ADVICE TO THE CHILDREN'S SOCIETY ON DATA COLLECTION FOR ECONOMIC EVALUATION OF RUNAWAYS SERVICES*

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INTRODUCTION

Charles River Associates (CRA) was pleased to advise The Children's Society (TCS) on the collection of data for the future economic evaluation of their services for children and young people. CRA's engagement with TCS is *pro bono publico* and was facilitated by Pro Bono Economics (PBE).

The primary aim of this project was for CRA to advise TCS on the collection of data, to enable TCS to conduct robust statistical analyses of the economic impact of their services. In particular, CRA was asked to assess TCS's current data collection practices for their runaways services, and make recommendations as to how these could be improved. CRA and TCS held several meetings and discussions, during which TCS explained in some detail how their runaways services work and how data are currently collected.

While CRA's advice is thus specific to TCS (and in particular its runaways services) – and at this stage no substantive economic or statistical analyses of outcomes have been performed – it is nonetheless understood that CRA's recommendations may be of interest to other voluntary and community sector organisations which are engaging in data collection with the aim of performing ex-post economic evaluations of the interventions that they provide. On this basis, this note provides a summary of CRA's advice to TCS.

This note is structured as follows: In Section 1, we first outline TCS's services for runaway children and young people and in particular how data are being collected at present. This section is based on information provided by TCS to CRA. As well as setting the context for the following recommendations, this section also highlights that considerable efforts have already been made by TCS to collect data in a consistent and comprehensive way. Section 2 then discusses the general framework for the analysis of effects and touches upon important conceptual limitations that are likely to arise based on CRA's experience in data analysis.[1] In Section 3, we set out CRA's recommendations for data collection by TCS, based on the factual background provided.

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1 We note that the specific techniques that can ultimately be applied are complex and will depend on how much data can be collected and on the quality of such data. We therefore limit ourselves to a discussion at a fairly general level.

1. CONTEXT: TCS RUNAWAYS SERVICES AND CURRENT DATA COLLECTION APPROACH

TCS currently have six programmes that work with children and young people who have run away from home or care as part of their wider portfolio of services. These programmes are located in Birmingham, Lancashire, London, Newcastle upon Tyne, Greater Manchester and Devon. The runaways services are targeted at children and young people up to the age of 17, mostly focusing on looked-after children and young people. Some of their services provide complementary group services and parenting or family support.

TCS runaways services are targeted to improve the overall situation of a child or young person who has gone missing, or targeted to prevent a child or young person who is at risk of running away from doing so. More specifically, TCS's immediate aim is to stop the child or young person from going missing in the future. Missing episodes can have direct negative side effects – such as abuse of the child or young person while away, involvement in crime while away, the dangers involved in sleeping rough, etc. – and the corresponding costs to society. Furthermore, missing episodes can be an indicator for deeper problems in a child's or young person's life. In that case, TCS services aim to positively impact on these problems, where appropriate also in contact with the family, and to direct the child or young person towards more specialised services where required.

In each of TCS's programmes for runaways, children and young people who have gone missing – and in Lancashire, London and Greater Manchester also those who are at risk of running away – would usually be referred to TCS by another body (e.g. by the police), although there are also referrals by parents/guardians and self-referrals. Practitioners at TCS would then have an initial meeting with the child or young person followed by further meetings as required - whilst at the same time liaising with other 'interested parties' (e.g. parents / carers, school, children's services, etc.). Progress of the intervention is recorded at regular intervals. During the regular meetings the practitioner would try to address specific issues with the child or young person. The intervention can end for a variety of reasons: in the best case, the situation of the child or young person has improved to a point where both the child or young person and TCS feel that further sessions are no longer required; however, it is also possible that the intervention ends because the child or young person refuses to engage with TCS, has moved away, etc.

