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Live CareerChat @Lockdown No. 5
The Career Development Landscape: Evidence and Impact Assessment

Dr Deirdre Hughes and Chris Percy

7th September 2020

WORDS

HAVE

POWER

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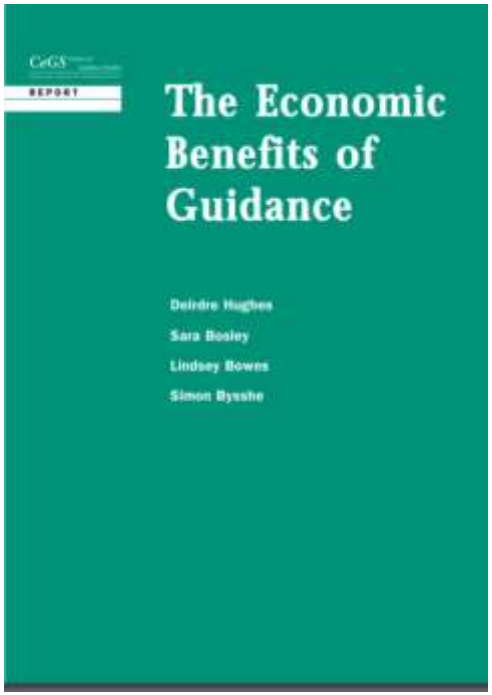
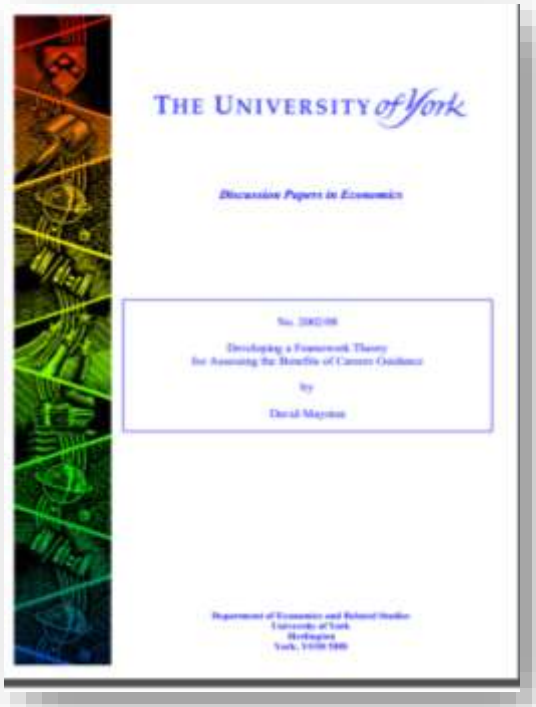
This webinar…

- examines key concepts, challenges and opportunities in relation to evidence and impact assessment in careers work
- introduces a brief ‘how to approach’ for impact assessment with some examples from youth and adult evaluations
- explores contemporary developments within the UK, European and international career development landscape
- provides an opportunity to identify new and emerging approaches to evidence and impact assessment within a Covid-19 context





Paper

ESTABLISHING NEW WAYS OF ASSESSING, MEASURING AND MAXIMISING THE EFFECTIVENESS OF INFORMATION, ADVICE AND GUIDANCE PROVISION FOR ADULTS

