeting.

All mandatory steps must be taken by the MC for completion of the programme and for the MC to be able to download their certificate. Non-mandatory (optional) elements include:

- Tracking the progress of six children through the programme using a child tracker provided by NDNA.
- Attending bimonthly webinars which are responsive to common needs detailed in nursery's action plans, such as using outdoor play and snack time to develop children's maths and the confidence of staff.
- Attending an online training module on coaching – providing evidence-based information and practical ideas on effectively coaching staff as an educational lead.
- Completing a learning journal throughout the programme to record reflections, training, development plans and achievements.

[1] The online training focuses on research-based evidence and there are examples for 1-2-year olds and 3-4-year olds. Alongside the 10 mandatory core activities for 3-4-year olds there are 10 optional activities for under 2s and 10 optional activities for 2-year olds to support a whole setting approach. There are also additional resources in the resources section to support staff working with under 2s and 2-year-olds as well as 3-4-year olds.

- Using non-mandatory resources from the online resource bank, including themed folders with circa 500 resources to support staff and children in the setting, covering a wide range of topics including subitising, pattern, songs and rhymes, research and more.

- Completing a case study demonstrating impact.

Who – Programme providers and implementers

The NDNA have designed and deliver the programme to settings via EYAs and Deputy Lead EYAs.

There will be 11 EYAs who each have a maximum delivery load of 140 settings. There are also three Deputy Lead EYAs who have 90 settings each.

MCs oversee the programme within their nursery. With support from NDNA, their responsibilities include the completion of online training, completing audits of maths teaching in their nursery, creating action plans for improving maths provision across the nursery, and working with other nursery staff to improve their practice and confidence in maths. The DMC supports the MC to implement change and observe and track children.

How – Mode of delivery

Training for MCs and DMCs is delivered though online webinars and e-learning modules. One-to-one support from EYAs or Deputy Lead EYAs is provided remotely, mainly through phone calls or video calls.

Where – Location of delivery

Participating nurseries will be recruited nationally as part of this scale-up.

When and how much – Duration and dosage

The settings will be recruited from September 2025 to start delivery on a rolling basis throughout the academic year 2025/26 (five cohorts starting monthly in February, March, April, May, June 2026). Each cohort will participate in the programme for 12 months.

Tailoring – Adaptation of the programme

Nurseries can make slight changes to core activities to suit their children's interests. For instance, if a child has more interest in balls, core activities might be tweaked to use balls instead of other objects. MCs are expected to discuss any adaptations with their EYAs before implementing these in their nursery.

Scaling theory of change (sToC)

Desk-based review

To help inform the scToC workshops and the development of research questions, we **reviewed relevant programme and evaluation documentation,** in particular the formative findings from the overarching scale-up evaluation (Taylor et al. 2025). We reviewed the following documents as part of our desk-based review to understand where evidence existed and where there were evidence gaps that could be addressed through our questions:

- Programme documentation, including the programme ToC, contextual assumptions, NDNA's recruitment and scaling strategy

- Evaluation findings (final and interim) from the ongoing overarching scale-up evaluation and previous evaluations of Maths Champions
- Evaluation findings from EEF early years numeracy trials
- EEF scale-up evaluation reports
- Policy and contextual documents on the wider EY policy environment and the national provision of professional development (PD), particularly around early numeracy

sToC development

Oxford MeasurEd and NDNA held two 1.5-hour online workshops to develop and finalise the sToC in October 2025. The purpose of the first workshop was to refine, validate and fill any gaps in the sToC elements. The second workshop included a review of the draft sToC. It was mainly focused on collectively reviewing the list of assumptions underpinning the sToC as well as gathering initial inputs on the strength and significance of assumptions.

sToC purpose

The scaling theory of change (sToC) (Appendix 1) builds on the programme's theory of change (Appendix 4), to illustrate the causal pathways (Appendix 3) and assumptions (Appendix 2) driving the scaling process for Maths Champion, which is the main focus of this scale-up evaluation. It focuses on articulating scaling ambitions for the Math Champions programme for the delivery period February 2026 – June 2027, and the outputs and causal pathways through which NDNA and partners seek to achieve these scaling ambitions.

The main purpose of the sToC is to support NDNA and partners to strategically reflect on and refine the programme's scaling ambitions and the approach to pursuing them. In the context of this scale-up evaluation of Maths Champions, it provides a framework for articulating relevant research questions to 'test' the causal pathways and assumptions.

Research Questions

The research questions are structured around key implementation and process evaluation (IPE) domains: reach; usual practice; implementation, including fidelity; scalability; and cost (see Figure 4). Table 1 includes the key research questions, which are supplemented by more granular subquestions

Table 1 Research questions

IPE domain	Research questions
Reach	1. Why do settings choose to take up the Maths Champions programme, or not? a. To what extent does this differ based on settings' EYPP profile? b. What setting types are more and less likely to take up the programme and why?
	2. How effective are the various recruitment efforts across NDNA, EEF, DfE and Early Years Stronger Practice Hubs? a. What is the conversion rate of turning EOIs into MoUs and programme starts? b. What is the journey between EOI, signing an MoU and starting delivery? c. What is the role of wider system actors including local authorities in encouraging take up? d. Which of the recruitment routes was most successful and why? e. What are the barriers and facilitators to recruitment? f. Are there alternative recruitment pathways that could have been pursued? g. How can recruitment processes be optimised for any future scale up?
Usual practice	3. Are settings taking up Maths Champions also participating in other DfE-funded maths professional development initiatives? a. Have Maths Champions settings previously engaged with DfE-funded early years maths PD programmes (e.g. the early years professional development programme? How does this vary by setting type? b. How might this influence their current engagement with the Maths Champions programme?
Implementation	4. To what degree are all core aspects of the programme delivered as intended? a. What factors support and hinder completion of the programme? b. To what extent and how does programme completion differ by setting type? c. What adaptations are made by settings and why? d. What actions are taken by NDNA to monitor progress and fidelity and intervene for low compliers? e. What adaptations are EYAs making to the support their delivery to settings and why?
	5. To what degree are the optional elements taken up a. Does this differ by setting type?
	6. How is the programme delivered in the whole setting beyond the target group of children aged 3 and 4? a. What cohort of children are settings choosing to focus on/track progress of through the programme? b. How are practitioners using the action plans and resources to support the staff and children under the age of 3? c. How are other practitioners in the setting supported by MCs and DMCs to implement desired practices?
	7. Do practitioners feel confident and well supported to deliver the intervention?
	8. How do settings assign MC and DMC roles? a. What motivates practitioners to want to be MC or DMC?
	9. To what extent and how do setting leaders enable changes in practice? a. To what extent do setting leaders provide sufficient time for MCs and DMCs to support other practitioners to improve their practice?

Transition to scale-up approach	10. How has NDNA adjusted its setting recruitment, training and induction of new EYAs approaches for this scale of delivery? a. To what extent did NDNA execute these plans as intended? b. Are these approaches fit for further scale in the future? c. What improvements could be made?
	11. What systems and processes have NDNA put in place to monitor setting delivery at this scale? a. Are these systems and processes fit for further scale in the future? b. What improvements could be made?
	12. What organisational challenges arise when scaling up the programme to this level?
Sustainability	13. How do settings respond to MCs and/or DMCs leaving? a. What proportion of settings experience MCs and DMCs both leaving during delivery? b. To what extent do settings plan for this scenario and how is this supported by NDNA?
	14. To what extent do settings embed the programme beyond the defined delivery period? a. Do settings continue to implement the programme strategies in their nursery after the subsidy ends? How does this differ by setting type? b. What are the barriers and enablers to sustained delivery? c. What strategies does the programme have for supporting the settings to embed the programme beyond the defined delivery period? d. What resources and continued support do settings and educators need to continue supporting maths effectively?
Cost	15. What is the estimated cost of implementing Maths Champions per setting and child over a three-year period? a. What is the overall cost of implementing the programme as part of the scale-up for NDNA ? b. How acceptable is the estimated cost of implementation to nurseries? c. Are there perceived differences in setting costs and time spent on the programme? How does this differ by setting type? d. Are settings investing in maths resources and other costs throughout the programme? How does this differ by setting type? e. How are settings paying for any other costs incurred to support taking part in the programme?

Research Design and Methods

Data collection

Figure 2 provides an overview of our data collection activities and the data sources that will be used to address each research question. The nature and purpose of each activity is detailed below.