TCS is currently in the process of refining a data collection and monitoring system, "CHYMS", which practitioners use to record data on each child or young person with whom TCS are in contact. This refinement is intended to unify the differing recording practices by various TCS programmes, enabling more effective monitoring and evaluation of all TCS interventions, while at the same time providing a degree of flexibility to each project manager and practitioner to record what is relevant to her or his specific case. In essence, CHYMS represents an electronic version of a basic case file for each child or young person, allowing for easy measurement of service outputs and facilitating the tracking of progress against various desired outcomes.

At the outset of the design of a new service, the programme manager and her/his team agree on a profile (known as a 'service description') for the service which is then set up in CHYMS. This describes, among other things, who it is targeted to, what behaviours it is targeted at, the main types of intervention provided, etc. The service description also establishes a set of core outcomes (from a wide, generic framework that is available within the system) which will be rated and assessed over time by the practitioner responsible for the 'case' for every child or young person who engages with the service. The set of core outcomes can be tailored to accommodate the different needs for each service, and, as a consequence, vary across programmes.

When a new young service user engages with the programme, they are 'registered' to that particular service, then some key monitoring data is recorded by the practitioner in CHYMS. (This element is common to all services working directly with children or young people.) The referral time, source and reason for the referral are all logged. Then, at the time of first contact with the child or young person, the practitioner in charge records her/his basic characteristics and circumstances. (We will refer to these as "characteristics" in the following.) The practitioner can choose relevant characteristics within several broader categories (e.g. educational background), where as several characteristics within these categories are mandatory.[2] If characteristics were not known to the practitioner at the outset of the 'case', CHYMS will prompt the worker to update these later on.

In addition to the child's or young person's characteristics, the practitioner also records a benchmark for each of the core outcomes which have been chosen for this service before any service has been administered. Later, as the work progresses, the practitioner is regularly prompted to record changes – assessed against the last time they reviewed the work. Recording is usually every 3 months, which is the maximum period allowed by CHYMS. The minimum time between recordings is four weeks. Project managers and teams set this reviewing period depending on the circumstances of a specific case. There are typically five options for assessing the change in a specific area: *much better, better, same, worse, much worse*. The absolute levels of these outcomes are once again recorded at the end of an intervention, to cross check how changes relate to the initial assessment. Also, at the start/benchmark assessment and at the end point, practitioners are asked to record some qualitative detail to explain their rating against the scale provided.

2. GENERAL FRAMEWORK FOR AN EFFECTS ANALYSIS

2.1. From outcome measures to net economic benefit

Ultimately, the aim of this project was for CRA to provide advice so that TCS is able to evaluate the net economic benefit of its services to children and young people. Such an analysis requires a comparison of the gross economic benefits of the services (measured as a monetary value) with the costs of providing these services.

The measurement of the (gross) monetary benefit of services requires two steps:

- First, one must measure the effect of the services in terms of directly measurable outcomes. For example, the effect that participating in a specific programme has on a young person's likelihood of running away in the future, his or her general wellbeing, educational attainment, etc.
- Second, one must attach a monetary value to these outcomes (e.g. what is the economic benefit of a given reduction in runaway incidents).

This note focuses on the first step above, i.e. it is intended to help TCS collect data that will provide a reasonable basis for TCS to measure the effect of its services on certain directly measurable outcomes.

In order to "monetise" the direct effect on outcomes, step 2 above, it may be necessary for TCS to rely on third party estimates on the economic benefit of each of a range of outcomes, such as academic studies and real world cost estimates (e.g. cost savings to the police as a result of fewer runaway

[2] In addition there are optional monitoring questions with sections which can be customised by the programme manager. Further thematic sections, for example on disabled children or young people, are available if applicable.

incidents etc.). For this purpose, it is useful to investigate the range of outcome measures which have been monetised by third party research and the extent to which such third party estimates seem sensible. Outcomes which can be reliably monetised can then be included in the data collection process.

Once the *gross* monetary benefit has been estimated, the *net* monetary benefit can be obtained by comparing the gross benefit with the costs of providing this service. The main question that typically arises in relation to cost measurement is how to allocate the common costs of services to specific interventions.

