The economic case for well-considered investment in health-related employment support: costs and savings of alternative modified Individual and Placement Support (IPS) models

Abstract

Background: Health-related unemployment is a major issue across advanced economies. Modified versions of well-evidenced Individual Placement and Support IPS) models of employment support for health cohorts offer considerable potential. A significant gap currently however is the lack of evidence around their financial return on investment.

Objective/Hypothesis: To provide robust financial return on investment estimates for analytically derived alternative specifications of modified IPS services for the first time in the literature, sensitivity tested across various levels of performance.

Methods: Brings together modelled cost and savings estimates based on best available evidence to deliver modelled return on investment estimates.

Results: The modelled estimates show that well-designed modified IPS services can deliver financial savings whilst tackling health-related unemployment, even at higher average unit costs than are typically considered viable in some national contexts.

Conclusions: Modified IPS services offer a viable route to delivering enhanced employment outcomes for individuals with health conditions and disabilities and financial savings for governments.

Introduction

The intertwined work-health 'problems' of health-related unemployment, sickness absence and reduced productivity are significant and stubborn across the advanced economies. [1, 2] Whilst good work is known to be good for health [3, 4] disability employment gaps – and the significant financial and non-financial harms that result for individuals, businesses, Exchequers and society more widely – are increasingly unable and unwilling to be tolerated.

There is thus an urgent need to develop more effective upstream preventative employment programmes for unemployed individuals with health conditions and disabilities. Whilst many interventions have demonstrably failed, a body of solid evidence has developed around a model known as Individual Placement and Support (IPS). [5, 6, 7, 8, 9, 10] This IPS model emphasises client preferences and a rapid place-then-train employment model towards well-matched competitive employment from day one, with individuals supported intensively by employment specialists with low caseloads integrated into secondary mental health teams and conducting proactive employer engagement. The effectiveness of IPS to deliver employment outcomes is substantial, even if the dominance of US trials leads some to question whether IPS can be said to be equally effective in all contexts. IPS services on average see job entry rates of 61% for IPS participants compared with 23% for randomly allocated control groups [11] – an impact of 38% points, far in excess of performance typically seen in employment programmes for a health and disability cohort.

Nevertheless, IPS is in its current configuration a niche employment support model that is unable to make significant inroads into the totality of the health-related employment challenge. Specifically, IPS is severely limited by narrowness across four key dimensions: *cohort* (a severe mental health cohort only); *setting* (secondary mental health services only); *function* (transitions from out-of-work into employment); and *scale* (low volumes supported).

Unsurprisingly, there is considerable interest and activity in flexing traditional IPS to retain its best elements whilst enabling it to cater for the differing needs of wider, larger cohorts in new settings and with new functions. Such stretched IPS models have not been trialled and shown to succeed, yet reflection of the key principles and characteristics that underpin the success of IPS – low caseloads, person-centred support, effective job matching, proactive employer engagement, integrated work and health support packages – are all in principle translatable to, and hence offer significant promise for, wider cohorts.

Central to the effectiveness of IPS is the twenty-five item 'fidelity scale' shown in Table 1 against which IPS services can be measured in terms of their fidelity and quality.[12] For traditional IPS services the fidelity scale is a powerful guide to designing and delivering high quality IPS services and performance. For modified IPS services the key challenge is to effectively flex the fidelity items as required for the differing needs of their larger and wider cohorts and primary care contexts whilst retaining the core ethos, quality and performance of the IPS model, albeit in a partially modified form.

Recent analytical work outlines a framework to guide the effective translation of IPS fidelity into modified IPS services.[13] That analytical framework is informed by the author's leading of a collaborative codesign process with central and local government policy colleagues to assess, and where required modify, the IPS fidelity items for the purposes of a large-scale UK government funded modified IPS trial providing voluntary employment support to individuals with low to moderate mental health and/or physical health conditions.

Such analytical thinking offers necessary but not sufficient foundations for the effective large-scale development modified IPS services given that the financial case for those investments must also be made. This present article progresses to that critical economic second step by presenting for the first time in the literature a robust assessment of cost and return on investment profiles of twelve alternative analytically derived modified IPS services, sensitivity tested across varying levels of performance.

