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Happier Healthier Professionals: Goal-setting and Wellbeing Programme

Intervention Developer	What Works for Children's Social Care & Royal Holloway University of London
Delivery Organisations	At time of re-publication: Central Bedfordshire, Kent, Lambeth, North Tyneside, Telford & Wrekin, Wolverhampton, Solihull, Greenwich, Bromley
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Title	Happier Healthier Professionals: A Cluster Randomised Controlled Trial of a Goal-setting and Wellbeing Programme in Children's Social Care
Type of Trial	Clustered Randomised Controlled Trial
Age or Status of Participants	Children's social workers
Number of Initial Participating Local Authorities	9
Number of Social Workers	1850
Primary Outcome(s)	Staff sickness absence
Secondary Outcome(s)	Staff turnover, staff wellbeing, mediating outcomes (time pressure and workplace efficacy)
Contextual Factors	Local authorities had to volunteer to be part of the trial and all but one LA was in an area with higher levels of deprivation than the national average. In terms of the intervention: the intervention interacts with prior experience with the employer, family life and demographic characteristics of the social workers.

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Background and Problem Statement

More than most professions, the high risk and emotional nature of social work means that the sector faces particularly acute challenges with employee stress. Likely as a result, children's social workers have high rates of turnover (15.2% per year across England). Absence and turnover create disruption within children's services; social workers picking up additional cases means they have less time available with each family, at the risk of decreasing the quality of support they are able to provide.

Social worker absence and turnover has also been shown to have a direct impact the experience of the children and families they work with. A report published by Coram and the University of Bristol in February 2018, for example, indicated that children's wellbeing between the ages of four and seven was negatively associated with not knowing their social worker[1]. However, there have been no rigorous evaluations of social worker wellbeing interventions in the UK.

A key contributor to low levels of social worker wellbeing is likely to be the time pressure they experience as a result of their work. Social workers often hold high numbers of complex cases, meaning they are subject to high levels of time pressure and often struggle to balance priorities at work and at home. For some areas of social work, such as assessment, statutory deadlines also add to the time pressure. This pressure can lead to burnout and exhaustion, which in turn contributes to increased rates of sickness absence and staff turnover. Wellbeing is also important in and of itself -- all workers, especially those doing a public good -- deserve to be in environments that promote their wellbeing.

This research programme aims to support the profession by understanding how local authorities might address rates of employee sickness absence and turnover by introducing interventions designed to alleviate stress and increase employee wellbeing (in this case by providing more agency through goal-setting exercises).

Initial recruitment of local authorities for this programme took place between January and March 2019 with a public call for local authorities interested in being part of a wider set of trials to test interventions focused on improving social worker wellbeing. Local authorities recruited earlier in the process (Kent, Lambeth and Telford & Wrekin) took part in the co-development of the intervention; the research team from the What Works Centre gathered information about the challenges faced by social workers in the local authorities and used these insights in the intervention choices and design. Recruitment continued through April and May 2019, with more local authorities likely to be added to the trial after the initial launch.

One important point on this research piece is that LAs were matched where possible with interventions that seemed to match local conditions and taking part was on the basis of applications by LAs. This to at extent may decrease the external validity of the work, as participating LAs may have expended more time making the interventions work or had more enthusiastic senior leadership teams.

Objective:

This research aims to support the social work profession by understanding how local authorities might address rates of employee sickness absence and turnover by introducing a 'goal-setting' intervention designed to alleviate the time pressure resulting from their work.

The research questions are:

[1] http://www.bristol.ac.uk/media-library/sites/sps/documents/hadleydocs/our-lives-our-care-full-report.pdf

1. Does the goal-setting intervention reduce staff sickness absence?
2. Does the goal-setting intervention reduce staff turnover?
3. Does the goal-setting increase reported staff wellbeing, by reducing time pressure **and/or** increasing workplace efficacy **and/or** increasing sense of purpose **and/or** feeling supported by their managers?
4. What is the fiscal benefit cost ratio of the intervention, and how does this compare to other HHP interventions?

Intervention and Logic Model

Overview

We aim to test whether encouraging social workers to allocate time to a six-week online programme of goal-setting exercises (½ to 1 hour per week) decreases absence and turnover by increasing wellbeing.

Logic Model (see page over)