by

David Maynton, Deirdre Hughes & Geoff Gration

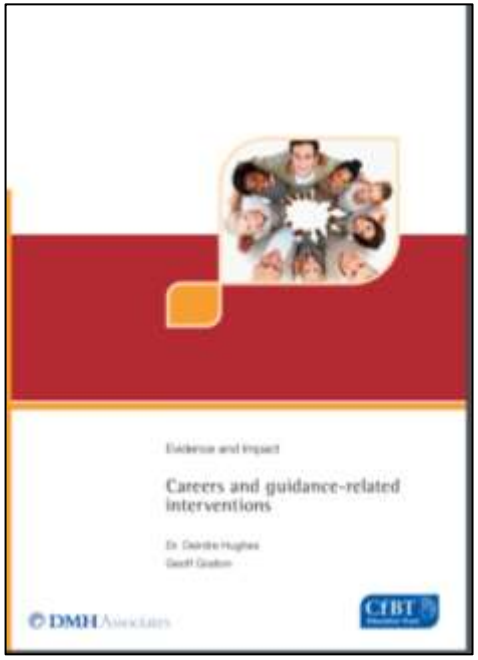
1. Introduction

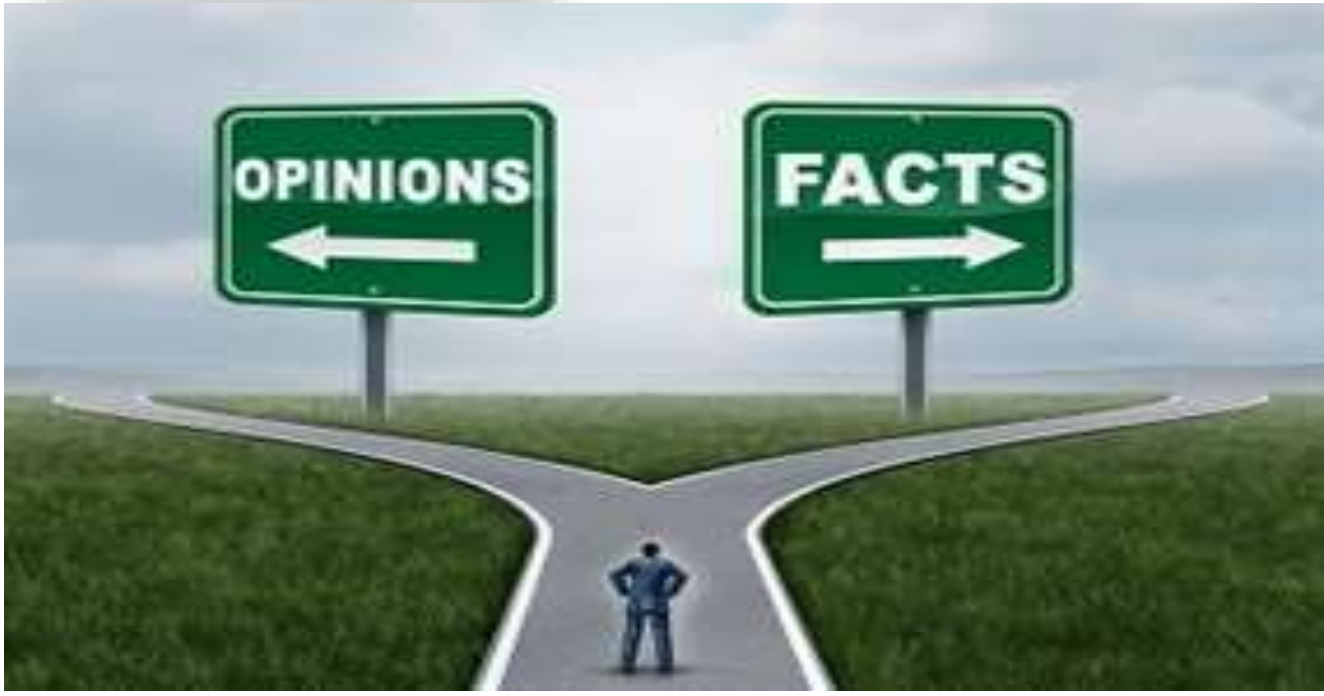
Although individual lifestyles vary, a common theme is a desire to improve one's 'quality of life' and to make the most of available resources[1]. This theme permeates throughout our society and is clearly evidenced in recent government policy developments[2] aimed at providing young people and adults with sufficient levels of information, advice and guidance to improve their access to both formal and informal post compulsory learning. Levels of investment in IAG services have increased significantly during the past decade[3] therefore it is hardly surprising that questions are being raised by policy-makers concerning the actual economic benefits of career guidance. However, much is to be understood about the nature of guidance, both its complexity and simplicity, and how, exactly, it contributes and provides 'added value' to individual, societal and UK economic goals[4]. There is a lack of compelling evidence regarding the nature of effective guidance and its benefits (Hughes et al, 2002 & Irving & Bates, 2001).

This paper seeks to explore and develop a new framework designed to capture and assess the economic benefits of career guidance for adults. It outlines the concept of '**ideal practice**' and reflects on early findings from a small-scale IAG pilot project based on assessing the existing '**state of impact and effectiveness measurement for the local IAG provision**' for adults in Northamptonshire. By identifying 'ideal practice' based upon first principles and then comparing the ideal with existing practice, progress can be made in:

- assessing the scope for **improving current policies and practices**.