Table 1 differentiates between what XXXX [13] describe as 'standard' fidelity items in its upper row. These are traditional IPS fidelity items that can be applied equally across both traditional and modified IPS services according to the same underlying measurement and scoring criteria. In contrast, Table 1 shows in its lower row a set of qualitatively different 'modifiable' fidelity items that are identified through codesign discussions as in need of rethinking in order to translate effectively to the differing low to moderate cohorts and primary care settings of a modified IPS service. These modifiable fidelity items seek to achieve the same ends or functions as in the traditional IPS fidelity scale but require qualitative reconfiguration of their nature and underlying scoring criteria – the means through which to achieve those ends –to achieve them, reconfiguration whose viability and optimality depends on the particular programme and context at hand.

Table 1: IPS fidelity scale items

Standard fidelity items	• Caseloads are small • Employment specialists deliver all phases of the employment support journey • Employment specialists are integrated into appropriate healthcare practices • Employment specialists work together in supervised teams • Supervisors have max 10 employment specialists per team and drive service quality • Zero exclusion criteria apply to service users • Service users received specialists financial advice around benefits and work transitions • Service users receive specialist advice around disclosure of health conditions • Service user support is based on regularly reviewed whole- person assessment • Place-then-train model of rapid supported job search starting within first 30 days • Individualised job search based on effective job matching to client preferences • Employment specialists deliver personalised employer contact to understand needs and deliver effective job matching • Employment specialists identify a diverse range of job opportunities • Employment specialists identify opportunities in a diverse range of employers • Competitive open employment is the day one goal • Employment specialists deliver personalised in-work support where employment occurs • Employment specialists meet with service users in accessible community based settings
Modifiable fidelity items	• **Employment services staff focus on delivery of employment support** • **Employment specialists are integrated into appropriate healthcare teams** • **Employment specialists collaborate with Public Employment Services (PES)** • **Employment specialists contact employers often and proactively to source vacancies** • **NHS Trust has focus on open employment as the goal for individuals with health issues** • **There is Executive level support within the NHS Trust for IPS**

In thinking about modified IPS models an analytical differentiation is proposed between 'networked' and 'discrete' approaches. Traditional IPS services operate discretely as self-contained entities within secondary mental health services. Similarly, discrete approaches to the reconfiguration of these modifiable fidelity items place responsibility for their delivery on the IPS employment specialists internal to the service. In contrast, in networked approaches IPS employment specialists are tasked with co-ordinating support from existing services, resources and

expertise within the wider health and employment system rather than delivering these functions themselves.

Figure 1 below summarises the resulting analytical framework visually, with a key idea being the potential for multiple qualitatively different (horizontal axis) but equally quantitatively 'faithful' (vertical axis) modified IPS models, unlike the unidimensional understanding of quality in traditional IPS.

Figure 1: Mapping the nature and quality of alternative modified IPSs
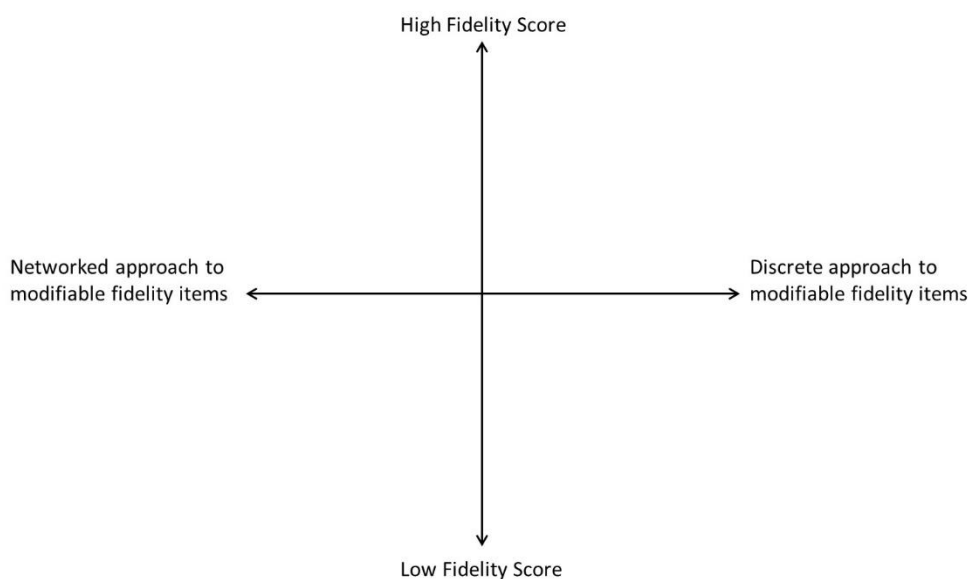
Designers of modified IPS services need to think carefully about how best to reconfigure each of those seven identified modifiable fidelity items across this networked-discrete axis if they are to maximise performance in modified IPS services. For this paper's financial focus, however, only two of those items are key to the costs and savings of any modified IPS service: employment services staff roles and employment engagement frequency.