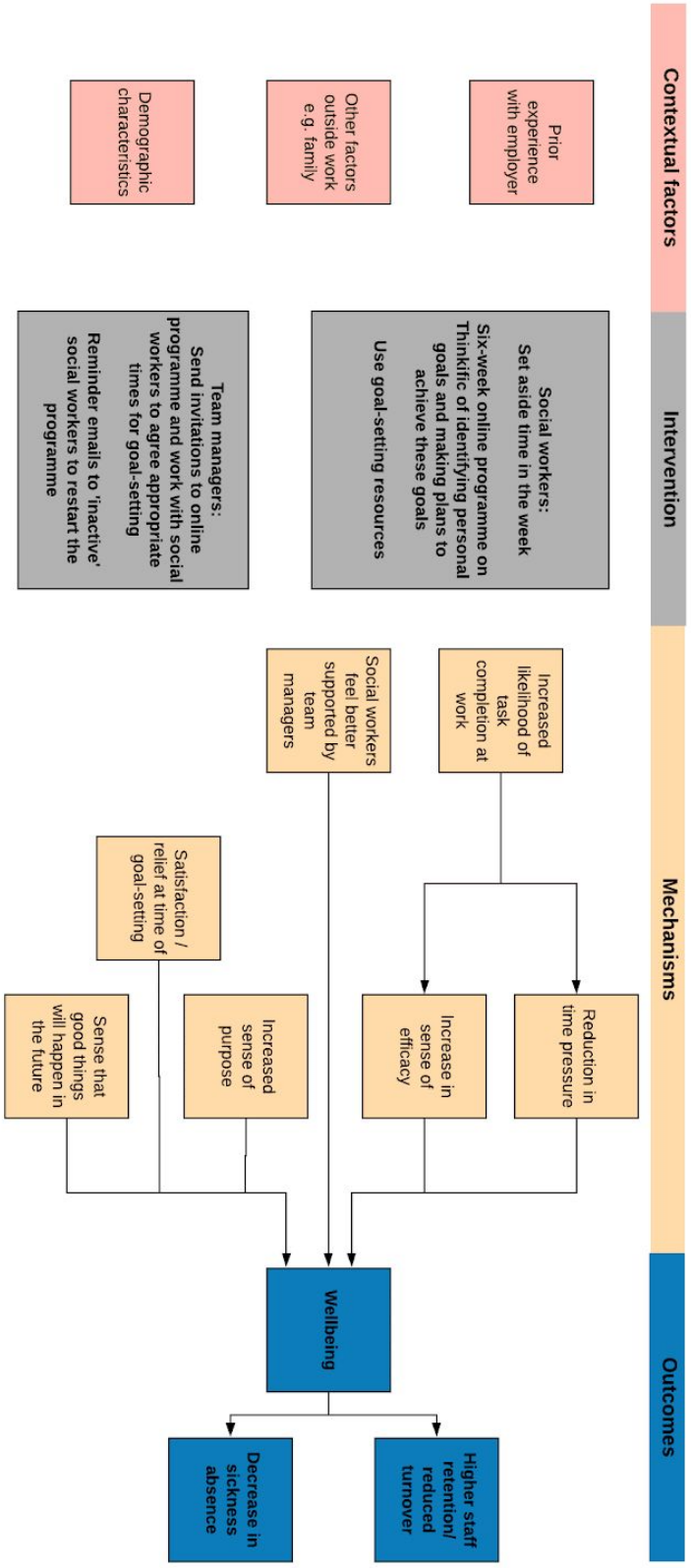
The intended operation of the intervention, as well as the contextual factors around it are described in the logic model over the page. The intervention came about as findings from behavioural science indicate there is a strong association between personal goal-setting and wellbeing through helping to generate personal goals[2], align these with personal values[3] and envisage goal completion[4]. Therefore, in this trial we are testing the Social Worker Goals and Wellbeing Programme -- a six-week course of goal-setting designed by academics at Royal Holloway and tailored by the Centre. The programme is designed to:

A. Increase social workers' sense of purpose,
B. Produce a sense of satisfaction / relief at the time of the goal-setting,
C. Increase the sense that good things will happen in the future,
D. Promote increased task-completion at work, resulting in
E. Increased sense of efficacy at work and,
F. Help social workers feel better supported by their team manager.

Our hypothesis is that social workers will derive an increase in wellbeing via taking part in the goal-setting process itself (a-c), through reduction in time pressure as a result of increased task-completion insofar as their choice of goals are related to their work (d and e) and by feeling better supported by their managers (f). Then, due to the increase in wellbeing they are absent less at work and leave work less often.

[2] Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. Review of General Psychology, 9, 111– 131. https://doi.org/10.1037/1089-2680.9.2.111
[3] Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. Canadian Psychology, 49, 182– 185. https://doi.org/10.1037/a0012801
[4] Oettingen, G., Mayer, D., & Brinkmann, B. (2010). Mental contrasting of future and reality. Journal of Personnel Psychology, 9, 138– 144. https://doi.org/10.1027/1866-5888/a000018

Figure 1. Logic Model



Intervention: What will be implemented?

The intervention consists of being encouraged by team managers to put aside time each week for goal-setting and reflection, which begins with encouragement to enrol in an online course. The intervention encourages social workers to:

- identify goals linked to their personal values,
- develop steps to move towards selected goals,
- anticipate and deal with obstacles,
- maintain motivation.

The intervention is provided by the local authority, through team managers sending out an email encouraging social workers to set aside time and providing the link to the goal-setting course. The course was designed by academics at Royal Holloway University of London and the course website was made by the Centre using the Thinkific platform.

Materials for the online course were adapted from a six-week goal-setting programme first developed by researchers at Royal Holloway University[5]. The research team at What Works adapted these materials, adding details and examples relating specifically to the social work context. The introductory module clearly outlines the theory behind the programme and how it might apply to the challenges social workers experience at work. This is important, as it is central to the effectiveness of the intervention that there is a shared sense that this is a worthwhile use of staff time, thereby maximising participants' uptake.

The structure of the programme (six weekly modules to be completed, with time for reflection on progress towards the end of the course) was retained, and the materials were transferred to an online platform Thinkific where they could be easily accessed by social workers on laptops or mobile. The programme can be accessed here. We have adapted the content for social workers' busy work lives to emphasise to participants that they can return to the programme after missing a week and local authorities will send a reminder email to participants in the intervention group after 3 weeks of the trial, prompting those who haven't had time to engage with the intervention, have forgotten, or who began but 'lapsed', to restart the programme. The course materials were already designed to be completed in short bursts, which should help make it feel more attainable to schedule in time for the course.

At the end of the programme, social workers will be encouraged to continue to make use of their protected time with some additional materials and suggestions for how to continue the practice. This should mitigate the risk of any positive impacts of the programme being lost in the time between the end of the programme and the end of the trial.

Recipients: Who is taking part?

All children's social workers at or below the level of team manager will be eligible, working in the 6 local authorities listed above. In some cases, the recipient group is extended to other teams in cases where local authorities felt they could benefit from the programme. More detailed eligibility criteria

[5] In a small-scale randomised controlled trial (Oliver, J. J., & MacLeod, A. K. (2018). Working adults' well-being: An online self-help goal-based intervention. Journal of Occupational and Organizational Psychology, 91, 665-680.), participants (public sector employees from the Environment Agency, Department for Environment, Food and Rural Affairs and Her Majesty's Courts and Tribunals Service) reported improved wellbeing (greater life satisfaction, more positive emotions, less negative emotions, and a greater sense of purpose) directly after completing the programme and at a three months follow-up.

by authority are included in here, and will be updated with details of any LAs added after the start of the trial.

Procedures: How will it be implemented?