[1] Eaton & Bailey (2000) suggest that an individual's career cannot be understood outside the individual's relationship with one or more persons, and their occupational concerns, as well as their personal needs and relationships.
[2] Connexions Annual Report 2001-2 (CSSO); National Learning & Skills Council Corporate Plan – Annex 2; IAG developments in Careers Scotland, Careers Wales and Careers Northern Ireland
[3] Irving, P. and Bates, A. (2002) *Evaluation of Adult Information, Advice and Guidance Partnerships*, East Midlands Development Agency: Nottingham.
[4] Peterson, J. (2002) *The Future of Guidance in the UK* Institute of Employment Research, University of Warwick





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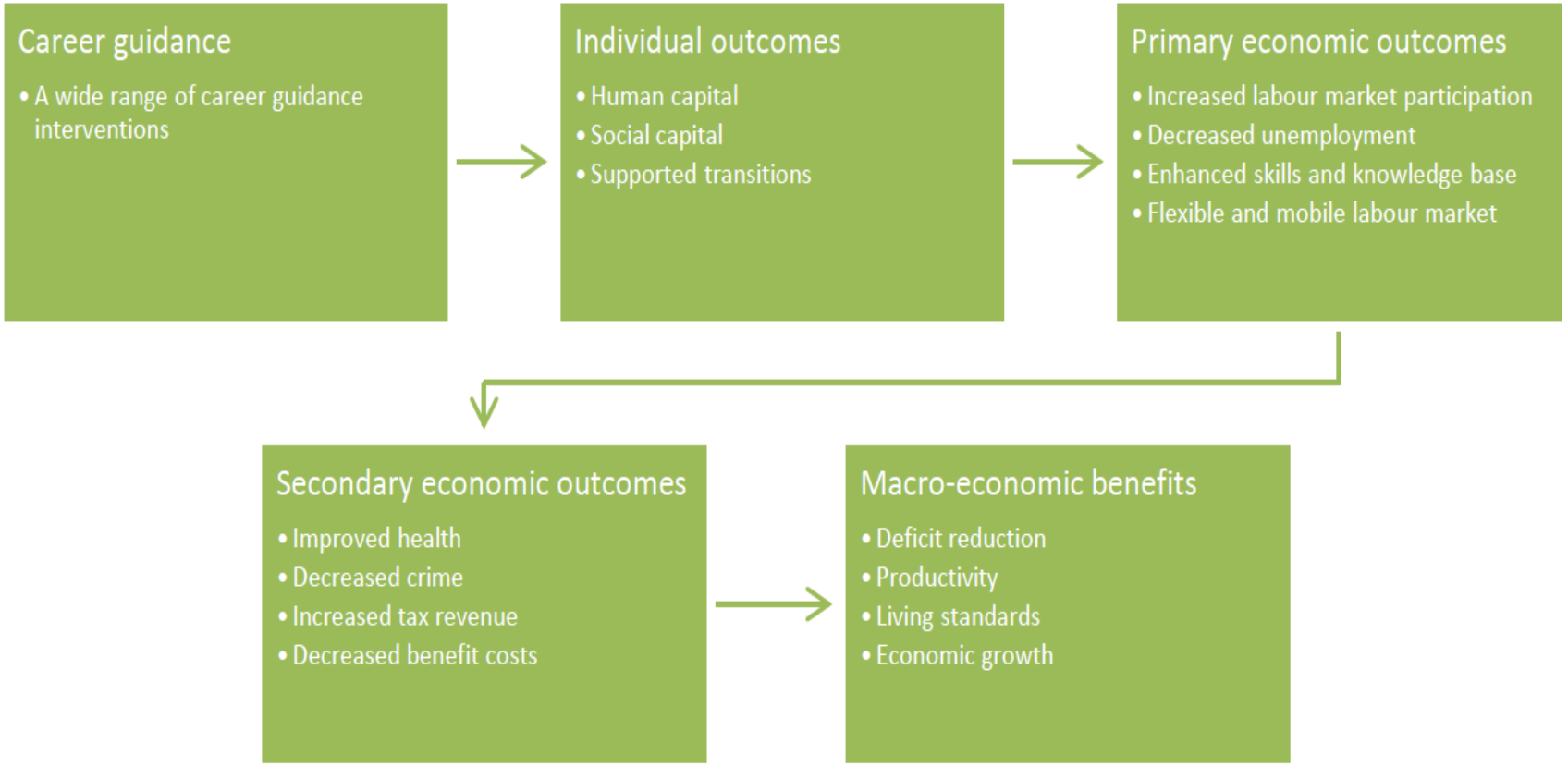
Different impacts of career development?