Firstly, there are decisions around how modified IPS services meet the whole-person support needs of individuals, particularly health and wider support needs (e.g. housing, debt, family issues). In terms of health needs, unlike traditional IPS models in secondary mental health settings none of the primary healthcare practitioners in modified IPS services offer a dedicated health anchor to service users and all tend to be under significant demand pressure and rationing. Against this backdrop, employment specialists in modified IPS services might usefully adopt a partially discrete approach to the delivery of lower-level health supports by expanding their employment-only role to become trained in the delivery of lower-level mental and physical health interventions for their caseloads. Any new such role would be to complement, work under the instruction of, and where appropriate refer up to existing healthcare specialists by providing additional capacity at lower levels of expertise and support need. Though it has inevitable cost implications, such an approach could offer valuable widespread low-level health support.

There are similar decisions around delivery of wider support needs in a context where needs vary, local services are fragmented across organisations and caseloads are by financial necessity somewhat higher than in traditional IPS services. It may in this context be neither realistic nor desirable to ask IPS employment specialist to themselves lead delivery of wider support needs. Rather, a networked approach where IPS employment specialists co-ordinate support from existing

wider services may be attractive. Indeed, local areas could help modified IPS services to deliver this function through formalised governance mechanisms to co-ordinate such wider support services – Local Integration Boards as they are coming to be known in several UK city-regions.

Similar considerations occur on the demand-side where it is possible to separate out a functional need around large-scale aggregate employer engagement to source opportunities from one around individual-level relationship building, negotiation and support between employers and service users to understand needs, broker work transitions, and provide on-going support to sustain employment. In traditional IPS services employment specialists are expected to perform both functions. In modified IPS services with larger volumes and caseloads the sourcing of vacancies might instead be delivered in a networked approach by current (e.g. local authority) employer engagement teams with existing resources, relationships and expertise. Job opportunities could be passed to the modified IPS service for IPS employment specialists to continue with all individual-level brokerage with employers and clients where there is maximum value to be added from their personalised, intensive interaction.

Bringing these considerations together, Figure 2 presents twelve equally plausible alternative modified IPS service models and these form the focus of the empirical cost-benefit analyses below. Along the horizontal networked-discrete axis the models move through a range of qualitative approaches to the reconfiguration of the key cost-relevant modifiable fidelity items (employer engagement, wider support needs, low-level health needs): a fully networked approach in the far left column where IPS employment specialist (ESs) co-ordinate but do not deliver these three functions; a mixed approach in the next column where one of either wider supports or employer engagement follows a networked approach and the other follows a discrete approach; a discrete approach to the delivery of both employment engagement and wider support needs in the next column along but no additional low-level health support; and a fully discrete approach in the far right column that also includes additional low-level health support from IPS employment specialists to their caseloads. Along the vertical axis models display varying degrees of ambition around the maximum live caseload size for IPS employment specialists – thirty at any one time in the bottom row of Figure 2, twenty-five in the central row and twenty in the top row. These modelled target caseloads are somewhat higher than the aspiration of twenty in traditional IPS models but still compare highly favourably to caseloads of around one hundred typically seen in the UK context.[14, 15]

