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Back to Work

Exploring the benefits of Early Interventions which help people with Chronic Illness remain in work

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Executive Summary

This paper explores the whether early healthcare interventions which promote work ability and increase productivity among people of working age who have chronic ill-health are **cost effective**.

As **working age populations** across much of the developed world get older, retire later and develop more work-limiting and chronic conditions which threaten their ability to stay active in the labour market, healthcare interventions which focus on people at work will need to be prioritised. In some countries it is forecast that by 2030 as many as 40 per cent of people of working age will have a long-term, work-limiting health condition.

If early intervention among people of working age was prioritised to maximise both clinical and work ability benefits, the societal and economic returns to these investments would be of value to governments, healthcare systems, employers, civil society and individuals and their families or carers. Yet we still see large numbers of working people taking avoidable sick leave – or even leaving work permanently – because of health conditions which are amenable to earlier treatment or management. Indeed, the real danger is that, unless more early intervention and prevention is made available, **the burden of chronic ill-health in the working age population will increase rather than diminish**.

This paper looks at how the cultural, financial, political, clinical and practical barriers to extending access to early intervention can be overcome. It demonstrates, through a series of **case studies** with cost-effectiveness measures that, in the right combination, early interventions focused on positive work outcomes for people with chronic ill-health can:

1. Reduce **sick leave** and lost **work productivity** among workers with MSDs by more than 50 per cent. Early intervention is commonly more cost-effective than 'usual care';
2. Reduce **healthcare costs** by up to two-thirds;
3. Reduce **disability benefits costs** by up to 80 per cent;
4. Reduce the risk of permanent **work disability** and **job loss** by up to 50 percent;
5. Reduce the risk of developing a co-morbid **mental illness**
6. Deliver **societal benefits** by supporting people with work-limiting chronic conditions to optimise their **functional capacity** and remain active at work and maintain **economic independence**.

The paper calls on each stakeholder in better worker health and productivity to invest in action to invest in early healthcare interventions, specifically:

- **Healthcare decision-makers** need to embed 'work' as a clinical outcome in primary care, in clinical guidelines, in outcomes frameworks & clinical trials; incentivise primary care to deliver early RTW-focused treatments which also reduce healthcare resource utilisation; require HTA to take societal perspective and treat early interventions to promote work ability as investments rather than costs in budget-planning;

- **Policy-makers** should promote opportunities for local stakeholders (for example in primary care, vocational rehabilitation and social welfare) to 'pool' parts of their budgets to deliver work-focused healthcare & supported employment interventions to ensure people with chronic health conditions remain at, or return to, work;

- **Clinicians** should stablish early if return to work (RTW) is a therapeutic & financial priority for patients; build RTW into care plans; access early physiotherapy & CBT support if helpful for RTW; measure RTW outcomes of working age patients;

- **Employers** should refer staff early to Occupational Health experts or to GPs for assessment & a RTW plan; work with employees to deliver RTW plans & work adjustments; phase RTW if necessary; train line managers to manage & accommodate RTW plans; Monitor RTW success to maximise sustainability;

- **Workers/Patients** should seek RTW support early during absence; build their own ideas & actions into RTW plans; ask for help with anxiety or concerns about RTW early; keep moving – gentle exercise is good for mobility & mood; talk to co-workers about what you can still do rather than what you cannot.

The paper argues that the evidence-base for early healthcare interventions which result in the cost-effective delivery of better clinical, psycho-social, productivity and employment outcomes seems to be growing and that **the case for more systematic investment in such interventions is becoming hard to resist.**

Purpose of this Paper

This paper explores whether early healthcare interventions which promote work ability and increase productivity among people of working age who have chronic ill-health are **cost effective**. It sets out some examples of such interventions, highlights the benefits and costs and advantages and disadvantages of different approaches and discusses ways in which the evidence base for early intervention can be used to frame arguments for the reallocation of healthcare resources.