+ Non-economic outcomes: Support to personal, family, community and life ambitions; Wellbeing, sense of identity, resilience and agency; Lifelong learning empowerment; …

Career guidance impacts (Hooley & Dodd, 2015) based on original works – The Economic Benefits of Career Guidance

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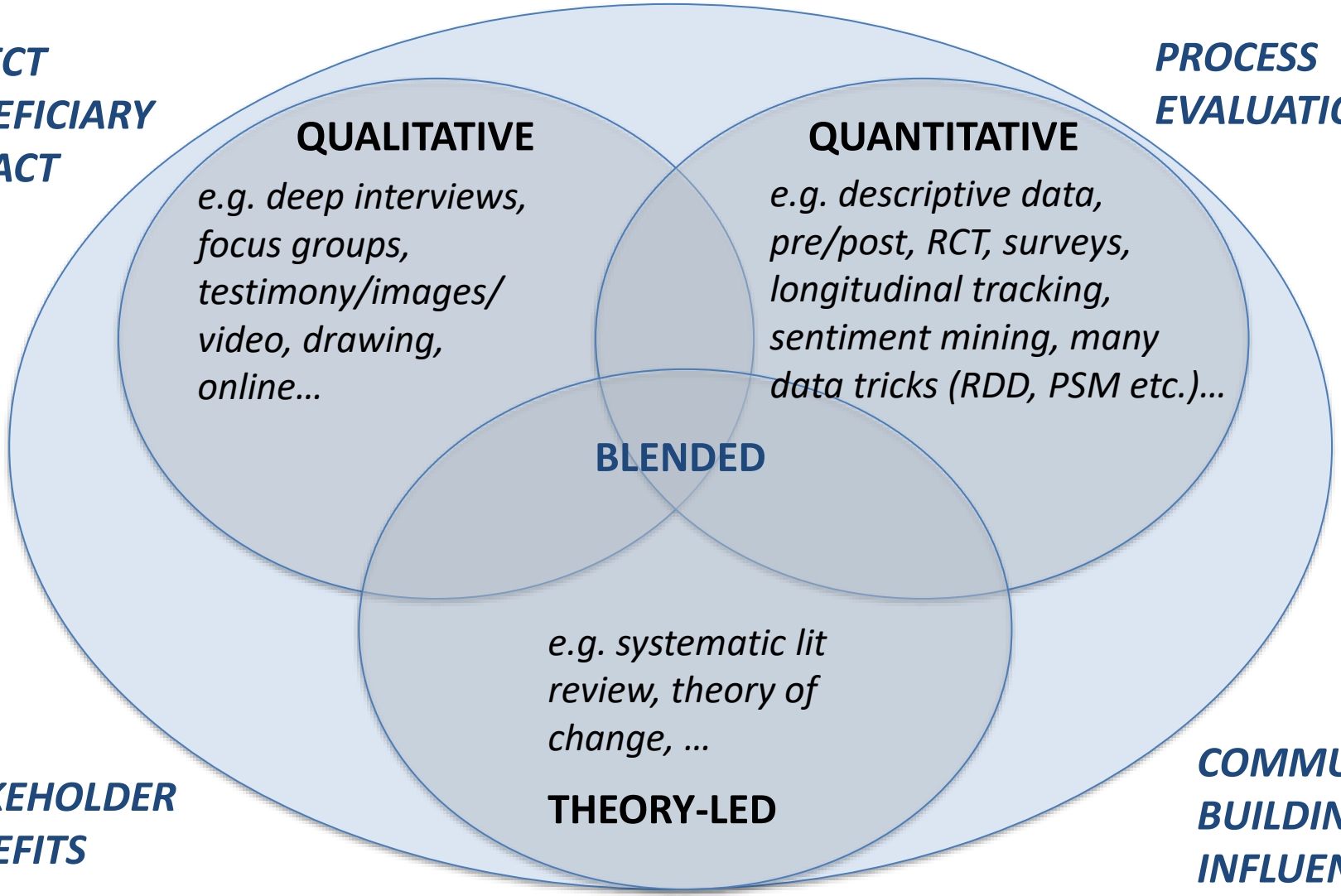
Techniques for impact assessment?



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Cannot do it justice…

"The harder the measure, the more it misses"

- **"Salary Increase"** → *Career development support to target more complex balance of time, money, flexibility, impact etc; support to enter careers with low market value; support to take a well-informed but risky move…*
- **"Welfare to Work"** → *But quality of work; sustainability of work; resilience to the next loss of work; life fit; ….?*
- **"Into Training"** → *But relevance of training; suitability for individual; quality and links to skills gain/employment; ….?*

Not an argument for ignoring hard measures, but does argue for not relying solely on them and for capturing more detail/context …

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Cannot do it justice… so why do we do it?