Figure 2: The twelve alternative modified IPS models assessed in the cost-benefit analyses
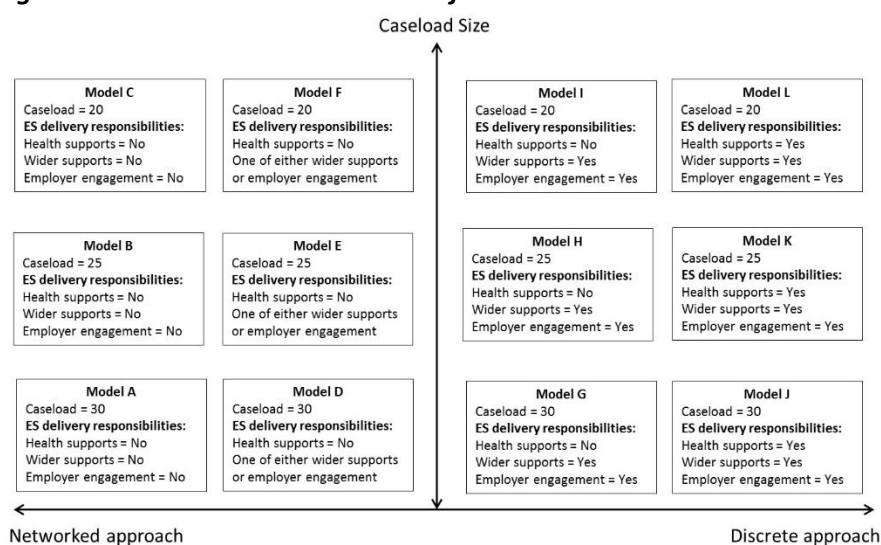
Methods

Estimating modified IPS service costs

The calculation of costs is informed by NHS reference costs of IPS services [16] and by the author's embedded policy work leading codesign and costing of a large-scale modified IPS trial in the UK context.

In all scenarios the modified IPS service is required to support 5,000 programme starts over thirty months of referrals and with individuals receiving a maximum of fifteen months support. Table 1 notes that traditional IPS models are in principle time-unlimited, though in practice IPS services seek to exit service users from service once their employment transitions are stable. Recent trial evidence suggests that time-limiting IPS services to nine months support delivers similar employment outcomes as a time-unlimited service but in a significantly more cost-efficient manner.[17] This proposed fifteen month maximum balances these positions, is in line with broader international thinking on employment programme duration, and offers slightly greater flexibility to the service to achieve outcomes compared to that very rapid nine month duration. The target cohort in mind is individuals with mild to moderate mental health and/or physical health conditions in primary health care or community settings. The service is a voluntary programme and drop-out is assumed at a realistic twenty percent.

In each specification several core items are costed identically: a project manager is employed full-time at a base salary of £35,000 (plus 30% on-costs) for the 44 months of service delivery; a project administrator is employed in the modified IPS service at a base salary of £22,000 (plus 30% on-costs) for the 44 months of service delivery; £20,000 is included for any initial requirements around data, information governance and IT expertise; and £10,000 is included for training costs associated with delivering the service.

The vast majority of the costs relate to the salaries and associated on-costs of the IPS employment specialists and their team leaders who deliver the out-of-work and in-work support to service users. The number of IPS team leaders required is a function of the number of IPS employment specialists required with a maximum of ten IPS employment specialists supervised by any one team leader, as in the traditional IPS fidelity scale. Team leaders are paid at a base salary of £35,000 (plus 30% on-costs), and IPS employment specialists at £23,000 (plus 30% on-costs), for the 44 months of service delivery. The on-costs associated with all salaries cover associated overheads relating to, for example, premises, consumables, support functions and are based on a realistic additional percentage as seen in comparable employment programme costings.

The number of IPS employment specialists required varies according to two factors – maximum live caseload of twenty (modelled in these scenarios at twenty, twenty-five and thirty) and the approach taken along the networked-discrete horizontal axis in Figure. The approach taken here affects the tasks – and resultant time – demanded of the IPS employment specialists to deliver them.