Figure 2 Evaluation matrix

IPE domain	IPE questions	NDNA							EYSPH and contextual actors		Participating nurseries					Non-adopters		Old cohorts
		Programmatic data	IDEA workshop	sToc workshop	Learning workshop 1	Learning workshop 2	Group interview with senior staff	Interviews with EYAs & Deputy Lead EYAs	EYSPH – interviews	Context actors - interviews	MC interviews	Case studies	Online questionnaire (pre-delivery)	Online questionnaire (post-delivery)	Cost collection (interviews and survey)	Online questionnaire	Case studies	Online questionnaire
Reach	1. Why do settings choose to take up the Maths Champions programme, or not?	■					■				■	■	■			■		
	2. How effective are the various recruitment efforts across NDNA, EEF, DfE and Early Years Stronger Practice Hubs?			■	■		■		■	■								
Usual practice	3. Are settings taking up Maths Champions also participating in other DfE-funded maths PD initiatives?										■	■	■					
Implementation	4. To what degree are all core aspects of the programme delivered as intended?	■					■	■			■	■						
	5. To what degree are the optional elements taken up, including the coaching training?	■					■				■	■						

	6. How is the programme delivered in the whole setting beyond the target group of children aged 3 and 4?																	
	7. Did practitioners feel confident and well supported to deliver the intervention?																	
	8. How do settings assign MC and DMC roles?																	
	9. To what extent and how do setting leaders enable changes in practice?																	
Transition to scale up approach	10. How has NDNA adjusted its setting recruitment, training and induction of new EYAs approaches for this scale of delivery?																	
	11. What systems and processes have NDNA put in place to monitor setting delivery at this scale?																	
	12. What organisational challenges arise when scaling up the programmes to this level?																	
Sustainability	13. How do settings respond to MCs and/or DMCs leaving?																	
	14. To what extent do settings embed the programme beyond the defined delivery period?																	
Cost	15. What is the cost of implementing Maths Champions during the scale up?																	

Research with NDNA (Reach, Implementation, Transition to scale-up, Sustainability, Cost)

Primary data collection

In August 2025, we facilitated a 2-hour online **IDEA workshop** (*transition to scale-up*) with the delivery team and EEF, following EEF guidance (EEF, 2022b). In this workshop, we clarified any questions related to the updated ToC, define key elements (e.g., fidelity, dosage, and compliance) and identified critical factors affecting implementation.

Following a 3-hour set-up meeting in September 2025, we facilitated two 1.5-hour online **scaling ToC workshops** (*transition to scale-up*) with the delivery team in October 2025 (see above) to develop a scaling ToC for the Maths Champions programme (see Appendix 1).

We will facilitate two online 2.5-hour **learning workshops with the delivery team** (*reach, transition to scale-up, sustainability*) in July 2026 (Learning workshop 1) and June/July 2027 (Learning workshop 2). In the workshops we will:

- present interim findings based on data collection to date for discussion and collaborative sense-making before interim presentations
- gather additional data, including reflecting on the journey between EOI, signing an MOU and starting delivery and the extent to which this was as intended (Learning workshop 1); systems and processes for monitoring in-setting delivery; how NDNA support settings with (planning for) MCs/DMCs leaving; organisational challenges and strategies for addressing these; and strategies for supporting settings beyond the end of delivery
- identify future scaling plans and any adaptations to scaling (Learning workshop 2)

We will carry out an individual 75-minute online group **interview with the MC Quality and Fidelity Manager, the Project Manager** and the **Stakeholder Engagement Lead** (*reach, implementation, transition to scale-up*) in June 2026. The interviews will be tailored to participants' roles and collectively explore reasons for take-up; what helped and hindered recruitment; settings' use of core components and optional activities; changes made to setting recruitment, training, and induction for the scale-up phase; systems for monitoring setting delivery at scale and any organisational challenges and strategies for addressing these.

We will also carry out 60-minute **interviews with a sample of EYAs** (*implementation*) (n=8) in three phases (June 2026, November 2026, April 2027) to explore different stages of programme delivery. We will ensure that our sample of EYAs also includes some Deputy Leads so that we have coaches with varying levels of experience supporting settings to deliver Maths Champions in our sample. Interviews will focus on fidelity of delivery; actions to monitor delivery and support low compliers; supporting settings with (planning for) MCs/DMCs leaving; adaptations made; settings' use of actions plans and resources; how settings support non-MC or DMC practitioners; and perceived differences in delivery by practitioner role.

Secondary data collection

We will analyse **programmatic data** (reach, implementation, cost of delivery) collected by NDNA in June 2026 and June 2027, which includes setting-level information as well as monitoring data. The purpose of analysing the monitoring and setting-level information is to explore implementation fidelity and reach as well as helping us triangulate the data with other data sources, such as interview data. By analysing the data at two different timepoints, we will be able to a) minimise burden on NDNA while

simultaneously b) present relevant findings from the programmatic data for the interim presentations. Table 1 outlines the programmatic data NDNA will share with us in June 2026 and 2027.

Table 1 Programmatic data shared by NDNA

Setting background info	Monitoring data – aggregate data	Monitoring data – setting level
• **Setting name** • **Setting type** • **Locality** • **NDNA member** • **Cohort number** • **% of EYPP children at setting**	• Number of expressions of interest received total • Number of expressions of interest generated by EYSPH • Number of Memorandums of Understanding sent to settings • Number of settings fully recruited • Number of settings started delivery • Number of settings withdrawn from delivery and reasons • Number of deferrals • Number of settings completing delivery (from February 2027 onwards) • Confidence of MC to deploy the programme, measured by survey at 3 points during the programme (months 3, 6 and 9)	• Disadvantage profile of settings (per cohort) • Setting level data including URN/EYFS number, setting name, post code, and local authority (per cohort) • Progress towards completion of core components (per cohort)

Research with Early Years Stronger Practice Hubs (EYSPHs) (Reach)

After setting recruitment, we will carry out 30-minute online **interviews with individuals affiliated with EYSPHs and working with NDNA to recruit settings** (n=6). The interviews will examine EYSPHs' routes to recruiting settings, including barriers and facilitators to recruitment; and whether alternative recruitment pathways could have been pursued. Because NDNA are recruiting nationally as part of the scale-up and EYSPHs operate in each region within England, we will ensure the EYSPH representatives will be drawn from a minimum of four different geographical regions of England. This is important as recruitment might be more challenging in some areas compared to others, for instance in areas with a higher than average proportion of PVI settings, because staff turnover in PVI settings tends to be higher than in maintained settings (DfE, 2025e).

Research with contextual actors (Reach)

We will also **interview up to three local and three national 'contextual actors'** (n=6) after the end of the recruitment phase. By contextual actors we mean 'local' stakeholders such as local authority (LA) representatives, individuals representing multi-site group settings (i.e. nurseries operating over more than one physical location) or multi-academy trust (MAT) representatives and more 'national' stakeholders such as Department for Education (DfE) officials. The common thread linking contextual stakeholders is their knowledge of the wider sector environment and a role in enabling EY programmes to reach settings (see Taylor et al., 2025). The 30-minute online interviews will explore the role system actors could and should play in encouraging take-up and anticipated barriers and facilitators to recruitment for Maths Champions as it scales.

Research with participating nurseries (Reach, Usual Practice, Implementation, Transition to scale-up, Sustainability, Cost)

Individual interviews

We will carry out individual **30-minute interviews with up to 12 MCs** (*reach, usual practice, implementation*) between June and December 2026. We will aim to include MCs from a mix of settings (PVI, maintained nurseries and school-based nurseries), disadvantage profiles (based on the reported proportion of children at the setting in receipt of EYPP) cohort types (MCs from cohorts 1-5) and settings from different geographical areas.

The purpose of the interviews is twofold: first, to explore reasons for take-up; participation in other DfE-funded PD programmes and how the programme is delivered in the setting. Secondly, the interviews will provide an opportunity to explore the feasibility of an Oxford MeasurEd researcher visiting settings for in depth case study visits over three days (see below), as MCs will have established rapport with the researcher and therefore might be more amenable to accommodating such visits. They will also provide an opportunity for interested participants to ask questions they might have around the visits. If interviews with MCs indicate that recruitment will likely be challenging, we will discuss alternative options with NDNA and EEF. These might include shifting more data collection activities with nurseries online, including a longitudinal design (e.g., visiting the same nurseries several times for shorter periods of time) or reducing the duration of consecutive visits from three days to two days.