Team managers will be asked to agree a suitable weekly time slot for members in their team to set aside to work on the programme, and to mark this time with calendar invitations sent to their team's diaries. Social workers often feel that, although protecting time for this kind of programme is an aspiration within children's services, there is an implicit expectation that the tasks more central to their role as a social worker should take precedence. It is hypothesised, therefore, that invitations from team managers will give them the 'licence' and autonomy to dedicate this time to engage with the programme.

A short, introductory slide deck was also developed by the Centre to be shared with managers in the intervention group, explaining the structure and rationale behind the intervention and how their team would be encouraged to embed the programme in their work schedule. It is hoped that this will increase managers' understanding and 'buy-in' of the programme, and that they will subsequently encourage their teams to engage with the programme.

Location: Where will it be implemented?

Participants are encouraged to complete the course modules during protected timeslots in their working day, which will usually be in an office environment. However, the programme is designed to be completed in short bursts, meaning that social workers will also be able to work on the exercises at home or remotely on mobile phones.

Dosage: How often will it be implemented?

The programme encourages social workers to protect 30-60 minutes in their diaries over the course of six weeks. A suggested timetable is also included in the course materials.

Impact Evaluation

Design

Trial type and number of arms		Clustered randomised controlled trial, two-armed
Unit of randomisation		Team
Stratification variables (if applicable)		Team average sickness absence in the last 12 months (split into quartiles), proportion of agency staff in team (median split)
Primary outcome	variable	Sickness absence
	measure (instrument, scale)	Administrative data
Secondary outcome(s)	variable(s)	Staff turnover, Wellbeing (combining cognitive and affective components), Mediating outcomes (time pressure, workplace efficacy, sense of purpose and feeling supported by manager)
	measure(s) (instrument, scale)	Administrative data (absence/turnover), survey measures (wellbeing, mediating outcomes)

This is a cluster randomised trial with teams as the clusters because of i) the need to reduce spillover within teams and ii) managers will encourage their line managees to set aside time for the goal-setting programme.

Our primary outcome measure is focused on the policy priority of local authorities which is reducing sickness absence. This has the advantage of being both an objective measure and one which we might hope to see an effect size larger than the MDES (reported overleaf), even if no further local authorities are recruited after the start of the trial.

We will measure social worker turnover (also an administrative measure), wellbeing and discrete mechanisms we believe may influence wellbeing as secondary outcome measures. We predict that turnover will be both a difficult outcome to impact (there are many reasons why social workers would choose to leave their jobs) and we have low power to detect changes in it.

While both administrative measures may contain measurement error, we are assuming that due to the randomisation in the trial this will be uncorrelated with treatment assignment.

Wellbeing is included as it is both an intermediate outcome measure - our logic model hypothesises that it will directly influence staff turnover and sickness absence - and has inherent value.

We have also included measures to test two of the mechanisms we believe may influence wellbeing and subsequently the administrative measures outlined above. Therefore, scales are included to measure participants' perception of time pressure and workplace efficacy. These are included in part to test our causal pathway and as they are part of promoting a good workplace environment.

Randomisation

Randomisation will be done at a team level, stratified by quartiles of baseline average team absence, and by proportion of agency staff within teams (median split). As we cannot guarantee balance on individual-level characteristics (because of the finite number of teams), we will control for these as part of our regression specification.

We will conduct balance checks for:

- role of the social worker using a chi-squared test,
- LE_i is a continuous variable for length of service at that LA in years using a t-test.

We will re-conduct the stratified randomisation until we do not have statistically significant imbalances on these characteristics. If after 100 re-randomisations this does not occur, we will leave intact the last re-randomisation.

We will ensure that we keep records of which social workers are in which arm (anonymised, so kept by ID number) but will not be blind to the group allocation.

We will conduct the randomisation using baseline data provided by LAs before the commencement of the trial.

Participants

Participants are all children's social workers from the participatingn local authorities. In Kent, the goal-setting intervention is to be trialled alongside an intervention testing the impact of providing free coffee to children's social care teams.

All staff in children's social worker teams, including managers, are eligible for inclusion in the trial, while local authorities were also given the option of including employees from other teams, such as Early Help teams, who they felt experienced similar challenges in their roles and therefore might benefit from the intervention.

MDES calculations

MDES was calculated with Stata using the 'clustersampsi' package.

		Days absent through sickness	Turnover (%)
MDES		0.15 (3.6 p.p. reduction over baseline)	4%
Baseline measures		4.16	7.6%
Baseline/Endline correlations	Social Worker	0.6	0.4
Intracluster correlations (ICCs)	Team	0.1	0.1
Alpha		0.05	0.05
Power		0.8	0.8
One-sided or two-sided?		Two-sided	Two-sided
Level of intervention clustering		Team	Team
Average cluster size		7	7
Coefficient of cluster variance		0.5	0.5
Sample before attrition		1850	1850
Assumed attrition / inability to match data		10%	10%
Anticipated effective sample size (Social Workers)	Intervention	832	832
	Control	832	832
	Total	1665	1665

We now explain the assumptions that led to these numbers.

Sample and cluster size

Sample size was estimated from the numbers of children's social workers provided by contacts at the local authorities, resulting in an estimated total sample size before attrition of 1850. We elicited team sizes from local authorities' and from these we estimated conservative average team size of 7. Sample and cluster size were held as constants to calculate MDES for both primary outcomes.

Attrition / inability to match data

Though both primary outcomes are administrative data recorded by local authorities, we assumed an additional 10% rate of inability to match baseline and endline measures, likely due to errors in data recording and data loss. Anticipated sample size after attrition was 1665.

Coefficient of cluster variation

Coefficient of cluster variation (the standard deviation divided by the mean of the cluster size) was estimated as 3.5/7 = 0.5, based on the estimate of the average cluster sizes and a further estimation of the distribution of the cluster sizes across organisations based on initial discussions with local authority partners.

Sickness absence

A baseline rate of sickness absence was calculated to be 4.16 days absent through sickness in 6 months by multiplying the national average sickness absence rate[6] by the number of working days in a six-month period. Annual leave provision was excluded, as it was not included in the national rate.