To calculate the number of IPS employment specialists required the following key tasks are costed out for each scenario based on a realistic time diary of required: core one-to-one personalised employability support to their caseload, data entry and note taking, employer engagement, ensuring that service users have their health and wider support needs met, and attending meetings and training. The realistic time allocated to these tasks varies according to each scenario's caseload and approach; for example, IPS staff in a networked model are allocated a larger amount of time for partnership working, co-ordination and communications needs given the increased needs around these functions in that networked model.

Estimating savings

The savings presented below are based on the author's adapted re-analysis of cost-benefit analyses provided to a UK Combined Authority for the purposes of a separate employment programme from an externally contracted expert analyst and made available to the author for the purposes of this article. The savings calculated are deliberately narrow and conservative given that they include cashable tax and benefit savings only (i.e. reduced benefit spend and increased tax receipts from employment and earnings). Any wider savings are omitted from the calculations, for example any savings associated with reduced expenditure on health or wider support services (e.g. housing, debt, family support) as a result of the IPS service and outcomes. This narrower and more conservative approach is taken here as these savings can be most robustly calculated and, as such, are most acceptable to Treasury. Savings are also conservative in that attrition from these voluntary programmes is assumed at 20%, costs are based on the full denominator of 5,000 individuals but employment outcomes performance and associated savings are based on a denominator of 4,500 individuals (mid-way between zero attrition and full assumed attrition).

On the benefits side the model is based on the UK tax system (both direct and indirect taxes) and the UK benefit system as per 2018/19. Full take-up off benefits is assumed. Council Tax Support and Housing Benefit (or Universal Credit equivalent) values are included and based on national average values (£65 per month and £316 per month) and 70% of individuals are assumed to have housing costs met through Housing Benefit (or Universal Credit equivalent).

On the employment side the equal split between full-time (37 hours per week) and part-time (17 hours per week) as well as assumed average earnings of those moving into work (£11,800 per annum) are based on analyses from the Labour Force Survey alongside DWP benefits off-flow analyses. Individuals are the unit of analysis for the employment and earnings modelling. Employment sustainment assumptions are based on evidence from recent UK employment programmes for similar cohorts and with a similar intensive model which finds that monthly employment drop off to be 2.3% such that that after twelve months around one quarter of any cohort of job starters have dropped out of work.[18]

Performance is defined in the traditional IPS manner as the percentage of the caseload that enter paid employment. Savings are shown across a range of performance levels above deadweight to provide sensitivity analysis around return on investment figures. Deadweight is the level of performance that would ordinarily be expected to occur for this cohort in business-as-usual support and is calculated as 10% based on best available data for this type of cohort. [2, 19] Only additional savings (i.e. savings for performance above deadweight) are included in the savings calculated.

Results

Figure 3 begins the empirical discussion with key details on the staffing and cost side of each of these models, where average unit costs relate to the actual cost of supporting an average individual participant on the scheme.

The number of IPS employment specialists (ESs) and team leaders naturally varies as caseloads (i.e. moving vertically) or the networked-discrete approach to key modifiable fidelity items (i.e. moving horizontally) vary. Hence, for this same cohort size and programme duration the average number of advisors needed is a low of 45 in Model A (a fully networked approach with a target caseload of 30) through to a high of 131 in Model L (a fully discrete approach with a target caseload of 20 and with additional staff to deliver in-house low-level health support modelled on the intensity and duration of existing similar UK provision).
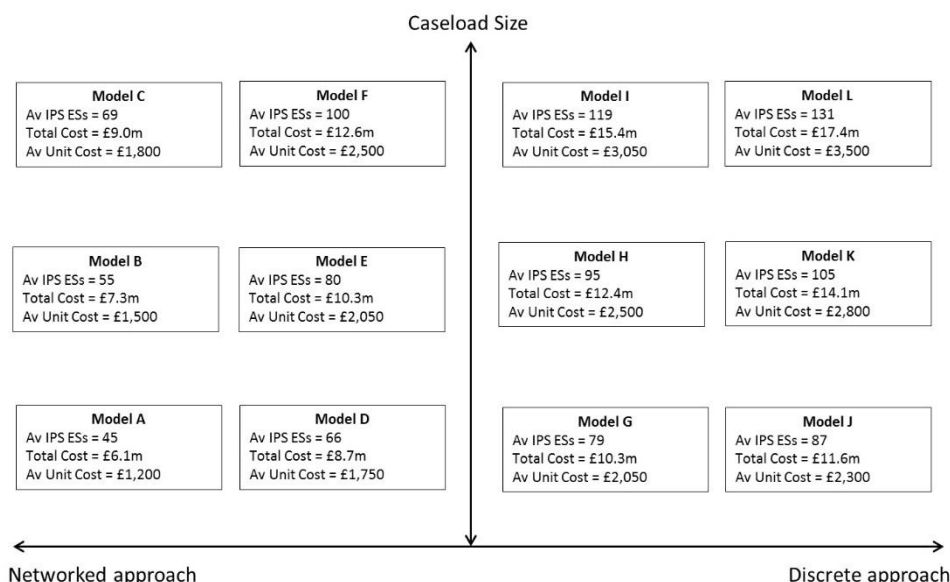
Total costs vary from £6.1 million in Model A up to £17.4 million in Model L with corresponding average unit costs varying from a low of £1,200 in Model A up to a high of £3,500 in Model L. As a rough guide contracted-out employment models in the UK context for this type of cohort typically show average unit costs between £1,200 and £2,000 – considerably higher than