Case studies

We will carry out in-depth **case study visits** (*reach, usual practice, implementation, sustainability*) with six participating nurseries throughout delivery. Each of the six settings will be visited *once*. We will aim to visit a nursery from Cohorts 1-3 between September and December 2026 and a nursery from Cohort 4-5 between March and May 2027. Each case study will entail **observations of practice** (3-4-year-olds and toddler room if available and if the programme is delivered with younger age groups), an **individual interview with MCs** and a **focus group discussion** (FGD) **with EY practitioners**. Visits are expected to take place over three consecutive days, although we anticipate some variation regarding the amount of time spent at settings during each day. This means that we do not anticipate being present for the full day on all three days. Settings will also receive a £400 payment (see Ethics and registration) as a thank you for facilitating the visit and to pay for any backfill costs.

Nurseries selected for case studies will be sampled from those nurseries a) who have expressed interest in follow-up research when completing the pre-delivery setting survey (see below) and b) preferably from settings where the MC took place in an individual interview. As with the individual MC interview, we will ensure that the sample of case study nurseries includes a range of setting types, disadvantage profiles, cohort types and geographical diversity. Our sampling strategy is based on a strategy of 'maximum variation' (Patton, 2014), as we seek to choose cases that vary as much as possible along each sampling criterion. For this reason, we consider six in depth case studies to be sufficient for exploring how implementation occurs within real-world implementation conditions. We will also ensure that we will leave a minimum of six months between the settings starting the programme and our visit, to enable observation of engagement with core activities.

We will follow a case-study approach that draws on ethnographic principles (Kramer and Adams, 2017), as we observe and interview MCs, practitioners, and children in their everyday environment.

Most of the three-day visit to a setting will be spent observing practice. The objectives of this sustained observation are threefold:

- **to provide contextual insights** to tailor prompts and probes in interviews and focus groups and inform our analysis of interview data
- **to gather observational data** – for instance any adaptations to delivery, how confident practitioners appear in delivering the interventions, their use of maths resources and how maths practice is embedded in the setting
- **to build rapport with participants** and mitigate the social desirability bias that can particularly affect behaviour during short visits.

A structured observation pro-forma will be used to guide data collection through predefined thematic categories, alongside open sections that allow us to record reflections and emergent observations that contribute to richer interpretation.

On days two or three of our visit, we will carry out a semi-structured interview with the MC and a FGD with practitioners, using a topic guide. Interviews with the MC will be around 45 minutes each and explore reasons for becoming MC; how roles are assigned; use of action plans and resources; take-up of coaching sessions; adaptations to delivery and reasons; chosen target groups for delivery in the setting; how settings plan for MCs possible departure; and how MCs aim to support changes in practices. We will also explore the time and costs incurred to date in delivering the programme and identify which member(s) of staff within each setting are best placed to respond to the short cost survey at the end of programme delivery. This will enable us to ensure that the cost evaluation administered at the end of programme delivery is directed to the most appropriate respondent(s) across all participating nurseries (see Cost evaluation). The FGD with practitioners will be 60 minutes long and cover adaptations to delivery; how practitioners are supported to change their practice; and the extent to which they feel confident delivering the intervention.

Short setting surveys

We will develop a **short pre-delivery setting survey** (*reach, usual practice*) to explore reasons for take-up and participants' involvement in other DfE-funded maths PD. To maximise reach, NDNA will send out the survey via existing systems, using a cover email provided by Oxford MeasurEd. To minimise bias, NDNA will emphasise that they will not have access to the survey responses; that the survey findings will be analysed by independent evaluators; and that the findings will be reported anonymously (see Risk register). The survey will be sent to the individual who has signed the nursery up to the programme, most likely the nursery manager. The survey will be sent out between January and May 2026, so that each of the five cohorts starting the programme in 2026 can complete the survey before beginning delivery.

A **post-delivery survey** (*implementation, sustainability, cost*) will also be sent by NDNA to participating nurseries after programme delivery between March and July 2027. It will explore support provided to deliver the intervention; whether the programme was delivered to any children beyond the target group of 3–4-year-olds; settings' willingness to pay for the programme; and what would help the nursery to continue implementing key elements of the Maths Champions programme beyond the delivery period. The email sent by NDNA will include the same assurances for minimising bias as in the pre-delivery survey.

Research with non-adopters

We will invite all settings that submitted an Expression of Interest (EoI) or Memorandum of Understanding (MoU) during the recruitment period but decided not to take up the MC programme **('non-adopters') to take part in a short 2-minute survey** (*reach*). The survey will explore reasons for not taking up the programme and what could have helped them to decide to take it up. This will help NDNA in the development of scaling plans for the future. To maximise reach, NDNA will send out the survey after the recruitment period in June 2026 and send regular reminders (see Risk register). NDNA will provide assurances in their invitation email that they that they won't have access to the survey responses; that the survey findings will be analysed by independent evaluators; reported anonymously; and that survey participation won't affect settings' ability to take part in the programme in the future. To ensure that the survey does not discourage 'non-adopters' from taking up the MC programme in the future, the invitation email and survey will be explicit that that we are exploring their reasons for not taking part during the 2026/27 delivery period.

Research with old MC cohort (Implementation, Sustainability)

Short setting survey

Between May and September 2026, we will ask NDNA to invite **all 800 settings who participated in the MC programme during between February 2025 and June 2026 to take part in a short online survey** (*sustainability*). The survey will be sent to different cohorts on a rolling basis around 3 months after they finish delivery. They survey will explore what settings do after the subsidy ends, how they responded to or are planning to respond to any MCs and/or DMCs leaving and what resources and support is required to continue supporting maths effectively. We will use the survey to recruit settings for in-depth qualitative research.

Case studies

We will carry out six two-day **case study visits** (*implementation, sustainability*) **with a sample of settings who have 'opted into' being considered for qualitative research** when completing the short practitioner survey. The visits will take place between October 2026 and February 2027. Each case study visit will include observations of practice, an individual semi-structured interview with the 'old' MC and a paired interview with practitioners, as practitioners might feel more comfortable being interviewed with another colleague (see Spinner and Duff, 2025). Sampling criteria broadly reflect the sampling criteria used for selecting case studies with participating nurseries, namely, setting type, disadvantage profile and geographical area.

As with the proposed case study visits of participating nurseries, we draw on ethnographic principles. However, the scope of the visit is narrower and more focused on what happens within a setting to maths practice once the setting no longer take part in the programme. Because the analytic scope is narrower, a two-day visit will be sufficient. We do not anticipate being present for the full day on both days, and settings will receive a £300 payment (see Ethics and registration) as a thank you for facilitating the visit and to pay for any backfill costs.

The 30–45-minute interview with the 'old' MC will explore reasons for becoming a MC; how they enable changes in practice within the setting; what elements of the programme the setting has continued after the year-long programme and why; whether and how the setting planned for MCs potentially leaving the setting; and the resources and support needed for supporting maths effectively. We will also carry out a 30–45-minute paired interview with two EY practitioners to get a more holistic understanding of

practice; these interviews will explore how practitioners are supported to teach early numeracy and how confident they feel supporting young children's numeracy.

Sampling and recruitment

Table 2 sets out sampling strategies and proposed sample sizes for the evaluation activities with the different participant groups as discussed in the previous section.

Table 2 Sampling strategies for evaluation activities

Participant group	Activity	Sampling strategy	Timing	Mode and duration	n.
NDNA	IDEA workshop	All core delivery staff	Inception	Online, 2 hours	1 workshop
	Scaling Theory of Change workshop	All core delivery staff	Inception	Online, 90 minutes	2 workshops
	Learning workshop 1	All core delivery staff	Post-recruitment	Online, c. 2.5 hours	1 workshop
	Learning workshop 2	All core delivery staff	After delivery	Online, 2.5 hours	1 workshop
	Group interview with senior staff	Core delivery staff	Post-recruitment and during delivery	Online, c. 75 mins	2 interviews
	EYA/Deputy Lead EYA interviews	Purposive sample	During delivery	Online, c. 60 mins	8 interviews
EYSPHs	Interviews	Purposive sample	Post-recruitment	Online, c. 30 mins	6 interviews
Contextual actors	Interviews	Purposive sample	Post-recruitment	Online, c. 30 mins	6 interviews
Nurseries – participating nurseries	MC interviews	Purposive sample	During delivery	Online, c.30 mins	12 interviews
	Case studies	Purposive sample	During delivery	In-person, 3 days	6 settings
	Online questionnaire (pre-delivery)	All participating nurseries	Before delivery	Online, 2-3 mins	c. 1810
	Online questionnaire (post-delivery)	All participating nurseries	After delivery	Online, 2-3 mins	c. 1810
	Cost survey	All participating nurseries	After delivery	Online, 5 mins	c. 3620
	Cost collection interviews	Purposive sample	Throughout delivery	Online and in-person, 20 mins	12 interviews

Nurseries – non-adopters	Online questionnaire	All non-adopters	Post-recruitment	Online, 2-3 mins	c. 4000
Nurseries – old MC cohort	Case studies	Purposive sample	During delivery	In-person, 2 days	6 settings
	Online questionnaire	All nurseries taking part in delivery between February 25-June 26	Before delivery	Online, 2-3 mins	800

Recruitment of NDNA

At the time of writing (February 2026), core delivery staff have taken part in the IDEA workshop as well as the sToC workshops. We invited the core delivery staff to the sToC workshops with information about the purpose and NDNA's involvement. Given the ongoing relationship and regular meeting we have with the core delivery staff, we will follow the same approach with all evaluation activities involving core delivery staff; that is, we will inform them and invite them to take part in activities which they are already aware of as a result of working closely with us on the project.