A ICC of 0.1 was assumed to account for:

- the close physical proximity of social workers, who could therefore pass on illness,
- the fact that members in teams will often experience similar workplace pressures as a product of high numbers of complex cases,
- the fact that teams share managers,
- the countervailing fact that a large part of wellbeing (and absence/turnover) relates to how an individual reacts to different circumstances and their own life experiences.

We estimate that the correlation between individuals' past and future sickness absence will be 0.6. It is likely that social workers with higher levels of sickness absence pre-treatment will continue to experience the same environmental and psychological pressures that caused this after the introduction of the intervention.

Turnover

Baseline turnover of 7.6% was calculated by halving the national annual average from the LAIT.

A ICC of 0.1 was assumed to account for:

- the fact that members in teams will often experience similar workplace pressures as a product of high numbers of complex cases,
- the fact that teams share managers,
- the fact that staff departures can exacerbate the workplace pressures of others in their team who may have to hold additional cases while the vacancy is unfilled

We estimate that individuals' correlation for leaving their job year on year will be around 0.4.

[6] From the Local Authority Interactive Tool (LAIT).

Outcome measures

Administrative Data

The primary outcome measure for this trial is individual social worker sickness absence - recorded as an average number of days missed due to sickness per social worker over the course of the trial. Local authorities will return individual-level baseline data on these outcomes and other covariates prior to the randomisation process.

We are also collecting data on rates of social worker turnover as a secondary outcome - recorded as a percentage of social workers who leave their post over the course of the trial.

Administrative data will be reported by the local authorities at an individual level at three time periods:

- pre-treatment (including absence patterns at the individual level for the previous 12 months to provide a baseline),
- interim (12 weeks after the introduction of the intervention),
- and post-treatment (24 weeks after the introduction of the intervention to provide the endline measure).

Survey Data

The second secondary outcome variable, subjective wellbeing, will be recorded twice - at the pre-treatment and post-treatment periods (T1 and T2) - using a validated measure by standardising and summing three scales on cognitive and affective aspects from Whillans and Dunn (2018)[7]:

- We will combine cognitive component (satisfaction with life) and affective components (PA and reverse-scored NA) into a single subjective wellbeing composite if we observe an R-squared value above 0.50 between these measures. Providing the correlations are above 0.50, we will standardise and combine these measures to create a Subjective Wellbeing (SWB) composite. Otherwise, we will do separate regressions on each component.
- Cognitive component:
    - First, respondents will report their overall life satisfaction by answering the following question: "Taking all things together, how happy would you say you are?" on a scale from 0 = Not at all to 10 = Extremely[8].
    - Next, participants will complete the Cantril Ladder[9], reporting where they currently stand in life on a ladder spanning from the worst possible to the best possible life imaginable (from 0 = Bottom Rung to 10 = Top Rung).
- Affective component:
    - To capture the affective component of SWB, we asked participants to rate their positive and negative affect in the last four weeks using the Schedule for Positive and Negative Affect[10].

[7] Whillans, Ashley V., and Elizabeth W. Dunn. "Valuing Time Over Money Predicts Happiness After a Major Life Transition: A Pre-Registered Longitudinal Study of Graduating Students." Harvard Business School Working Paper, No. 19-048, October 2018.

[8] Jowell, R. (2007). European Social Survey 2006/2007. Round 3: Technical Report. City University, Centre for Comparative Social Surveys, London.

[9] Cantril, H. (1965). Pattern of human concerns. New Brunswick, NJ: Rutgers University Press

[10] Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2009). New well-being measures: Short scales to assess flourishing and positive and negative feelings. Social Indicators Research, 97(2), 143-156.

We also included two validated measures to test the effectiveness of the intervention on two mediating outcomes: participants perceived time pressure and sense of efficacy. To measure time pressure, we included a two-item adapted measure of Time Stress on a 7-point scale (1 = Strongly disagree to 7 = Strongly agree).[11] Given high internal reliability between these two items, we will create a composite score by averaging the two items. To measure sense of efficacy, we included the Work-Related Basic Need Satisfaction Scale.[12] The scale measures 9 items rated on a 7-point scale (1 = Do not agree at all to 7 = Very strongly agree). These capture three dimensions related to sense of efficacy: autonomy, competence and relatedness at work.

Analysis plan

Primary Analysis:

General Principles

Intention to treat

For both primary and secondary outcome measures, we will employ an intention-to-treat (ITT) approach. This means that we analyse the effect of being randomised into a group (treatment or control), rather than actually complying with the intervention. We are doing this as there may be an effect just from being told that the goal-setting programme is an option and we cannot objectively monitor who complies with either part of the intervention (either taking the time or participating in the goal-setting programme).

Missing data

We anticipate there being a significant amount of missing or incomplete sickness absence data, in both baseline and outcome measures.

When providing baseline data, local authorities reported that a high proportion of their staff are either new (and therefore will not have 12 months of historical sickness absence data), or agency staff (whose sickness absences are not always routinely recorded), resulting in incomplete baseline sickness absence data. There may also be instances where staff sickness data is missing at random due to administrative error.

To account for these in randomisation, we intend to use a pro-rata calculation of sickness absence for those who had been in post for over three months but less than a year. Intuitively, this provides a reasonable time period from which to extrapolate the 12 month measure. Those who had not worked over three months will be assigned the mean sickness level. Sickness data for staff whose data is missing entirely, including agency staff, will be null imputed.

For imputing baseline data for use in our analysis, we will employ multiple imputation using both administrative and wellbeing data and run balance checks - which makes use of all of the data we have available to estimate baseline measures.

Leavers

[11] Kasser, T., & Sheldon, K. M. (2009). Time affluence as a path toward personal happiness and ethical business practice: Empirical evidence from four studies. *Journal of Business Ethics*, *84*(2), 243-255.

[12] Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981-1002.