within UK's Jobcentre Plus public employment service but lower than equivalent provision in many other nations given the UK's lean approach to employment support spending. Traditional IPS services tend to cost at least the upper end of this range.[16]

Figure 3: Costing out the alternative modified IPS models

Caseload Size

Model C	Model F		Model I	Model L
Av IPS ESs = 69	Av IPS ESs = 100		Av IPS ESs = 119	Av IPS ESs = 131
Total Cost = £9.0m	Total Cost = £12.6m		Total Cost = £15.4m	Total Cost = £17.4m
Av Unit Cost = £1,800	Av Unit Cost = £2,500		Av Unit Cost = £3,050	Av Unit Cost = £3,500

Model B	Model E		Model H	Model K
Av IPS ESs = 55	Av IPS ESs = 80		Av IPS ESs = 95	Av IPS ESs = 105
Total Cost = £7.3m	Total Cost = £10.3m		Total Cost = £12.4m	Total Cost = £14.1m
Av Unit Cost = £1,500	Av Unit Cost = £2,050		Av Unit Cost = £2,500	Av Unit Cost = £2,800

Model A	Model D		Model G	Model J
Av IPS ESs = 45	Av IPS ESs = 66		Av IPS ESs = 79	Av IPS ESs = 87
Total Cost = £6.1m	Total Cost = £8.7m		Total Cost = £10.3m	Total Cost = £11.6m
Av Unit Cost = £1,200	Av Unit Cost = £1,750		Av Unit Cost = £2,050	Av Unit Cost = £2,300

Networked approach   Discrete approach

Whilst budget restraints may require a focus on cost low cost is of the course not the same as high value-for-money, and indeed may be quite the opposite. Critical then is to bring these costs together with the estimated savings at different levels of performance. For the first time within the literature, Figure 4 provides this financial return on investment assessment for each alternative modified IPS model.

Figure 4 displays five-year return on investment (ROI) figures, a time period over which to begin to assess savings. In terms of their interpretation, an ROI of 1 represents the financial break-even point of £1 saved for every £1 spent, an ROI of 2 would represent £2 saved for every £1 spent, an ROI of 0.5 would mean £0.5 (i.e. 50 pence) saved for every £1 spent, and so on. Alongside actual ROI values, to aid interpretation boxes in Figure 4 are shaded to summarise their ROI position visually: net savings are shown in shades of green with light green for ROI values from 1 to 2, medium green for ROI values between 2 and 3, and dark green for ROI values greater than 3; and net losses are shown in shades of red with light red for ROI values from 0.5 to 1 and dark red for ROI values from 0 to 0.5. For each model scenario, ROI figures are provided for levels of performance gradually increasing in five percentage point intervals from the 10% deadweight level (i.e. 15%, 20%, 25%, etc) up to an assumed potential maximum performance of 50%.