In the next subsection we discuss important conceptual issues in the measurement of the effect of interventions on direct outcomes (step 1 above).[3]

2.2. Measuring the effect of direct outcomes and the counterfactual problem

There is a variety of techniques that might be used to measure the effect of an intervention on outcomes. These range from simple averages to more involved methods including different types of regression analysis. More involved techniques can be useful to go beyond simple comparisons of averages as they allow one to control for effects which are not affected by the intervention, i.e., in this case, person-specific effects which are inherent in the child or young person and/or beyond the control of TCS (such as age, gender, whether the child or young person is looked-after, etc.)

For all such techniques, the effect of an intervention on a child or young person can be conceptually defined as the difference between his/her situation *after* the intervention and the situation in which he/she would have found him- or herself in, *in the absence of* the intervention. The latter is called the "counterfactual" or "but-for" situation, as it reflects the situation that one would have observed "but for" the intervention.

The key problem with the counterfactual is that, by definition, it cannot be directly observed as it relates to a situation that did not occur. Therefore, it needs to be constructed in some way. This inevitably requires certain assumptions and, ideally, additional data.

For example, one might *assume* that in the absence of the intervention the situation of the child or young person would have remained the same as prior to the intervention. Under this assumption one requires data on the situation of a child or young person immediately prior to the intervention in addition to data on outcomes post-intervention. Under this simple assumption for the counterfactual, the effect of the intervention is then the entire *change in outcomes* before and after the intervention. The advantage of this approach is that data on outcomes before the start of an intervention are relatively easily available (they can be recorded at first contact).

However, if the child's or young person's situation would have evolved even without an intervention, simply looking at the change in outcomes before and after the intervention might over- or under-state the effect of the intervention. For example, we understand that many children and young people only go missing from home or care once and therefore the intervention might only have a minor effect, if at all (because the child's or young person's missing episodes would have stopped even without the intervention). Only a small group of supported children and young people are actually prone to go missing repeatedly, and it is for these that intervention could have a stronger effect.

3 The specific techniques that can ultimately be applied are complex and will depend on how much data can be collected and on the quality of such data. We therefore limit ourselves to a discussion at a fairly general level.

A standard method for *estimating* the counterfactual situation that can accommodate changes in outcomes that are unrelated to the intervention is to use a "control group" of cases that are similar to the child or young person at the start of the intervention but that have not been through the intervention. However such a control group is not easily available. A "proper" control group approach requires controlled randomised interventions: this would imply that TCS randomly refuses support to some children and young people that are referred to it. Such an approach would be unethical and would not be appropriate for TCS.

An important caveat with respect to the measurement of the effect of an intervention on direct outcomes in the current case (and likely in other similar instances) is therefore that the standard control group approach cannot be applied as because support is not randomised and because of a lack of data on children and young people that could act as a control group because, by definition, the data collected by TCS services are limited to children and young people who receive support.

Where a proper control group does not exist, one may have to accept that the measured effects of an intervention *crucially depend on the assumptions for the counterfactual*. For example, using a simple comparison of the child's or young person's situation before and after the intervention to shed light on the effect of TCS's intervention implicitly assumes that the average child's or young person's situation would not have materially improved absent the TCS intervention. By splitting children and young people into subgroups (looked-after/not looked after, severely affected cases, by locality, etc.), one might be able to refine somewhat the results of such a simple comparison.

It might also be possible to use information from other sources to motivate or justify specific assumptions on the counterfactual. For example, for the current purposes there might be public records on runaway incidences and repeated running away in different areas with and without runaways services. Waiting lists, which might have to be operated by an organisation if there is insufficient funding or unusually high demand at certain times might be another source for observing what might have happened without an intervention. The value of such alternative sources of data, of course, depends crucially on the details of such data. While our recommendations below focus on internal data collection, we suggest that available external data sources should be explored for comparison.