We also anticipate that a significant proportion of staff will leave the local authority over the course of the trial, resulting in incomplete outcome measures. Excluding these participants from the absence analysis would risk inflating the treatment effect, as we suspect that individuals' likelihood to leave is correlated with their rate of sickness absence. To address this, we adopt the conservative strategy of imputing each individual's pro-rata rate of sickness absence were they to have stayed for the course of the trial.

New staff

Those who join the local authority after the start of the trial - will be excluded from the analysis.

Multiple comparisons

We have not conducted multiple comparisons corrections, as this is a two-arm trial with two primary outcomes so there will be two primary comparisons in total.

Sickness Absence

For this outcome, we will use a linear regression model with clustered standard errors at team and LA level, with the following model specification for individual *i* in team *k* in local authority *a*:

$$Y_{ika} = \alpha + \beta_1 * T_k + \gamma_1 * Gender_i + \gamma_2 * Role_i + \gamma_3 * PT_i + \gamma_4 * LE_i + \gamma_5 * BY_i + \gamma_6 * \text{coffee}_i + c_a + \delta_{ik}$$

where:

- Y_{ika} is the days absent of social worker *i* in team *k* in LA *a* (which for those that leave we will classify them as absent for each day of the trial after they have left),
- T_k is the treatment assignment of team *k* (which is 0 if control group and 1 if treatment group),
- $Gender_i$ is the gender of person *i* (coded as a binary variable),
- $Role_i$ is the role of the social worker *i* (which is a dummy variable with base level "student social worker" and other levels: Newly Qualified Social Worker, Social Worker, Senior Practitioner, Social Work Team Manager or Other),
- PT_i is a binary variable for whether social worker *i* is part-time or not,
- LE_i is a continuous variable for length of service at that LA in years of social worker *i*,
- BA_i is baseline level of absence for social worker *i* (this is zero for new workers),
- $coffee_i$ is 1 if the social worker *i* is in the treatment arm for the coffee trial and 0 otherwise (it is 0 for all non-Kent social workers),
- c_a is the local authority fixed effect for LA *a* (this also accounts for effects due to the month the LA was recruited in),
- δ_{ik} is the error term, clustered at the team level *k*.

We cannot include a fixed effect for teams because that would be perfectly collinear with treatment assignment, though we did stratify on baseline sickness absence rates in the teams which should partially account for this.

Following the advice of Abadie, Athey, Imbens and Wooldridge (2017)[13] we will cluster just at the team level, as this follows the experimental design.

Secondary Analysis

Secondary Outcome: Turnover Rates

Turnover rates is a binary outcome and so we will use a clustered logistic regression because the baseline rate is low (7.6%) and we expect the role of some covariates such as part-time work status and local-authority fixed effects to be strong. As a result, there is a heightened chance if we use a linear model of getting incorrect results due to fitted values outside of (0,1).

We will report the partial effect of the treatment at the means (which is in STATA: margins treatment, atmeans).

The specification for the clustered logistic regression will be:

$$Y_{ika} = \text{bernoulli}(p_{ika})$$

$$\text{logit}(p_{ika}) = \alpha + \beta_1 * T_k + \gamma_1 * Gender_i + \gamma_2 * Role_i + \gamma_3 * PT_i + \gamma_4 * LE_i + \gamma_5 * BA_i + \gamma_6 * \text{coffee}_i + c_a + \delta_{ik}$$

where variables have the same meanings as they do in the sickness absence equation except that Y_{ika} is a binary variable for whether individual *i* in team *k* in local authority *a* left their job, and p_{ika} is the probability of this occurring. We have included baseline levels of absence here as we believe that those social workers with higher absence are more likely to leave employment with the LA.

Secondary Outcome: Wellbeing Measure

We will use the same regression specification as for the sickness absence analysis, except using BW_i (baseline wellbeing) as well as baseline absence. The way this measure is constructed is explained above. We will also undertake the same analysis, but replacing the composite measure with each of its subscales.

Wellbeing data is the most likely to be missing, due to non-response both from social workers leaving and due to non-completion of the surveys by social workers who are in the trial. Unfortunately, these are unlikely to be missing at random -- those who leave or those who stay but do not take the survey are likely to have lower wellbeing and perhaps be less responsive to the treatment. With those that do stay, we can use both rewards and reminders to increase survey completion, but we cannot do this with those that have left employment.

We will report the following ways of dealing with this:

- Removing the data and only using complete cases,
- Using a Heckman selection model (unfortunately there is not an instrument available for missingness so we will have to make strong parametric assumptions),
- Multiple imputation using the available covariates.

[13] Abadie, Alberto and Carleton Athey, Susan and Imbens, Guido W. and Wooldridge, Jeffrey M., When Should You Adjust Standard Errors for Clustering? (November 2017). NBER Working Paper No. w24003. Available here: https://economics.mit.edu/files/13927.

We do this knowing that the models may give different results - we will report all of them and discuss how robust they are for the actual level of missingness. This is in part why we have not relied on the wellbeing measure as our primary outcome.

Secondary Outcome: Mediators

Two mediators are also measured by the survey:

- time pressure,
- workplace efficacy

We will use the same regression specification as for the sickness absence analysis, except that we will control for baseline absence, as well as the baseline level of the mediating outcome.

Secondary Outcome: Bradford Score

We will also compute a Bradford score (outlined below) for each of the individuals in the trial, and use the same regression specification as for the sickness absence analysis, except using Bradford score as well as baseline absence. The motivation for measuring the intervention's impact on the Bradford score is the principle that many, repeated sickness absences have a greater operational impact than fewer, long term spells sickness absences of the same total number of days. Therefore, we will also analyse whether the intervention has an impact on sickness absence in shorter spells of sickness. However, as spells of absence are not recorded in all local authorities, we will only do this for LAs that routinely capture this data.

The Bradford score (B) is calculated as follows:

$S^2 \times D = B$

where S is the number of spells of sickness absence, and D is the number of days of sickness absence.

Contextual Factors Analysis

We do not think this is applicable here, because these are light-touch behavioural interventions which are directed at individual social workers and teams rather than whole-system changes. We will provide a qualitative description of the LAs involved and why the interventions were chosen as part of the final report.