Core delivery staff will facilitate recruitment of EYAs and Deputy Lead EYAs. We will provide NDNA core delivery staff with a cover email and information sheet to share with EYAs and Deputy Lead EYAs, who will be asked to contact the evaluation team if they are happy to participate in an interview. We will then sample a selection of EYAs and Deputy Lead EYAs to participate in an interview.

Recruitment of EYSPH representatives and contextual actors

In the absence of an available sampling frame, we will ask EEF and NDNA for suggestions about EYSPH representatives and contextual actors we could interview. We will provide NDNA and EEF with a cover email and information sheet to share with these individuals, who will be asked to contact the evaluation team if they want to participate in an interview.

Recruitment of nurseries

As outlined above, NDNA will send out the surveys to participating nurseries. We will recruit MCs for individual interviews, settings for case study visits and settings for cost consultations from those settings who signal interest in follow-up research when completing the pre-delivery survey. We will select and invite settings based on pre-specified sampling criteria while monitoring the sample throughout the evaluation to ensure a range and diversity of settings.

Recruitment of 'old' settings follows the same approach. A sample of settings indicating an interest in follow-up research when completing the survey are selected and invited for a case study visit.

Data analysis

For MC interviews, FGDs with practitioners, nursery observations, cost collections with nurseries as well as interviews with EYAs, we will use the "Framework" approach to manage qualitative data (Ritchie et al. 2013). Using themes covered in the topic guides, we will develop initial thematic frameworks and assemble matrices in Microsoft Excel, in which each row represents an individual interview or case and each column an analytical theme. We will summarise data in the matrix, including illustrative quotes where appropriate. After a few data encounters, we will revisit the initial thematic

frameworks as a team and make refinements where appropriate, meaning that thematic coding is in part deductive and in part inductive.

When drawing on transcripts, analysts will be instructed to record page numbers in their summaries; when using recordings, summaries will include the approximate timings of the recording the relevant summary relates to. This allows analysts to move back and forth between different levels of abstraction while being able to return to the summaries and the raw data. This audit trail ensures the dependability of findings, as another researcher can understand how the analyst might have arrived at a certain concept. It also ensures authenticity – an important criterion for judging quality in qualitative research – enabling us to explore different participant realities (e.g., views of MCs versus those of practitioners) and providing detailed descriptions of these realities (Ayton et al. 2023).

Once we have coded all data in this matrix, we will analyse it thematically. This will include applying the themes in the thematic framework that the matrix is structured by and identifying new themes emerging from the data, meaning that the analysis is in part deductive, and in part inductive. For the case studies with nurseries, we will carry our analysis at two levels. First, we will conduct within-case analysis to develop holistic accounts of each setting, describing the contextual conditions in which the programme is delivered and exploring how and why delivery takes the form that it does. Following this, we will compare findings across cases. Identifying commonalities and differences will be crucial for understanding how and why the programme – and its scale-up – works (or does not work) in different contexts.

For interviews and consultations with senior NDNA staff, interviews with Early Years Stronger Practice Hubs (EYPHs) representatives and contextual stakeholders, we will use Braun and Clarke's six step approach to thematic analysis (Braun and Clarke, 2006; see also Taylor et al, 2021), moving from familiarisation and coding to developing and refining themes. Coding will be deductive, as the themes will be built from the data itself. We believe this approach will be more efficient and proportionate than the Framework approach we adopt with other data sources (see above), given the narrow thematic scope of the interviews with EYSPH and contextual stakeholders as well as the limited number of interviews with senior NDNA staff.

We will analyse quantitative data using Stata. We will analyse programmatic data (monitoring data and setting-level information) shared by the delivery team as well as survey data descriptively, reporting on unweighted frequencies, percentages, and averages to summarise overall patterns. Assuming sufficient sample sizes, we plan to undertake subgroup analyses using chi-square tests to test the hypothesis that programme take-up or adherence to the core components may differ by setting type and by the setting's EYPP profile (the estimated proportion of children eligible for EYPP at the setting).

Qualitative and quantitative analysis will be quality assured by our IPE lead and PI. For qualitative analysis, this will include reviewing coding decisions and ensuring interpretations are firmly grounded in the data. For quantitative analysis, this will include reviewing the analysis plan, analytic syntax, and outputs to ensure alignment with the pre-specified plan and to identify any errors or omissions. Alongside regular meetings to discuss emerging findings, we will hold two full-day synthesis workshops to triangulate quantitative and qualitative findings. The workshop will be led by our PI. During the workshop, team members will present findings from different sources under each of the research questions. By triangulating qualitative explanations with quantitative evidence, we will be able to test key assumptions in the sToC and assess the plausibility of the proposed causal mechanisms. Where findings diverge between sources, we will revisit the summaries and raw data and consider potential theoretical and methodological reasons for these differences, strengthening the credibility of findings.

Cost evaluation

We will undertake a cost evaluation with NDNA and participating settings. While the costs of the programme have been captured previously (Robinson-Smyth et al., 2024), we consider a renewed cost assessment to be proportionate and necessary given changes in delivery context and scale and the change from a 7-month delivery period during the previous effectiveness trial to a 12-month delivery period for each nursery during this scale-up evaluation. [2]

Cost collection with NDNA

We will collect **administrative cost data** from the NDNA Senior Leadership Team at the end of delivery (June 2027). The costs will be collected from NDNA per mandatory 'ingredient' (intervention development; setting recruitment; and intervention delivery) (EEF, 2023a; Robinson-Smyth et al., 2024). We will analyse NDNA's administrative cost data by categorising all NDNA-reported costs by mandatory cost ingredients; comparing the total costs of implementation during the scale-up with those from the effectiveness trial; and identify cost drivers, including organisational changes such as increased EYA staffing and the introduction of new roles (e.g., MC Quality and Fidelity Manager).

Cost collection with nurseries

We will carry out an **online cost survey** (taking around 5 minutes to complete) with all participating nurseries at the end of delivery (between March and July 2027) to examine staff time and cost spent related to the programme. The survey will cover information on mandatory 'ingredients' (Personnel for preparation and delivery, i.e. MCs and DMCs) and *optional* extras purchase by choice (additional learning resources to support mathematical learning and staff cover). Specifically, we will explore and analyse:

- time spent on training and ongoing activities *during* and *outside* working hours, broken down by MC and DMC role
- cost of staff cover during training and ongoing activities, broken down by MC and DMC role
- cost of optional learning resources during start-up phase and ongoing activities

At present, we expect that the survey will be completed by each setting's MC and DMC (see Robinson-Smyth et al., 2024). However, as part of our case study visits to nurseries, we will explore who in the setting is best placed to answer questions around time and cost.

We will carry out up to **12 semi-structured interviews** (around 20 minutes each) with a sample of nurseries to help us understand the quantitative data and will also explore settings' views on the acceptability of estimated programme costs. To streamline data collection, we will aim to carry out some of the cost collection interviews as part of our case study visits. The additional settings will be selected from those settings who expressed an interest in follow-up qualitative work when completing the pre-delivery survey, and will be interviewed online.

Reporting cost data

We will report costs by updating the estimated cost of implementing the programme per setting and child over a three-year period as outlined in the previous effectiveness trial (Robinson-Smyth et al.,

[2] It is important to note that the typical programme duration has always been 12 months. The timescale for the efficacy and effectiveness trials was reduced, however, to ensure that baseline testing could take place in September and endline testing in June/July.