KPI Reporting for Management / Funders

Formative Assessment to Drive Improvement

Support Disciplined Approach to ToC

CBA / ROI for Funders

Improve Understanding for Future Work / Peers

Essential to remember any impact assessment (even multiple methods) is partial & imperfect – describe what is missing as well as what you capture

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Some principles

- **Proportionate** (e.g. cost, intrusiveness, control group ethics, appropriate to stage of project)
- **Purposeful** (e.g. designed for specific internal/external stakeholders and an understood cultural context)
- **Planned** (as thoughtfully and in advance as possible)
- **Presented as part of an M&E programme** (start with a draft, explicitly incomplete Theory of Change; be clear on whether it is “monitoring data” or “research evidence”; building a case not 100% proof)
- **Prior work exploitation** (What external evidence can it (or should it be designed to) connect into? What would stakeholders find persuasive?)
- **Self-aware** (e.g. what is missing, what perverse incentives might exist)

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Prior work to draw on?

- General economic framework drawing on human capital accumulation, as well as quality of life improvements and broader social benefits that flow from improved individual choices (Mayston, 2002)
- Longitudinal research 'What is Effective Guidance?':Adult Case Studies in England (Bimrose et al, 2002 - 2007)
- Impact and measurement issues for careers and guidance-related provision for young people, considering accountability and service design (Hughes and Gration, 2009)
- Synthesis of (mostly European) evidence on the impact of lifelong guidance, suggesting how policy-makers might want to make use of this evidence (Hooley, 2014)
- Education Endowment Foundation literature reviews of careers education impact for young people (Hughes et al, 2016) & employer engagement as a key activity within career guidance (Mann et al, 2018)
- Empirical evidence driving good practice features of career guidance and employer engagement (Musset & Kurekova, 2018; The Careers & Enterprise Company's "What Works" publication series)
- Financial metrics & limitations for impact at individual-, employer- and state-level (Percy & Dodd, 2020)
- **And many more (hundreds of studies)…**

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Some quant examples

School-to-work
Young people born in 1970 with ***better aligned ambitions*** (e.g. career vs. education plans) and ***lower career uncertainty*** at age 16 went on to ***earn 11%-17% more*** at 34 (Sabates et al, 2011)
Young people born in 1970 who had ***careers talks*** aged 14-15 ***earned more*** at age 26, e.g. 4% higher earnings for 5 extra talks – smaller effects aged 15-16 (Kashefpakdel & Percy, 2017)
Higher education participations in the UK had ~70% higher ***odds of dropping out of HE*** if they gave negative reports of their prior career guidance (McCulloch, 2014)
Schools/colleges holding the ***Quality in Careers Standard*** had 0.5%pt ***lower NEET rates*** and ***better GCSE results*** than those without, among other improvements (Hooley et al, 2014)

Adult *(mostly welfare-to-work)*
"New Deal for the Young Unemployed" targeted those aged 18–24 years and ***increased transition to employment*** by ~5%pts (Blundell et al, 2004)
Meta-analysis showed career development efficacy in supporting ***employment outcomes*** when both skill development and motivation enhancement activities formed part of the intervention (Liu et al, 2014)
The Nevada-based Reemployment and Eligibility Assessment initiative used random assignment to identify claimants collected 3.1 fewer weeks and approximately $900 ***lower total benefit amounts*** than their peers (Michaelides et al 2012).

Meta-analyses of diverse comparison group trials on guidance interviews (adult & youth; formats etc.) prove self-reported impact: 0.3-0.4 st dev on CDMSE, career decidedness etc. (Whiston et al, 2017)

Link to pre-costed, long-term outcomes?

Long-term outcome (key for ROI work)	Government reports providing cost data (adjusted conservatively to suit typical use case)	Example required success rate to break even at £80 per intervention
One student prevented from becoming NEET prior to age 19	£42k (midpoint of Coles et al, 2010 & DWP SIB, 2011)	0.2%
One student prevented from dropping out of Higher Education	£145k (50% of the value from Walker & Zhu, 2013)	0.1%

What other pre-costed long-term outcomes might be available to us?

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Group discussion / idea sharing

- **What is happening where you are?**
  - **New and emerging approaches within a Covid-19 context**
  - **Contemporary developments within the UK, European and international career development landscape**
- **How might this affect work on evidence and impact assessment?**

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Career development funding envelopes…

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- **Group discussion of case studies**
  - Three examples of recent dmh associate impact assessment work
  - Three scenarios for designing an impact assessment approach

- **Using existing research to support an ROI estimation**
  - Challenges in using evidence from research in an ROI
  - Example of adjusting HE drop-out data for an ROI
  - How to handle uncertainty in ROI modelling
  - How to use historic practice to model a (higher quality?) intervention