Over a five year time horizon only Model A breaks even at 20% (10% points above deadweight). This level of performance is perfectly achievable as a minimum expectation from well-designed modified IPS services based on similar performance within the first two years even of Greater Manchester's new devolutionary Working Well employment programme that has a somewhat more challenging cohort, similar average unit costs and is without IPS principles.[18]

At performance levels of 25% (15% points above deadweight) Models A, B, C and D deliver ROIs of 1.70, 1.36, 1.13 and 1.17 respectively, with Models E and G virtually at break-even point. At performance of 30% (20% points above deadweight) nine of the twelve scenarios deliver net savings, with ROIs ranging from 1.09 (Models F and H) – just above break-even point with an average unit cost of £2,500 – up to 2.27 (Model A) – well over £2 saved for every £1 spent. At 35% performance (25% points above deadweight) all but one model returns net savings ranging from an ROI of 1.11 in

Model I up to 2.83 in Model A. Only Model L fails to deliver net savings with an average unit cost of £3,500, though even this most generous model specification comes close with an ROI of 0.97.

Figure 4: Return on investment (ROI) over 5 years for each modified IPS model
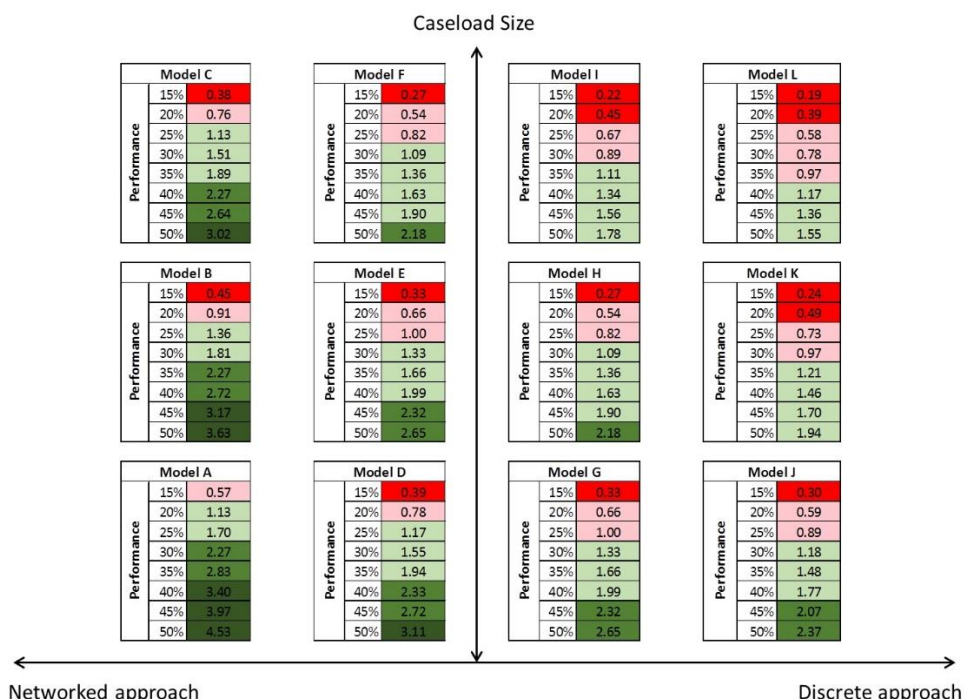
Naturally it is unclear how much performance is possible. The traditional IPS evidence base shows average performance of 38% points above deadweight. This seems high compared to typical evaluation findings, yet the weak performance (i.e. low deadweight) of this mainstream health and disability cohort in many countries offers prime potential for strong performance gains and resultant financial savings through well-considered modified IPS services.

Figure 5 provides equivalent ROI calculations over a ten year rather than five year tracking window, recognizing the longer-term savings that continue to accrue given such low deadweight figures. Over a ten year window six of the twelve modified IPS models deliver net savings at just 20% performance (10% points above deadweight) with ROIs ranging from 1.09 in Models E and G up to 1.87 in Model A. Eleven of the twelve models deliver net savings at 25% performance (15% points above deadweight), including £2.80 per £1 invested in Model A and £2.24 per £1 invested in Model B (average unit costs of £1,200 and £1,500 respectively). Indeed, over a ten year return window even the most generously designed and funded Model L of these modified IPS specifications returns net savings at just above this ambitious – but on the basis of the evidence perfectly achievable – 25% performance level, despite its £3,500 average unit cost being notably more ambitious than is typically seen as viable in the UK context.