3. RECOMMENDATIONS FOR DATA COLLECTION

The recommendations for collecting data for TCS runaways services set out in this section are based on CRA's experience, as empirical economists, of analysing similar data – and the specific context of TCS's runaways services. The recommendations are intended to help ensure that the data collected will be useful for a*n economic measurement of the effects of an intervention* by TCS on a child or young person *with respect to certain measurable outcomes* (while bearing in mind certain conceptual limitations discussed above).

Data required for an ex-post economic assessment of the effect of an intervention may well differ from the information a social worker would want to rely on during an intervention. TCS may therefore have to strike a balance between the two objectives.

The current recommendations focus on TCS's runaways services as an example. However, the headline recommendations are valid more generally for measuring the outcomes of interventions and are therefore in principal applicable to other services provided by TCS and might be applicable for other organisations as well.

A. BASIC CONCEPTS

1. Focus on a short list of mandatory measures

Every child or young person case is different and a long list of initial characteristics and progress measures can help account for the complexity of a case. However, the amount of measures that can be included in an empirical analysis of data is in practice limited unless the number of observations is very large (i.e. in the thousands). Moreover, when the list of questions in a questionnaire becomes too long there is a temptation for practitioners to answer each question quickly and less diligently than when the length of the questionnaire is limited.

We therefore recommend focusing on a relatively short list of core measures to be collected. This applies both to the child's or young person's characteristics as well as to outcomes. We also recommend that entering scores for these core measures are made mandatory.[4]

Information on previous data collection exercises can be used to understand which questions are typically answered and where practitioners seem to have more difficulties.

2. Collect data consistently over time

Equally, the priority for TCS is to engage with the individual child or young person instead of being as accurate as possible with the statistical data. This could mean that interventions cannot be always administered in the same way. Also it might be difficult to always capture changes in a child's or young person's characteristics in a timely fashion as other issues might have priority.

However, we believe, that the practitioner should still do reviews at regular intervals. If a service could not be provided up to this point, this should be recorded. Equally, the practitioner should review the basic characteristics at regular intervals to ensure that they still corresponding to the child's or young person's actual situation. Any changes that are recorded to the basic characteristics should be marked as changes, so that the situation at the start of the intervention can still be accessed. On the other hand, if the update concerns a correction, this should not be marked as a change.

3. Collect same core measures across all services with comparable service provision

Generally, empirical data analyses yield more reliable results the larger the amount of data on which they are based. Collecting data on the same set of core measures – both characteristics and outcomes – across all of TCS's services for runaway children and young people helps build up a sizeable dataset more quickly as data collected by different services can be pooled. Note, this assumes that the services are sufficiently comparable, e.g. even though they might be carried out in different localities by different practitioners these have a common understanding on how the service should be administered. It also allows comparisons across services in different locations.

We therefore recommend collecting data on the same set of mandatory core measures across all of TCS's runaways services (using identical questions and recording practices for these core measures).

To the extent that different programmes need to record different outcomes of progress measures, we suggest that such programme-specific data are collected in addition to the consistent core measures rather than instead of the core measures. However, we would recommend that the practitioner should only be given the option to turn to these once the mandatory questions have been completed.

[4] For the basic characteristics such as age, gender, ethnicity, we would avoid the option "not available" and instead let the practitioner insert her/his best guess if data not available (noting if the answer is unverified).

B. SPECIFIC VARIABLES

4. Ensure recording of characteristics of a child or young person and their past history

The reaction by a child or young person to an intervention may well systematically differ across different groups of children and young people. To account for such differences in the analysis, it is necessary that the most important observable characteristics be recorded. For the same reason, any change in these characteristics over the course of the intervention should also be recorded.[5] Relevant information in this respect are characteristics such as age, gender, ethnicity etc. as well as information on the child's or young person's history, such as previous runaway incidences, past interventions, reasons for referral etc.