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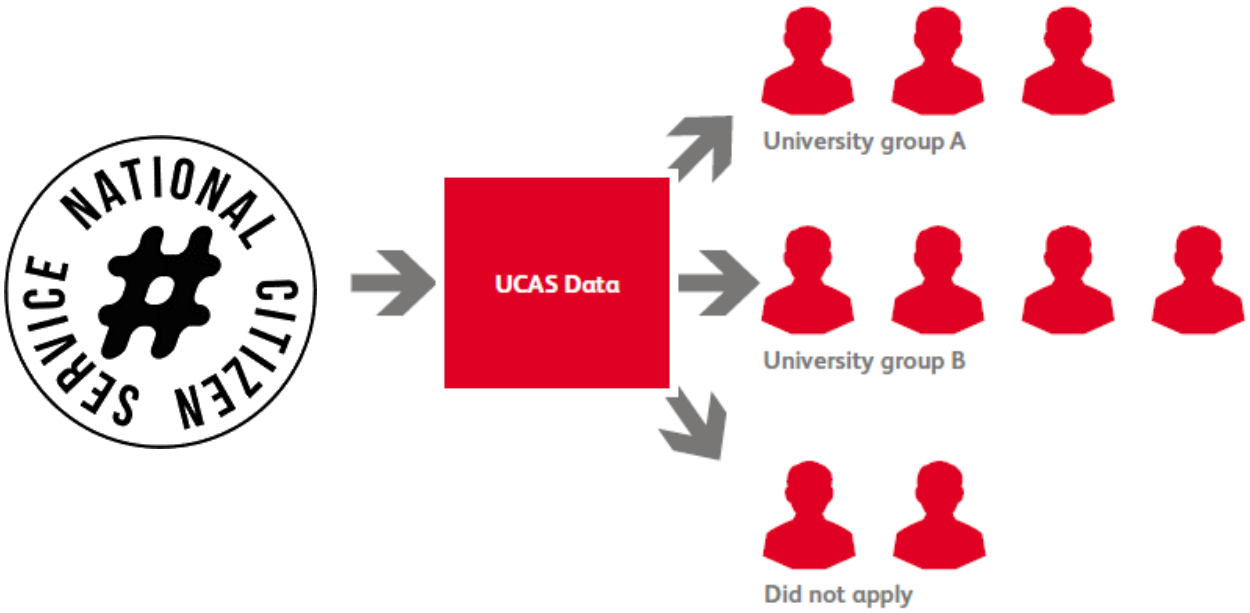
Example 1:

How to test if NCS programmes support the HE Widening Participation agenda?



Application rate

Offer rate

Acceptance rate

vs. artificial control groups

Enhanced with use of UCAS EXACT service and national population databases to generate insights broken down by ethnicity, gender, POLAR Quintile

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Example 2:

How is a deeply personalised support offer to the most disadvantaged adults in Dorset helping them get closer to self-sufficiency, social inclusion & the labour market?

- **Formative evaluation → Focus on supporting improvement journey as well as meeting funder requirements**
- **Blended approach → Cross-disciplinary team, deep stakeholder interviews, focus groups, surveys, internal data review, benchmark comparison literature review, hard and soft outcomes**

WISE Ability
Empowerment through Employment

COMMUNITY FUND

European Union
European Social Fund

In partnership with Department for Work & Pensions

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Example 3:

Can careers talks enhance GCSE grades or change pathway choices?

Education and Employers Research

- **N=647 students in 5 schools - RCT in Year 11**
- **Improvements in motivation, attitude, planned revision hours**
- **7% said they changed their education/career plans as a result**
- **3x talks correlate weakly to 1 in 25 students beating their predicted grades by one grade**
- **Pilot study → identifies sample size to demonstrate results & explore subsample effects**

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Scenarios…

What might be your preferred impact assessment approach in the following hypothetical scenarios:

1. A plucky Teach First graduate has an idea for a new structured programme of short-duration but high-frequency remote career counselling for Sixth Form students deciding what to do next.

2. An exam board has been piloting a new exam / scheme of work which embeds careers / PSHE learning into History, Geography and Spanish GCSEs. ~200 students have taken it in the last two years and they've refined it based on feedback. Now they want to show the scheme works and promote it to increase uptake.

3. The provision of a physical careers space in FE colleges, e.g. jobs corner in a library, is coming under pressure (e.g. policy-makers, review into FE funding, concerns about space), having been unquestioned standard practice for many years.