2024). We will explain all known reasons for any increases or decreases in the cost of delivery since the effectiveness trial. Importantly, we are comparing the costs of a 12-month programme with those of a 7-month programme. While differences in cost are expected, we will assess whether these differences are consistent with those that would be anticipated if the 7-month programme were scaled to a 12-month duration. The reporting will be supplemented by qualitative findings – for example on how nurseries made decisions about expenditure on staff cover or materials.

Feedback and reporting

Table 3 includes an overview of planned feedback activities and outputs, the key audience, the purpose as well as expected timeline.

Table 3 Feedback activities and outputs

Activity and output	Audience	Purpose	Timeline
Scaling ToC	**NDNA**	To support NDNA in reflecting on and refining their scaling ambitions and providing a framework for testing the causal pathways	**Oct-Nov 2025**
Scaling ToC template	**EEF, evaluators, delivery organisations**	To provide a template that other evaluators and delivery organisations can use to articulate how a programme is expected to scale	**Dec 2025**
Study plan	**EEF, evaluators, NDNA**	To ensure that the evaluation team, the delivery team, and the EEF all have a shared, detailed, and transparent understanding of what the evaluation will do, how it will be done, and why it is methodologically robust.	**Dec 2025**
Learning workshop 1	**NDNA**	To present interim findings for discussion and collaborative sense-making before interim presentations To gather additional data, including reflecting on the journey between EOI, signing an MOU and starting delivery (Learning workshop 1); whether scaling plans were delivered as intended; systems and processes for monitoring in-setting delivery; organisational challenges and strategies for addressing these; and strategies for supporting settings beyond the end of delivery To identify adaptations to scaling NDNA would make based on this learning	**Jul 2026**
Interim presentation 1	**EEF and NDNA**	To share emerging findings and progress, gather feedback to refine the evaluation, and ensure alignment	**August 2026**

Learning workshop 2	**NDNA**	To present interim findings for discussion and collaborative sense-making before interim presentations To gather additional data, including whether scaling plans were delivered as intended; systems and processes for monitoring in-setting delivery; organisational challenges and strategies for addressing these; and strategies for supporting settings beyond the end of delivery To identify adaptations to scaling NDNA would make based on this learning and plans for scaling	**Jun 2027**
Interim presentation 2	**EEF and NDNA**	To share emerging findings and progress, and gather feedback to refine analysis and reporting	**Jul 2027**
Interim presentation 3	**EEF and NDNA**	To share emerging findings and progress, and gather feedback to refine analysis and reporting	**Oct 2027**
Final report	**EEF, NDNA, evaluators, policymakers**	To inform the further roll-out of Maths Champions To contribute to the evidence base about effective scaling in the English education system To support further scale-up of other early years interventions	**Dec 2027**

We will agree all presentation and report outlines with EEF. Alongside the activities listed above, we propose a blog on the EEF website summarising learning for other programmes scaling-up.

Ethics and registration

The evaluation was reviewed and approved by MeasurEd's ethics board in November 2025, guided by UK Evaluation Society Guidelines for Good Practice. The process included a desk-based review, followed by a 90-minute meeting with the project team. Key ethical considerations included:

- **Obtaining informed consent**: We will provide recruitment materials outlining the purpose of the evaluation, what will be involved in taking part and how data will be used. Participants will be able to ask questions before agreeing to participate and can withdraw their data from being used for the evaluation before analysis begins.

- **Ensuring participation is voluntary**: We will be clear that taking part in surveys, interviews and FGDs as well as facilitating the case study visits is optional for participants. Participants can choose not to take part or to skip questions they do not wish to answer. During case study visits, we will not observe or interview practitioners who have completed a withdrawal form.

- **Incentives**: We will use a prize draw for surveys to incentivise participation. We will also provide incentives to case study settings in recognition of their time and contributions. This includes a £400 cash incentive for case study visits of participating settings and a £300 cash incentive for case study visits of 'old settings. We have also budgeted £50 per case study setting for 'soft' incentives in the form of snacks, which will be provided on the day of our visits.

- **Independence**: The reliance on NDNA to support with data collection requires clarity in our communication with settings about our role as independent evaluators. We will ensure our recruitment materials and email communication clarifies that we are independent from NDNA, that NDNA won't know what nurseries have taken part in evaluation activities and that participation in evaluation activities will not affect nurseries' participation in the programme.

All team members will comply with MeasurEd's Code of Conduct, Safeguarding, and Anti-Bribery and Corruption policies.

Data protection

Data collected for this evaluation will only be used for research purposes. We will store and handle data in line with General Data Protection Regulation (GDPR) and the Data Protection Act 2018. Only named individuals will have access to personal data and the team will comply with information security procedures that include preventative measures and processes for reporting, reviewing, and responding to breaches. All data transferred to Oxford MeasurEd for the purposes of the evaluation will be done so via secure cloud software and Oxford MeasurEd will not transfer the data to any other party. We will securely delete personal data six months after the project ends.

We will pseudonymise all data, removing nurseries' and individuals' names prior to analysis. We will not report nurseries' or individuals' names in evaluation outputs, but some participants may be recognisable, such as members of the delivery team or contextual stakeholders. We will communicate these limits to confidentiality and anonymity verbally to all participants before the data encounter. We will also check in with participants after the data encounter to ensure that they are happy for everything they said to be possibly included in the evaluation report.

For this evaluation, Oxford MeasurEd is a data controller who also processes data. This means that we are responsible for deciding the purpose and legal basis for processing data. Our legal basis for data processing will be 'legitimate interests'.

Data subjects will include NDNA, EYSPH and contextual actors, nurseries (participating nurseries, non-adopters, and 'old' Maths Champions cohorts). We will outline data protection procedures and safeguards and our legal bases for processing data during recruitment and will publish a privacy notice online and circulate it to all concerned parties.

All evaluation data will be securely deleted from Oxford MeasurEd's systems no more than six months after submission of the final edited EEF report (by December 2028).

Personnel

Delivery team

The programme will be delivered by NDNA. The core delivery team includes:

Stella Ziolkowski, NDNA - Stella Ziolkowski is Director of Quality and Training at NDNA. She has overarching contract responsibility for the delivery of outcomes and milestones, reporting to EEF, final approval of deliverables, processes, and procedures in relation to the scale-up.

Paula Dunn, NDNA - Paula Dunn is the Maths Champions Quality and Fidelity Manager lead, overseeing quality of delivery of EYAs as well as training and line managing deputy leads. She is responsible for maintaining the quality framework for the programme, monitoring, and ensuring there is evidence of the quality of delivery by the EYA team against the framework.

Amy Stoddart, NDNA - Amy Stoddard is the Project Manager, with contract management responsibility for the day-to-day delivery of the scale-up, including milestones tracking, the recruitment process and financial monitoring. The Project Manager also trains, and line manages the Project Officers and the Relationships Manager as well as coordinating speaking opportunities within the team.

Evaluation team

The programme will be evaluated by Oxford MeasurEd. The project team includes:

Dr Lydia Marshall, Oxford MeasurEd - As Principal Investigator, Lydia will provide technical oversight of qualitative and quantitative data collection and analysis, lead on reporting and quality assure all data collection tools and outputs.

Dr Jonah Bury, Oxford MeasurEd - As Project Manager, Jonah will oversee day-to-day project management, including work planning, monitoring project and risk, and managing the project team. He will be the core point of contact for EEF and NDNA and provide technical leadership for qualitative data collection and analysis.

Dr Sara Bonetti, Independent Researcher - As Early Years Expert, Sara will support with the development of data collection tools and the finalisation of the evaluation design, and review key outputs.

Dr Rachel Outhred, Oxford MeasurEd - As Scaling Expert, Rachel will provide scaling expertise during design, analysis, and reporting, and support the development of the sToC.

Sara Bashir Malik and Ellen Smith, Oxford MeasurEd - Sara and Ellen will provide support on data collection, analysis, and reporting, including undertaking case study visits. Sara, Ellen and all Oxford MeasurEd researchers visiting nurseries will hold enhanced DBS checks.

Shefali Rai, Oxford MeasurEd Associate - Shefali led the desk-based review of the programme and supported the development of the sToC.

Risks

Within our project management procedures, the Project Director and Project Manager have the responsibility of maintaining a risk register. The risk register will allow us to identify and communicate risks to both EEF and the delivery team in a timely manner, as well as to develop mitigation strategies. The initial risks identified for this project are outlined in Table 4.