Local authorities did have to volunteer to be part of the trial and all but one LA was in an area with higher levels of deprivation than the national average. In terms of the intervention: the intervention interacts with prior experience with the employer, family life and demographic characteristics of the social workers. However, we do not have the sample size or data collection ability to usefully measure these interactions.

Implementation and process evaluation

As this is a light-touch intervention, we will not conduct a formal IPE. However, in the wellbeing surveys we will ask participants whether they engaged with the goal setting programme and how often they actually completed the weekly goal-setting modules.

We will ask this after the wellbeing measures and prevent people from going backwards to edit their earlier survey responses, so that responses to the compliance questions do not affect the wellbeing measures.

Cost-benefit analysis

We will calculate the fiscal benefit cost ratio of the intervention for the duration of the intervention with no lag:

Benefit / cost ratio = (Reduction in Absence * Social worker salary + Reduction in Turnover * Turnover Costs) / (Intended Goal-setting time*Social worker salary)

We are assuming that the interventions work as intended for measuring costs, as a conservative measure.

The CI for the ratio is:

CI for Benefit / cost ratio = (CI for Reduction in Absence * Social worker salary + CI for Reduction in Turnover * Turnover Costs) / (Intended Goal-setting time * Social worker salary)

Goal-setting would be equivalent to 11.75 days (2 days a week for 6 months). Social worker salaries are on average £28,500. If a social worker leaves, we have missing data for their number of days of absence had they stayed and will use that rate to calculate for how many days they would have been busy had they stayed. We will add to that the average cost of replacing a social worker (agency time to cover their work meanwhile and the cost of recruitment) (sourced from the local authority). We need to account for the non-zero cost had they stayed: we will subtract the cost calculated on the basis of the assumed same level of absence as before they left.

We focus on the fiscal cost benefit and do not conduct a full economic valuation including the economic and social benefits. The fiscal benefits are likely to be cashable if the equivalent is hiring agency workers. The cost-benefit analysis ignores Bradford scores, as it measures only fiscal impact and not organisational.

We will compare these to the other HHP interventions, and conduct pairwise t-tests on whether there are statistically significant differences.

Ethics & Participation

The Social Worker Goals and Wellbeing Programme was designed to be a light-touch intervention, requiring roughly only half an hour of participants' time over six weeks. It does not require the introduction of new processes within local authorities, and therefore there is little chance of disruption of services. There is also very little potential for the content of the intervention to distress participants.

No children will be directly impacted by the intervention, though it is possible that improvements to social worker wellbeing, and subsequently reductions in social worker sickness absence and turnover might improve the service provided to children and families in contact with children's services in the participating local authorities. For these reasons, the decision was made not to put the trial to an ethics board.

Registration

We will pre-register the protocols on OSF (https://osf.io/registries) .

Data protection

We will gather data in two main ways:

- Administrative data on absence, turnover, relevant demographic information and an anonymised team ID - individuals are identified via a meaningless identifier;
- A survey filled in by social workers - individuals are identified using their first and surnames and email addresses.

Our processing of pseudo-anonymised administrative data is done on the basis of legitimate interest. What Works for Children's Social Care is tasked with produce useful evidence for the sector, and therefore has a legitimate interest in processing the administrative data to understand the effectiveness of interventions on the wellbeing amongst social workers with a view to disseminating this information more widely within the sector.

We will seek opt-in informed consent as our legal basis to process the survey data and allow for matching to administrative data. This is necessary because of the need to match pre- and post-intervention survey data in a way which is not too much of an administrative burden to social workers (meaningless identifiers are unlikely to be remembered between the pre- and post-intervention surveys). Immediate identifiers will be stored by the local authority separately from the trial data and destroyed 6 months after the completion of the publication of the final report.

We are able to match survey responses from unique identifiers produced by the survey platform to the meaningless identifiers produced by the local authorities, allowing us to conduct regression analyses on both administrative and survey data.

Personnel

Delivery team:

- Michael Sanders, Executive Director at the What Works for Children's Social Care
- Ashley Whillans; Assistant Professor at Harvard Business School
- Shibeal O'Flaherty, Researcher at the What Works for Children's Social Care and Research Fellow at University College London: intervention design including co-development with local authority partners.
- Chris Mitchell, Researcher at the What Works for Children's Social Care: overall project management, intervention development
- Charlotte Scholten, Assistant Programmes Manager at the What Works for Children's Social Care

- Louise Reid, Head of Programmes at the What Works for Children's Social Care

Evaluation team:

- Michael Sanders, Executive Director at the What Works for Children's Social Care
- Shibeal O'Flaherty, Researcher at the What Works for Children's Social Care and Research Fellow at University College London
- Chris Mitchell, Researcher at the What Works for Children's Social Care
- Elizabeth Castle, Head of Research at the What Works for Children's Social Care

Timeline

Dates	Activity	Staff responsible/ leading
08/07/2019	Trial launched in first local authority	Chris Mitchell, Dan Gibbons, Louise Reid, Charlotte Scholten
28/10/2019	Trial launched in final local authority.	Chris Mitchel, Theo Stopard, Shibeal O'Flaherty
October - December 2019	Interim data collection	Chris Mitchel, Theo Stopard, Shibeal O'Flaherty
December - January 2019	Interim data analysis	Chris Mitchell, Shibeal O'Flaherty
Jan - March 2020	Endline data collection	Chris Mitchel, Theo Stopard, Shibeal O'Flaherty
March 2020	Endline data analysis	Chris Mitchell, Shibeal O'Flaherty
March 2020	Endline results published	Chris Mitchell, Shibeal O'Flaherty, Michael Sanders, Elizabeth Castle