Challenges in translating research evidence into a specific ROI

Finding the best empirical evidence

- **Empirical evidence varies widely in quality -** sample size, comparison group, duration of impact measurement, quality of controls, replicability / conflicting findings, unreported null findings / pre-registration, approach detail …
- **Hard to find key evidence without domain knowledge** – grey literature/evaluations not indexed in HE databases

Interpreting and adjusting the evidence for use in an ROI

- **Intervention studied/activity captured rarely match target activity well** – Different definitions/ scope/ beneficiaries/ context
- **Headlines / quantified outputs rarely line up for an ROI logic chain** – Need for bridging assumptions, manipulations
- **Ability to scale** – e.g. signalling effects, conditions for success (e.g. in a pilot, you may have more motivated staff/ students, opt-in selection bias, additional invisible/implicit/explicit resource not necessarily available if scaling)
- **Attribution/displacement effects –** Can be hard to measure without a good comparison group
- **Marginal intervention impact vs. impact measured from group differences** – Esp. binary outcome

Challenges in translating research evidence into a specific ROI

Conceptual limitations and potential responses

- **How to adjust empirical insights based necessarily on past data for present/future circumstances** – might adjust directly or provide qualitative view on changes
- **How to handle uncertainty** – e.g. scenario analysis, Monte Carlo simulation, supported by breakeven analysis / sense-checks
- **How to adjust for overlap between strands of impact** - e.g. NEET reduction and wage premium overlap, typically apply a quantitative assumption for overlap (but imprecise without access to raw data)
- **Meta-limitations** – e.g. important to be aware of the limitations of the technique, e.g. individual choices / interventions vs. societal context, wages reflect market/ political choices/ power structures, perverse incentives in measured outcomes, value of activities not easily measured etc.

→ *Needs deep, time-consuming, econometrically-informed reading of the literature – the headline figures from the abstract/conclusion are rarely sufficient to be used directly in a model*

e.g. Career guidance on HE drop-out (McCulloch, 2014)

"Respondents who gave the least positive reports of careers guidance had an odds of dropout nearly 70% higher than those who gave the most positive reports." *(2005-6 HE entrants)*

But how to use this in an ROI:

- **Who is in scope for this benefit?** e.g. Only those on HE track post-18 (e.g. ~40% based on DfE pathway data) who might report "low satisfaction" in a marginal scenario (e.g. ~30% in FutureTrack)
- **How to relate this to a specific guidance intervention?** e.g. What % of guidance recipients might credibly shift from "low satisfaction" with prior careers guidance (broadly defined) to "high satisfaction" as a result? (survey data, e.g. CfE (2017), can help inform an assumption here)
- **How do "odds of drop-out" translate into impact?** e.g. base-rate of 6.5% drop-out, odds/frequency conversion (~0.3% pt reduction in drop-out)
- **So what if they drop out?** Link to other research on the value of completing higher education (e.g. lifetime wage benefits) – but some of this high benefit will only exist in comparison to those who drop-out for issues beyond likely ken of PG (e.g. serious health, debt or family problems), so needs adjusting downwards
- **What other caveats or considerations need to be addressed…?**

Models are always estimates – the appropriate level of complexity for uncertainty modelling should be chosen in each case

Alternative approaches to modelling uncertainty

MORE TIME INTENSIVE + MORE INSIGHT

APPROACH	EXPLANATION
Single Haircut	• Create the model using only point estimates • Then show the results as a range, e.g. +/- 10%
2-way Data Tables	• Group the most uncertain, highest impact assumptions into pairs • Show the impact of wide range of values on the key model metric
Multiple Haircuts	• Apply arbitrary range to each input assumption (e.g. +/- 10%) • Show impact on overall model to see which assumptions make most impact, based on the given range (Tornado Chart)
Pessimistic / Optimistic	• Work with stakeholders and experts to identify a pessimistic, optimistic and best/standard estimate for each assumption • Include all scenarios in model so you can toggle easily between them
Uncertainty Distribution	• Because it is unlikely that the pessimistic outcome will prevail from every single assumption, we can instead discuss and quantify with stakeholders/experts the probable range of values for key assumptions • Model the collective effect of uncertainty through Monte Carlo process

Differential quality? Historical practice for modern plans?

What might make a personal guidance, school-age intervention more/less effective? E.g.