We would first suggest a review of the existing data on characteristics. If this review reveals differences in recording practices across practitioners or programmes and/or that certain characteristics are often not recorded at all, we would suggest limiting the list of characteristics to be recorded to the most essential characteristics and those which are easy to observe.

5. Include information on the intervention received by a child or young person

a. Record scope and length of the intervention received by a child or young person

We understand that different children and young people receive different types and lengths of intervention from TCS's runaways programmes. Moreover, some of them might receive additional TCS services, such as group or family related services in addition to targeted individual support. Children and young people with more severe problems might also be referred to more specialised charities, which interact with the child or young person at the same time as TCS. Such differences in interventions should be recorded to preserve the option of accounting for them in a later effects measurement.[6]

In addition to the number of times the child or young person has been in contact with TCS, we would recommend that TCS records the main purpose of each contact (ideally choosing from a drop down menu of a limited set of options), and the length of the contact. TCS should also record if a child or young person is participating in other TCS services such as group services and family support.

b. Record the reason(s) for closing a file

We understand that contact with a child or young person can stop for various reasons. For an ex-post evaluation, it is important to understand why files are closed, because one needs to distinguish between records where the intervention was brought to a successful conclusion from (e.g.) instances where the file was closed because the child or young person moved away or failed to engage with the programme.

We therefore recommend that the reason of an end of contact be systematically recorded, including a choice from a limited set of options (and also further details as desired).

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5 We note that there will likely be characteristics which are correlated with the child's or young person's reaction to the intervention but which are difficult or impossible to measure. For example, the child or young person's responsiveness to the intervention and his/her risk of running away might be affected by other 'softer' factors which are difficult to observe (e.g. family situation, personal character, personal experiences). 'Proxy' information, which is correlated with these factors (e.g. information in the child's or young person's history such as involvement with crime or family issues) might be useful in shedding at least some light onto such factors.

6 We note however, that the type of intervention may well be correlated with (unobservable) characteristics of the child or young person (e.g. more severe and possibly harder to treat cases are more likely to receive longer interventions). This represents additional challenges for the effects measurement.

c. Record intervention(s) by other services at the same time

It might well be that the child or young person is in contact with other services/organisations at the same time as he/she deals with TCS.

In order to isolate the effect TCS has on the child or young person, we recommend that TCS records information on her or his involvement with other services/organisations.

6. Choice of core output measures

We are not in a position to recommend a complete list of core output measures, as it is for TCS to decide what output measures are most relevant for their work with runaways. However, with a view to an economic ex-post evaluation *we would recommend that the measures to be selected:*

(i) *are easily "measurable" for all or most children and young people receiving intervention (*factual outcomes such as missing episodes are in general easier to measure than "softer" outcomes such as those relating to the child's or young person's awareness, motivation, or attitude)*;*

(ii) *are "monetisable" (*i.e. outcomes which we can associate directly with some benefit or cost)*;*

(iii) *have a clear and intuitive link to TCS's work.*

With this in mind, a key output measure for runaway children and young people would appear to be whether missing episodes persist or are still likely. Although missing episodes are no doubt often only a symptom of underlying problems, they appear to be a good indicator for whether the underlying issues have improved. They also have clear monetary implications (e.g. regarding police time).

There are also other measures which indicate the degree of impact of a given programme and which are monetisable. Recent studies looking at the economic benefit of programmes by other charities (e.g. the study by Gregory Thwaites of the Bank of England for Barnardos, under the umbrella of Pro Bono Economics) can provide useful starting points for TCS. Thus, in addition to missing episodes, other suitable measures might include: educational factors (including absenteeism/truancy and longer-term attainment); physical health factors, such as substance misuse; and mental health factors.

Ultimately, the choice of output measures to be collected needs to be based on considerations not only of whether they are monetisable but also whether they seem sensible measures for the services in question. However, the addition of measures that may be harder to link directly to the service and/or to monetise must be approached carefully: they should have a clear relation to TCS's work, and should not compromise recording of other core output measures that can be more easily monetised and are obviously relevant.