Risks and Mitigation

Risk	Mitigation
Social workers do not really feel like they are expected/allowed to protect time for the programme	Calendar invites to staff accounts to increase sense of 'licence' from manager / senior staff
Urgency of other social worker tasks doesn't allow time to dedicate to the programme (non-compliance)	Prompt emails to participants in intervention group from local authorities after 3 weeks, reminding them to engage with programme if they haven't found the time to so far.
Social workers fail to embed programme into	Introduction to programme emphasises that they

weekly routine and 'drop off' shortly after starting.	can come back to the programme if they miss a week through other priorities or annual leave
Management sceptical about likely effectiveness of programme	Flashcards to explain the rationale behind the programme and how it could benefit their team
Data is not returned by local authorities	We will follow up with LAs via email and phone to ensure that they return the data, however there is a degree to which this cannot be mitigated.
Wellbeing survey is not filled out	Incentives provided to motivate survey completion. Social worker teams in which everybody completes the survey will be entered into a draw to win vouchers in a competition within their local authority.
Treatment group receive the intervention	Local authorities given clear information of which teams are in the intervention group, and instructions for how the programme is introduced to team by their managers.
Workload is a pre-existing issue and the intervention could increase stress as it is an additional task.	Materials are optional to complete and are designed to be flexible.
Social workers may not be able to identify achievable goals and this may be demoralising.	Suggestions for goals to set, relating to their lives in and outside of work, will be provided.

Dissemination policy

The Centre publicly commits to publishing the full results of this research on its website, and to explain any deviations from the methods in here fully (which may need to occur if the trial does not run as intended).

Protocol amendments

The following amendments have been made to this trial protocol:

Participating local authorities, sample size and MDES (pg. 9)

Of the original participants listed in the first trial protocol, Darlington opted to withdraw from the project citing concerns with staff capacity that the programme might bring. However, four additional local authorities (Bromley, Wolverhampton, Solihull and Greenwich) were subsequently recruited to take part in the research. At time of re-publication, two further local authorities may still join the research.

Subsequently, estimated sample size (before attrition) has been increased from 1300 to 1850, and the resulting reduced MDES for sickness absence and turnover are reported.

General Principles (pg. 12)

Additional details regarding our strategy for how to impute missing data (at baseline and analysis) - and how to deal with staff who leave over the course of the trial - have been added.

Data Protection (pg. 17)

Additional information regarding our lawful basis for data processing has been added.

Timeline (pg. 18)

A new projected timeline given launch dates in local authorities was added.

Appendix 1 - Wellbeing survey: Daily Experience of Social Workers

CONSENT INFORMATION/GDPR

Thank you for taking part in this survey! This contributes to exciting research led by What Works Centre for Children's Social Care (WWCCSC, hosted by Nesta) in collaboration with your local authority to help us improve wellbeing amongst social workers.

The purpose of the survey "Daily Experiences of Social Workers" is to understand more about your unique experience as a social worker, how this impacts on individual wellbeing, and from this exploring ways to improve social worker wellbeing.

We are only requesting data that is necessary for the purposes of this research. Your survey responses are anonymous, and will be matched via a unique code so that we can match your responses before and after the programme. Your unique code will also allow us to match your responses to administrative data. The WWCCSC will be unable to identify you from your answers. Your answers will be analysed by the research team at the WWCCSC, and all data will be deleted 12 months after analysis and quality assurance is complete.

If you have any questions after you have completed the survey, and/or later decide that you do not want to participate in this research, and/or you would like your responses to be deleted or rectified, please contact the research team by emailing Shibeal O' Flaherty, Researcher at the WWCCSC: shibeal.oflaherty@nesta.org.uk.

The WWCCSC can be contacted at:

The What Works Centre for Children's Social Care
58 Victoria Embankment
London
EC4Y 0DS

Email: wwccsc@nesta.org.uk
Telephone: 02073601208

Clicking on the "agree" button below indicates that:

You have read the above information
You voluntarily agree to participate in the research

Note: If you do not wish to participate, please decline participation by clicking on the "disagree" button.

Agree to participate in the research
Do not agree to participate in the research

Section 1: Subjective Wellbeing Questions

Q1. Subjective Well-Being

Overall life happiness (1-item) [14]

Taking all things together, how happy would you say you are?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Extremely

Cantril Ladder[15]

Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.

If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time? (Please circle your response).

0	1	2	3	4	5	6	7	8	9	10
Bottom Step										Top Step

PANAS (Schedule for Positive and Negative Affect)[16]

Please think about what you have been doing and experiencing during the past four weeks. Then report how much you experienced each of the following feelings, using the scale below. For each item, select a number from 1 to 5, and indicate that number on your response sheet.

1	2	3	4	5
Very rarely/never	Rarely	Sometimes	Often	Very often/always

[14] Jowell, R. (2007). European Social Survey 2006/2007. Round 3: Technical Report. City University, Centre for Comparative Social Surveys, London.
[15] Cantril, H. (1965). Pattern of human concerns. New Brunswick, NJ: Rutgers University Press.
[16] Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2009). New well-being measures: Short scales to assess flourishing and positive and negative feelings. Social Indicators Research, 97(2), 143-156.

Positive
Negative
Good
Bad
Pleasant
Unpleasant

Q2. Turnover Intentions[17]

Indicate to what extent you agree with the following statements. Use the following scale to record your answers.

(7-point scale: Do not agree at all 1, Very Slightly Agree 2, Slightly Agree 3, Moderately Agree 4, Mostly Agree 5, Strongly Agree 6, Very Strongly Agree 7).

1. I think a lot about leaving the organization.
2. I am actively searching for an alternative to the organization.
3. As soon as possible, I will leave the organization.

Q3. Job Satisfaction[18]

Below are two items with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item. *Please circle the relevant number with each question.*

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewh at agree	Agree	Strongly agree
In most ways, my job is close to my ideal.	1	2	3	4	5	6	7
I am satisfied with my job.	1	2	3	4	5	6	7

[17] Cohen, A. (1993b). Work commitment in relation to withdrawal intentions and union effectiveness. Journal of Business Research. 26, 75-90.
[18] Adapted from Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75.