Table 4 Risk register

Risk	Likelihood	Impact	Mitigation/contingency
Difficulties recruiting the required number of settings for the scale up evaluation	Medium	High	• Providing clear and concise information on the evaluation requirements for settings and being available for answering questions during the recruitment stage • Multiple recruitment channels, with recruitment carried out by NDNA and EYSPHs, with support from EEF and DfE • Staggered start dates for settings easing time pressure on recruiting all settings before the delivery start date in February 2026
Evaluation delayed by delivery timeline slippages	Medium	Low	• Clear communication during inception outlining timelines and agreeing contingencies with EEF, DfE and NDNA • Flexibility to adapt timelines if needed
Evaluation delayed or disrupted by resourcing gaps	Low	Low	• Use of established tools and processes to allocate, protect and adjust staff resource as needed • Wider pool of consultants with relevant skills and expertise to draw on if timelines or availability shift
Programmatic data collected by NDNA is of poor quality	Low	Medium	• Discussion about availability of programmatic data and how they are collected during inception period • Review of 'dummy data' and templates • Suggestions for refining data collection templates if required
Duplication of work with overarching scale-up evaluation	Medium	High	• Review of interim finding reports and other relevant outputs during inception period • Evaluation design cross-checked with study plan of overarching scale-up evaluation • Meeting brokered with BIT and CEI by EEF and DfE if required
Participant groups do not engage with the evaluation	Medium	High	• Short and engaging communications with a clear ask • Sending all communications in advance to facilitate planning • Survey invitations sent from NDNA to maximise reach • Offering the option of paired rather than individual interviews (e.g. for EYAs) • Use of prize draws for 'old' cohorts to maximise response rate • Appropriate reassurances about confidentiality

We are unable to recruit enough settings meeting our sampling criteria for case study visits	Medium	Medium	• Emphasising the value of an ethnographic approach in recruitment materials • Emphasise hearing from the different participant groups, and the purpose of triangulation • Being clear in recruitment materials and during our visits about the purpose and value of observations • Use of suitable incentives that account for the challenging environment settings face • Sending all communication in advance to facilitate planning • Being flexible with timings, e.g. spending two/three days at the nursery does not need to be two/three *full* days • Appropriate reassurances about confidentiality
Nursery staff are unable to accommodate our case study visit due to concerns about being unable to adhere to staff to child ratios	Medium	Medium	• Holding practitioner FGDs at the start or end of the nursery day • Splitting FGDs into shorter sessions if needed • Conducting the MC interview remotely outside peak child contact hours • Limit participation to a small number of practitioners at any one time • Coordinate with MCs to avoid peak staffing pressure points
Settings are not receptive to case study visits	Medium	Medium	• Set out contingency plan for more remote activities
Low survey response rates, leading to response bias	Medium	Medium	• Recruitment materials emphasising that we want to hear from everyone about their experiences – good and bad • Invitations sent from NDNA to maximise reach • Regular reminders using behavioural nudges to encourage participation • Short surveys with relevant questions • Keeping the survey open for 2-3 weeks • Explaining how findings will inform practice • Avoiding the start/end of term where possible • Triangulation of findings with other data sources
It is unclear who in nurseries is best placed to answer the cost survey	Low	Medium	• Use of case study visits to explore suitable respondents for cost survey
Analysis and reporting are of low quality	Low	High	• Appropriately qualified team • Multiple layers of QA, with final QA carried out by QA Lead • Pre-planning of QA by EEF and peer review as per EEF protocols

Findings do not meet the needs of decision-makers and the sector	Low	High	• Agreeing evaluation questions and design with EEF and DfE at inception • Scaling and early years expert brought onto team to design Scaling ToC, support with evaluation questions and design, and advise on analysis and interpretation • Learning workshop to allow NDNA input on emerging analysis and final reporting • EEF and DfE sign off on report structure and analysis plans

Timeline

Table 5 below includes the timeline for the different evaluation activities and planned outputs.

Table 5 Timeline

Dates	Activity	Staff responsible/ leading
Aug 2025	IDEA workshop	OM, NDNA
Aug – Oct 2025	Desk-based review	OM
Aug – Dec 2025	Recruitment materials and privacy notice	OM, NDNA
Sep 2025	Set-up meeting	OM, NDNA
Sep 2025	Onboarding/recruitment admin staff and training	NDNA
Sep 2025 – Jan 2026	Delivery staff recruitment and training	NDNA
Sep 2025 – Jun 2026	Nursery recruitment	NDNA
Oct – Nov 2025	Scaling ToC workshop and development	OM
Oct – Nov 2025	Ethical review	OM
Dec 2026	Development of scaling ToC template	OM
Jan – May 2026	Pre-delivery survey with participating nurseries	OM
Feb 2026 – Jul 2027	Programme delivery	NDNA, nurseries
May – Sep 2026	Survey with old MC cohort ('800 cohort')	OM
Jun 2026	Interviews with EYAs and Deputy Leads	OM
Jun 2026	Group interview with NDNA senior staff	OM
Jun 2026	Sharing of programmatic data	OM, NDNA
Jun – Jul 2026	Interviews with EYSPH representatives and contextual stakeholders	OM

Jun 2026 – Dec 2027	Interviews with MCs from participating nurseries	OM
Jul 2026	Learning workshop 1 with NDNA	OM
Aug 2026	Interim findings presentation 1	OM
Sep 2026 – May 2027	Case study visits with participating nurseries	OM
Sept 2026 – May 2027	Short cost collection interviews with nurseries	OM
Oct 2026 – Feb 2027	Case study visits with 'old' nurseries	OM
Nov 2026	Interviews with EYAs and Deputy Leads	OM
Mar – Jul 2027	Post-delivery survey with participating nurseries	OM
Mar – Jul 2027	Cost survey with participating nurseries	OM
Jun 2027	Sharing of programmatic data	OM, NDNA
Jun 2027	Collection of cost data from NDNA	OM, NDNA
Jun – Jul 2027	Learning workshop 2 with NDNA	OM
Jul 2027	Interim findings presentation 2	OM
Jul – Aug 2027	Interviews with EYAs and Deputy Leads	OM
Oct 2027	Interim findings presentation 3	OM
Dec 2027	Submission of first draft report	OM

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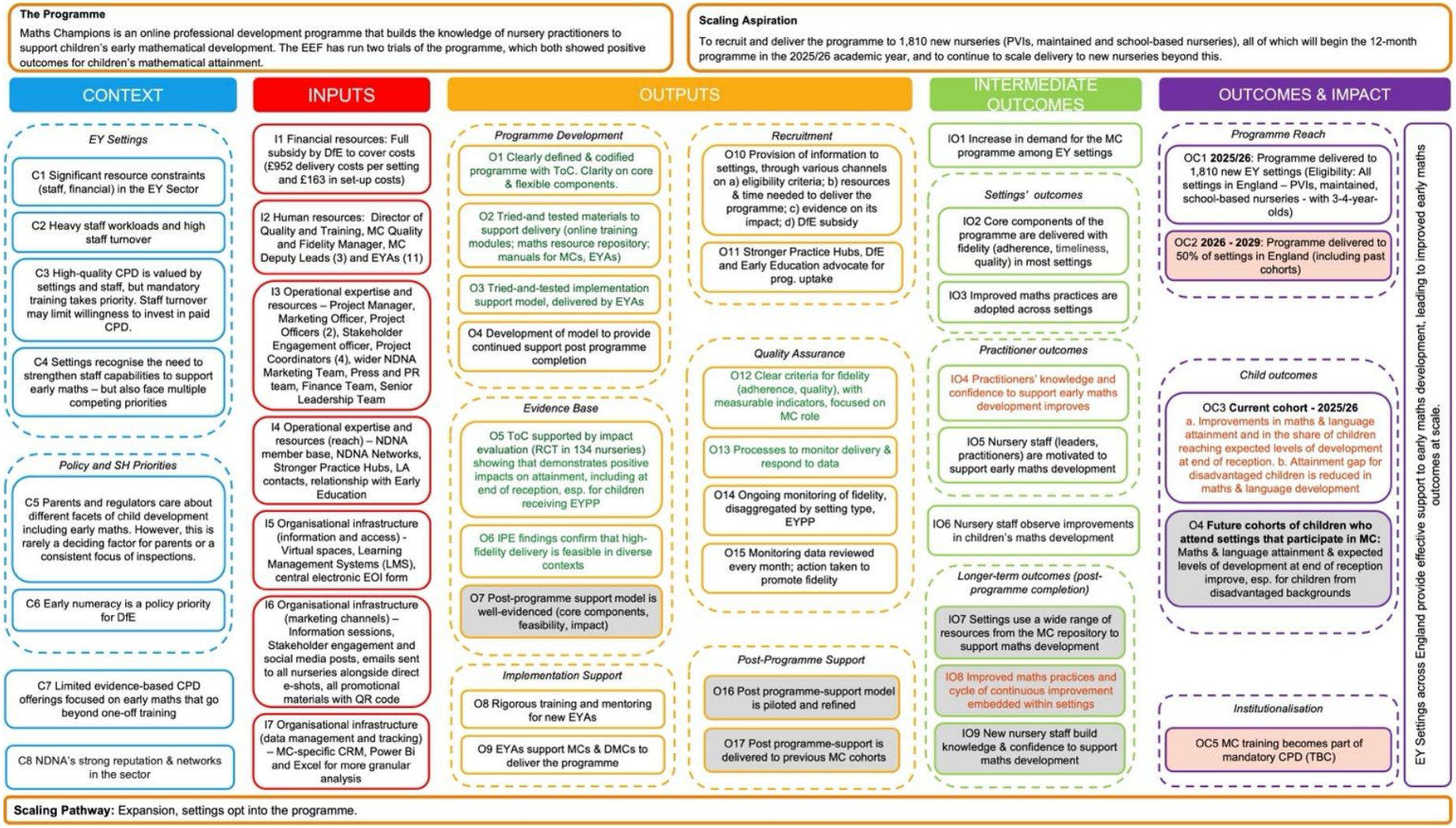
Appendix 1 Scaling Theory of Change[3]