Discussion

The scale of the health-related (un)employment problem across advanced economies is vast and stubborn. Extending previous analytical work with robust cost-benefit analyses, this article makes important original empirical contributions to the literature by demonstrating for the first time, firstly, that significant financial savings can accrue within modified IPS models for larger, wider health and disability cohorts and, secondly, how those savings vary across different performance levels and alternatively designed models of modified IPS.

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Based on the UK context, most specifications of these modified IPS models deliver savings over a five year window and virtually all do over a ten year return window based on perfectly achievable levels of performance and often with notably higher than standard average unit costs for the UK context. A next step should be similar cost-benefit modelling in other national systems to assess the generalizability of the savings found here beyond the UK context.

Figure 5: Return on investment (ROI) over 10 years for each modified IPS model

Caseload Size

Model C	
15%	0.62
20%	1.24
25%	1.87
30%	2.49
35%	3.11
40%	3.73
45%	4.36
50%	4.98

Model F	
15%	0.45
20%	0.90
25%	1.34
30%	1.79
35%	2.24
40%	2.69
45%	3.14
50%	3.58

Model I	
15%	0.37
20%	0.73
25%	1.10
30%	1.47
35%	1.84
40%	2.20
45%	2.57
50%	2.94

Model L	
15%	0.32
20%	0.64
25%	0.96
30%	1.28
35%	1.60
40%	1.92
45%	2.24
50%	2.56

Model B	
15%	0.75
20%	1.49
25%	2.24
30%	2.99
35%	3.73
40%	4.48
45%	5.23
50%	5.97

Model E	
15%	0.55
20%	1.09
25%	1.64
30%	2.19
35%	2.73
40%	3.28
45%	3.82
50%	4.37

Model H	
15%	0.45
20%	0.90
25%	1.34
30%	1.79
35%	2.24
40%	2.69
45%	3.14
50%	3.58

Model K	
15%	0.40
20%	0.80
25%	1.20
30%	1.60
35%	2.00
40%	2.40
45%	2.80
50%	3.20

Model A	
15%	0.93
20%	1.87
25%	2.80
30%	3.73
35%	4.67
40%	5.60
45%	6.53
50%	7.47

Model D	
15%	0.64
20%	1.28
25%	1.92
30%	2.56
35%	3.20
40%	3.84
45%	4.48
50%	5.12

Model G	
15%	0.55
20%	1.09
25%	1.64
30%	2.19
35%	2.73
40%	3.28
45%	3.82
50%	4.37

Model J	
15%	0.49
20%	0.97
25%	1.46
30%	1.95
35%	2.43
40%	2.92
45%	3.41
50%	3.90

Networked approach ← → Discrete approach

(Performance is the vertical axis label for each model block)

Whilst these results are only modelled they lend important further empirical support to the growing view that the timing is ripe for analysts and policy makers to think seriously about large-scale modified IPS services. A caution however is the recognition that the wider context matters when doing so. Core principles to IPS and modified IPS services are voluntary participation in relatively low caseload, intensive and person-centred provision. Yet the UK employment support system is almost the polar opposite – a 'low road' model[20] dominated by low-cost and highly time-rationed support in the background alongside self-service support underpinned by the constant looming threat of austere conditionality and sanctions in the foreground. In the UK at least, the resulting clash of cultures risks fatally undercutting government's own desires to effectively tackle its large and stubborn disability employment gap through well designed employment support interventions.

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Figure Legends
Figure 1: Mapping the nature and quality of alternative modified IPSs
Figure 2: The twelve alternative modified IPS models assessed in the cost-benefit analyses
Figure 3: Costing out the alternative modified IPS models
Figure 4: Return on investment (ROI) over 5 years for each modified IPS model
Figure 5: Return on investment (ROI) over 10 years for each modified IPS model