Q4. Work-Related Basic Need Satisfaction (9-item)[19]

The following statements concern your experiences at work. Please indicate to what extent you agree with these statements.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. I feel like I can be myself at my job.
2. The tasks I have to do at work are in line with what I really want to do.
3. I feel free to do my job the way I think it could best be done.
4. I really master my tasks at my job.
5. I feel competent at my job.
6. I am good at the things I do in my job.
7. I have the feeling that I can even accomplish the most difficult tasks at work.
8. At work, I feel part of a group.
9. At work, I can talk with people about things that really matter to me.
10. Some people I work with are close friends of mine.

Q5. Burnout[20]

Please think about your experience at your job during the past four weeks. Then, indicate how much you experienced each of the following states, using the scale below.

	Never	Very rarely	Rarely	Occasionally	Frequently	Very frequently
	1	2	3	4	5	6

[19] Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981-1002.

[20] Bacharach, Samuel B., Bamberger, Peter, & Conley, Sharon. (1991). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. Journal of Organizational Behavior, Vol 12(1), 39-53. doi: 10.1002/job.4030120104

Periods of fatigue when you couldn't 'get going'	
Being tired	
Being physically exhausted	
Being emotionally exhausted	
Feeling 'burned out'	
Being 'wiped out'	
Feeling 'run down'	
Being weary	

Q6. Time Pressure[21]

Please read each of the following statements carefully. Use the scale provided to indicate how much you agree with each statement (1-7 scale, strongly disagree-strongly agree):

- There have not been enough minutes in the day.
- I have felt like things have been really hectic.

Section 2: Demographics

Q1. Age

What is your age?

Q2. Marital status

What is your marital status?

- Married/domestic partner
- Widowed
- Divorced
- Separated
- Single/never married
- Prefer not to say

Q3. Number of children

[21] Adapted from Kasser, T., & Sheldon, K. M. (2009). Time affluence as a path toward personal happiness and ethical business practice: Empirical evidence from four studies. *Journal of Business Ethics*, *84*(2), 243-255.

How many children do you have who currently live at home with you?

- 0
- 1
- 2
- 3
- 4 or more
- Prefer not to say

Q4. General Health[22]

In general, how would you rate your health?

- Excellent
- Good
- Fair
- Poor

Q5. Contract Length

On which of the following basis are you employed?

- On a permanent contract
- On a fixed term or temporary contract
- Via an agency

Q6. Overtime Worked

On average, how many extra hours (above your contracted hours) do you work per week?
(Insert number from 0)

If so, how many on average per week?

Q7. Caseload

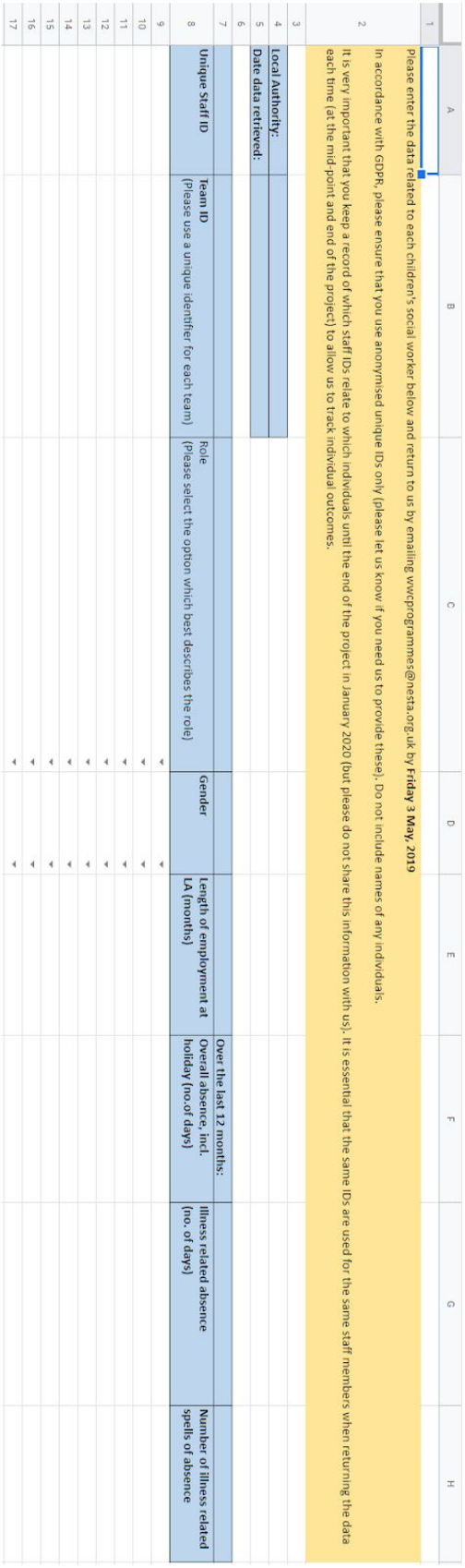
Do you feel your caseload is manageable? Please use the scale provided to indicate your answer.
(7-point scale where 1=not at all, 7=completely)

Q8. Additional Comments

Thank you for your time. If you have any thoughts about the study, you can provide them in the space below.

[22] DeSalvo, K. B., Fisher, W. P., Tran, K., Bloser, N., Merrill, W., & Peabody, J. (2006). Assessing measurement properties of two single-item general health measures. *Quality of Life Research*, *15*(2), 191-201.

Appendix 2 - Baseline administrative data returned by LAs



Please enter the data related to each children's social worker below and return to us by emailing wwcprogrammes@nesta.org.uk by **Friday 3 May, 2019**

In accordance with GDPR, please ensure that you use anonymised unique IDs only (please let us know if you need us to provide these). Do not include names of any individuals.

It is very important that you keep a record of which staff IDs relate to which individuals until the end of the project in January 2020 (but please do not share this information with us). It is essential that the same IDs are used for the same staff members when returning the data each time (at the mid-point and end of the project) to allow us to track individual outcomes.

Local Authority:	
Date data retrieved:	

Unique Staff ID	Team ID (Please use a unique identifier for each team)	Role (Please select the option which best describes the role)	Gender	Length of employment at LA (months)	Over the last 12 months: Overall absence, incl. holiday (no.of days)	Illness related absence (no. of days)	Number of illness related spells of absence