Appendix Figure 1 Scaling Theory of Change (sToC)



[3] Developed by Oxford MeasurEd and NDNA in October 2025. The levels of assumption risk shown in Appendix Table 1 should be seen as a "snapshot in time", as NDNA will continue to anticipate and mitigate these risks during the course of delivery. The evaluation will monitor these risks and evaluate the extent to which the sToC holds true.

Appendix Table 1 sToC - Assumptions

#	Assumption	Assumption Strength *How strong is the assumption?*	Assumption Risk *If the assumption does not hold, how much impact would that have on causal pathways?*	To what extent is this within NDNA's control?	Specific to scaling?
Inputs to Outputs					
A1	There is continuity amongst senior members of the core Maths Champions delivery team at NDNA.	Green	Amber-green	Largely in control	Yes
A2	New operational systems and processes, adopted during scale up, are fit for purpose and can be used with ease by the delivery team.	Amber-green	Amber-green	Largely in control	Yes
A3	There is high retention of EYAs during scale up.	Green/ Amber-green	Amber-green	Partly in control	Yes
Outputs to Intermediate Outcomes					
A4	In settings that adopt the programme, there is strong buy-in and support for implementing Maths Champions across senior leadership and most practitioners.	Green	Green	Partly in control	No; but could be less likely to hold at scale, as buy-in may be higher among early adopters
A5	Settings' leadership teams take stock of the setting's capacity to implement the programme before signing up.	Green	Green	Partly in control	No; but could be less likely to hold at scale
A6	Settings' capacity to implement the programme does not decline significantly during the 12-month delivery period.	Green/ Amber-green	Amber-green	No control (external factor)	No; but could have more of an impact at scale
A7	MCs and DMCs have high buy-in and motivation to deliver the core components of the programme with fidelity.	Green/ Amber-green	Amber-green	Partly in control	No; but could be less likely to hold at scale
A8	MCs and DMCs provide sufficient support to enable other practitioners to effectively adopt new maths practices.	Amber-green	Amber-green	Limited control (shaped largely by external factors, e.g. staff workloads)	No; but could be less likely to hold at scale

A9	Settings' leaders provide enough time for MCs and DMCs to deliver the programme with fidelity.	Amber-green	Amber-green	Limited control	No; but could be less likely to hold at scale
A10	Settings' leaders provide enough time for MCs and DMCs to support other practitioners to improve their maths practices.	Amber-green	Amber-red	Limited control	No; but could be less likely to hold at scale
A11	DMCs are sufficiently engaged in the programme to take over the MC role effectively if an MC leaves.	Green	Amber-green	Partly in control	No; but could be less likely to hold at scale
A12	There are few cases of MCs and DMCs both leaving a setting.	Green	Amber-red	No control (external factor)	No; but could be less likely to hold at scale
A13	Settings have sufficient capacity (resources, staff) to adopt the programme.	Green	Amber green	No control (external factor)	No; but could be less likely to hold at scale
Intermediate Outcomes to Final Outcomes					
A14	External factors do not lead to a decline in early maths outcomes for current or future cohorts of children.	Green	Green	No control (external factor)	No
Assumptions underpinning scaling goals beyond 2025-26 (currently out of scope)					
A16	Early numeracy remains a sufficient priority for DfE for it to continue funding programme delivery costs beyond 2026.	Not yet rated			Yes
A17	Future impact evaluations continue to find that the programme has significant positive impacts on maths attainment, including at the end of reception.	Not yet rated			Yes
A18	NDNA is able to build sufficient capacity to expand provision of Maths Champions to reach 50% of all settings in England by 2029 (Outcome 2)	Not yet rated			Yes

Notes: 1. Estimated ratings of assumption strength and risk have been provided by the MC Delivery Team, based on past experience.
2. These ratings apply to the current phase of scale up, to 1810 settings. Some assumptions may be less likely to hold in future phases of scale up.
3. Assumptions associated with Outcome 5 have not been listed as this outcome is still under consideration, and additional inputs and outputs would be required to achieve it, beyond those outlined in the current scaling ToC.

Appendix Table 2 sToC – Causal Pathways

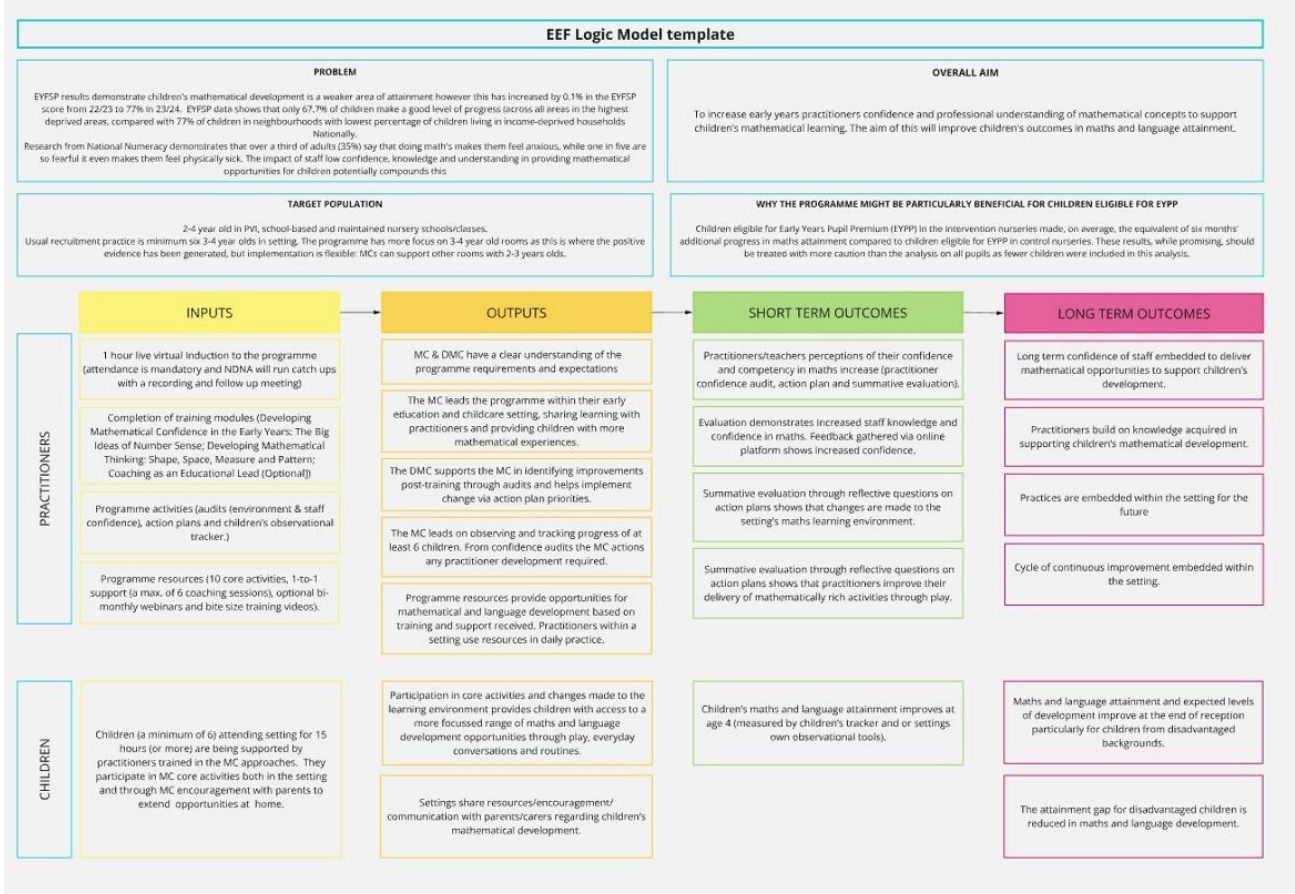
#	Causal Pathway	Outcome	Aspects of context that are relevant to this causal pathway	Notes on Evidence Base for Causal Pathway
Pathways to Intermediate Outcomes				
CP1	A combination of evidence on the programme's impact (O5) + Provision of information to settings about the programme through various channels (O10) + Other actors (such as Stronger Practice Hubs) advocating for the programme (O11) + the DfE subsidy to cover programme delivery costs, allowing the Maths Champions programme to be offered to settings free of charge (I1) contribute to:	An increase in demand for the MC programme among EY settings (IO1)	Enablers: C7, C8 Hindrances: C1, C2 Mixed effects: C3, C4, C5	
CP2	A clearly-defined, codified programme (O1) + a tried-and-tested implementation support model and programme resources (O2 & O3) + rigorous training for EYAs (O8) + EYAs' support to MCs/DMCs to deliver the programme (O9) + robust quality assurance mechanisms (O12-15) contribute to:	Core components of the programme are delivered with fidelity (adherence, timeliness, quality) in most settings (IO2)	Hindrances: C1, C2	Evidence from past evaluations that high-fidelity delivery of the programme is feasible in diverse contexts.
CP3	High-fidelity delivery of the core components of the programme (IO2) + EYAs' support to MCs/DMCs to deliver the programme effectively (O9) + access to a high-quality repository of maths resources (02) contribute to:	Practitioners' knowledge and confidence to support early maths development improves (IO4)	Hindrances: C2	
CP4	Improvements in practitioners' knowledge and confidence to support early maths (IO4) + access to high-quality resources (O2) + EYAs support to MCs through a tried and tested support model (O9 and O3) + evidence base on the programme's impact (O5) + (crucially) nursery staff are able to observe improvements in children's maths development over the course of the programme (IO6) contribute to:	Nursery staff (leaders, practitioners) are motivated to support early maths development (IO5)	Mixed effects: C5	