- **Intervention implementation / exposure variability**
  (e.g. measurables e.g. duration, hard to measure e.g. quality)
- **Type of beneficiary**
  (e.g. measurables e.g. FSM, hard to measure e.g. attitude)
- **Environment** (e.g. school/college features, region/rurality)
- **Activity interactions** (e.g. mutually reinforcing activities that may be present for some beneficiaries but not others)
- **Context** (e.g. **s**ocioeconomic structures / historical / cultural)

→ **Can we build such elements into an ROI model or a data capture process?**

http://dmhassociates.org/careertech-challenge-prize-awarded-to-dmh-associates-to-develop-an-innovative-bot-careerchat

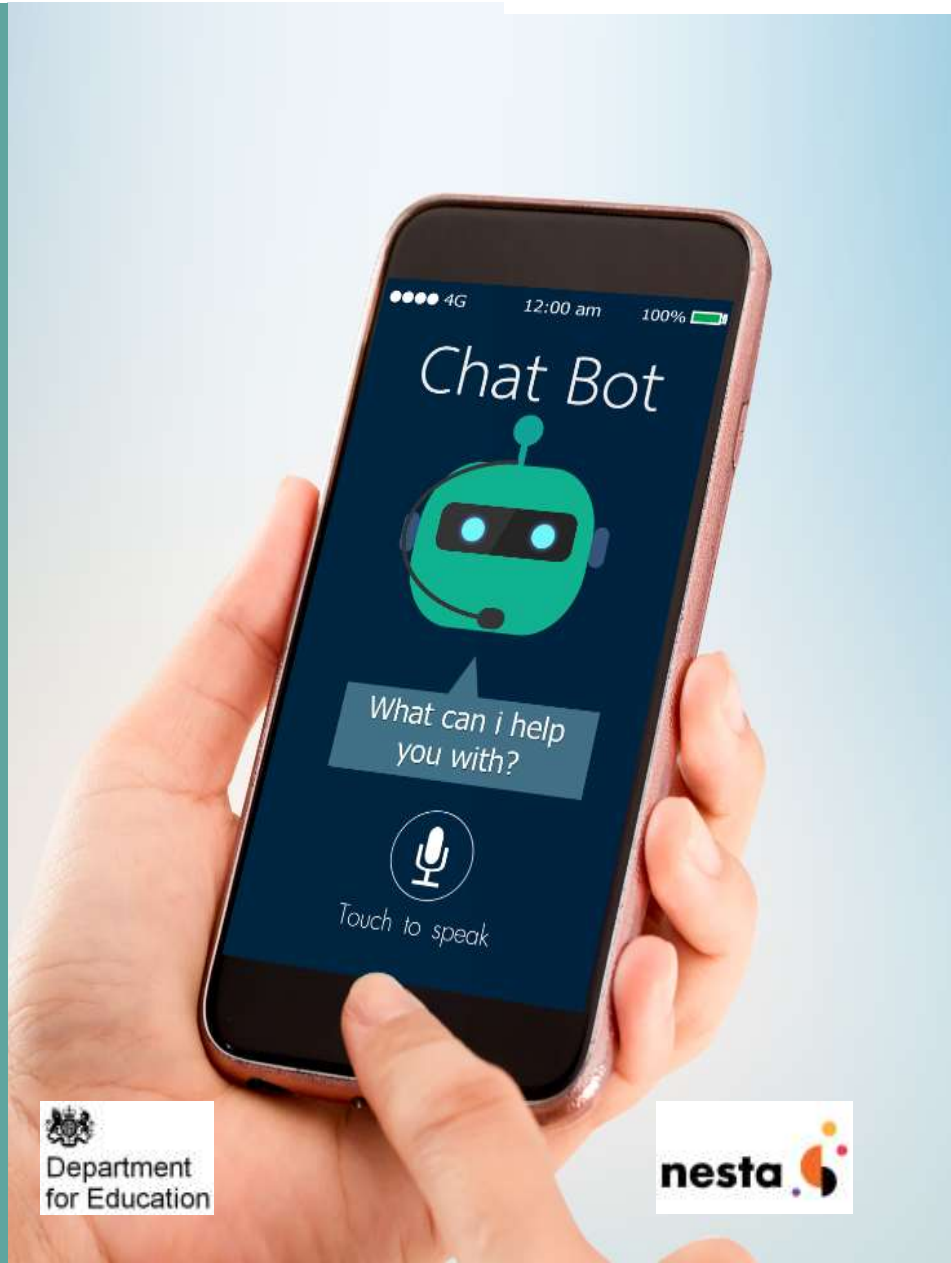
CareerChat

CareerChat is a chatbot providing a personalised, guided career journey experience for working adults aged 24 to 65 in low skilled jobs in three major cities: Bristol, Derby and Newcastle.

It offers informed, friendly and flexible high-quality, local contextual and national labour market information including specific course/training opportunities, and job vacancies to support adults within 'at risk' sectors and occupations

CareerChat incorporates advanced AI technologies, database applications and Natural Language Processing and can be accessed on computers, mobile phones and devices

Email: admin@dmhassociates.org



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Thank you!

Continue the dialogue with us…

chris@cspres.co.uk
deirdre.hughes3@btinternet.com

Tel: 0044 (0) 7533 545057

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