CP5	High-fidelity delivery of the core components of the programme (IO2) + Improvements in practitioners' knowledge, confidence and motivation to support early maths development (IO4 and IO5) + access to high-quality maths resources (O3) + access to ongoing high-quality support from EYAs (O8 and O9) contribute to:	Improved math practices are adopted across settings (IO3)	Hindrances: C1, C2	
Pathways to Outcomes				
CP6	An increase in demand for the programme (IO1) + A tried-and-tested, codified programme model and resources (O1, O2 & O3) + Appropriate resources to support delivery (Inputs 1-7) contribute to:	Reach: Programme delivered to 1,810 new EY settings in 2025/26 (OC1)		
CP7	High-fidelity delivery of core components (IO2) + Improvements in practitioners' knowledge and confidence to support early maths development (IO4) + Improved maths practices being adopted across settings (IO3) contribute to:	Current cohort - 2025/26 a. Improvement in maths & language attainment and in the share of children reaching expected levels of development at end of reception. b. Attainment gap for disadvantaged children is reduced in maths & language development (OC3)		Evidence from the effectiveness trial that high-fidelity delivery of the programme contributes to the targeted outcomes for children.
Pathways to Intermediate and Final Outcomes that are not currently in scope				
CP8	Improvements in practitioners' knowledge, confidence and motivation to support early maths development (IO4 and IO5) + access to high-quality maths resources (O3) + delivery of a tried-and-tested post-programme support model (O16 and O17) + robust quality assurance processes related to delivery of post-programme support (O13, O14 O15) contribute to:	Settings use a wide range of resources from the MC repository to support maths development (IO7) Improved maths practices and cycle of continuous improvement embedded within settings (IO8) New nursery staff build knowledge & confidence to support maths development (IO9)	Hindrances: C1, C2 Mixed effects: C3, C4, C5	

CP9	A combination of improvements in practitioners' knowledge, confidence and motivation to support early maths development (IO4, IO5 and IO9) + improved maths practices being adopted and embedded within settings (IO3 and IO8) + settings drawing on a wide range of resources from the MC repository (IO7) contribute to:	Future cohorts of children who attend settings that participate in Maths Champions: Maths & language attainment & expected levels of development at end of reception improve, esp. for children from disadvantaged backgrounds (OC4)		
Note: *We have not attempted to map causal pathways to Outcomes 2 and 5 as: 1. These outcomes are still under consideration; 2. It is likely that additional inputs and outputs (beyond those listed in the current ToC) would be required to achieve these outcomes.*				

Appendix 2 Programme Theory of Change[4]

Appendix Figure 2 Programme ToC



[4] Oxford MeasurEd were not involved in developing the programme ToC, as it was created before the scale-up evaluation commenced.

Appendix Table 3 Programme ToC Contextual assumptions

#	**Contextual Assumption**	**Assumption Strength** *- How strong do you think your assumption is?* *Green – This assumption will hold in the vast majority of circumstances where the programme is delivered* *Green/Amber – This assumption will hold in most of the circumstances where the programme is delivered* *Red/Amber – This assumption will often not hold in the circumstances where the programme is delivered* *Red – There is a good chance of this assumption not holding / do not know whether this assumption will hold or not*	**Assumption Risk** *- If this assumption does not hold, how much of an impact on programme delivery with fidelity to the original design?* *Green – The programme could continue to be delivered with very minor impact* *Green/Amber – The programme could continue to be delivered, but the impact would be substantial* *Red/Amber – The programme could continue to be delivered, but without fidelity to original design* *Red – The programme could not be delivered*
1	MCs and DMCs motivation to participate and remain on programme for the duration of 12 months	Green	Amber/Red
2	Completion of eLearning modules x 2	Green	Amber/Green
3	Qualification level @ Level 3 or above	Green	Amber/Green
4	Completion of audits and action plan	Green	Amber/Green
5	Children are provided opportunities to engage with 10 core activities.	Green	Amber/Green
6	MC complete summative evaluation of action plans	Green	Amber/Green
7	MC engagement with one-to-one support	Green	Amber/Green
8	Summative evaluation of children's tracker/settings own observational tools	Green	Amber/Green
9	MCs and DMCs have the opportunity to change their practice e.g. senior leadership teams provide time for professional development and practice improvement	Green	Amber/Red

10	Practitioners are provided with training, guidance and support to improve confidence levels and teaching methods with children	Green	Amber/Red
11	MC and DMC are retained for the duration of the programme	Green	Amber/Green
12	All MCs attend live induction	Green	Amber/Green
13	DMCs attend live induction or watch recorded session	Amber/Green	Green
14	Wider nursery team awareness and development of practitioners and their commitment to the programme	Green	Amber/Red
15	Recruitment - Anxiety, workforce pressure (recruitment and retention). NOTE TO CONSIDER: this would not impact on fidelity but would impact on recruitment	Amber/Green	Green
16	MC Recruitment - Flexible	Green	Green
17	Adaptions - IT, Delivery methods, responsiveness, meet your early years advisor sessions	Green	Green
18	Structure within NDNA to fit scale up - Change in role responsibility (Quality and Fidelity Manager)	Green	Green
19	Recruitment into new roles (project and delivery team)	Amber/Green	Amber/Red
20	Strong recruitment process	Green	Green
21	Support from setting leadership as an enabler for change (time, responsibility, autonomy factors)	Amber/Green	Amber/Red
22	Supporting MC settings after their time on the programme ends (not yet developed and needs further scoping with MC settings)	Amber/Red	Green
23	Supporting settings with a 1-month extension to enable programme completion	Green	Green
24	Recruitment - SPH (this is to be confirmed when we are clear about the EYSPH role in recruitment - from experience this could impact on withdrawal and or completion)	Amber/Red	Amber/Green