Background

As **working age populations** across much of the developed world get older, retire later and develop more work-limiting and chronic conditions which threaten their ability to stay active in the labour market, healthcare interventions which focus on people at work will need to be prioritised. In some countries it is forecast that by 2030 as many as 40 per cent of people of working age will have a long-term, work-limiting health condition (Barham and Vaughan-Jones, 2009). Many of these conditions are lifestyle-related and could be modifiable or preventable if our healthcare systems were geared up and resourced to deliver early and preventative interventions which also prioritised work ability and return to work as clinical outcomes.

If early intervention among people of working age was prioritised to maximise both clinical and work ability benefits, the societal and economic returns to these investments would be of value to governments (even across budgetary 'silos'), healthcare systems, employers, civil society and individuals and their families or carers. Yet we still see large numbers of working people taking avoidable sick leave – or even leaving work permanently – because of health conditions which are amenable to earlier treatment or management. Indeed, the real danger is that, unless more early intervention and prevention is made available, **the burden of chronic ill-health in the working age population will increase rather than diminish**.

Yet several stubborn barriers to early intervention remain. Some are cultural, some are financial and others are institutional, political, clinical or practical. This paper will produce evidence and arguments which make the case that it is only by overcoming these barriers that we can ensure that healthcare **investments** among working age people deliver sustainable **returns** in terms of **productivity gains** and a diagnosis of a chronic illness is no impediment to leading a **healthy and fulfilling** working life.

The paper examines the case for early healthcare interventions among working age people from the perspective of each of the main stakeholders – governments, clinicians, employers and individual workers or patients. The paper follows the following structure:

1. Why focus on early healthcare interventions for working people?
2. Does early intervention improve work ability – assessing the evidence?
3. Case studies of early intervention successes
4. What lessons can stakeholders draw from this evidence?
5. From evidence to action – taking the next steps

The paper also includes some simple summaries and action points aimed separately at policy-makers, healthcare decision-makers, Clinicians, Employers and Workers/Patients.

Why Focus on Early Healthcare Interventions for Working People?

There should be several advantages to improving timely access to early healthcare interventions for working age people with chronic illnesses who may be at risk of reduced work ability or even job loss:

1. *Timely treatment and care*. In general, the quicker an individual receives an accurate diagnosis, the more rapidly they can get access to appropriate treatment which can stabilise or control their symptoms;

2. *Reducing the risk of developing co-morbid conditions*. For many people with chronic conditions issues like pain, fatigue, depression or anxiety can become a significant issue which can increase healthcare costs and reduces functional capacity;

3. *Aiding a return to activities of daily living*. Early intervention can ensure people with chronic conditions, especially if they are playing an active part in the management of their condition (Summers et al, 2014), can become more self-reliant and rely less on health and social care services;

4. *Staying in or returning to work*. People whose health conditions are being well-managed are more likely to remain economically active, continue to pay taxes and be less reliant on welfare payments.

5. *Reducing the burden on carers*. There is considerable evidence that the working lives of carers providing support for people with chronic illness can be severely disrupted (Carers UK, 2015). Improving work ability for those with chronic illness through earlier intervention would ease this care burden and allow carers themselves to improve their working lives.

There is growing evidence that, if 'work' is regarded as a clinical outcome and that if patients of working age are given early access to treatments and therapies, this can help to improve their functional capacity and work ability. Despite these arguments, it is too often the case that opportunities to align clinical interventions, workplace interventions and welfare system support are frequently missed or not given sufficient priority.

There are several barriers to early intervention, especially where they might be accessible to and benefit people of working age:

1. *Primary Care*. Often, many family doctors or GPs do not regard work as a clinical outcome to which they should attach priority. This means that condition management, treatments or therapies which may help an individual stay in or return to work may not be prescribed, commissioned or referred to early enough to affect lost productivity or work loss.

2. *Secondary Care*. Again, work ability is most often a second-order priority in these clinical settings. Here the focus will inevitably be on establishing an effective treatment regime. However, return to work should also be seen as a treatment goal among working age patients, especially if they face an extended period away from work because of their symptoms or because of their treatment.

3. *Health Technology Appraisal (HTA)*. In some countries, the remit of HTA allows estimation of the economic and societal benefits of giving patients access to treatment which will help them remain in work (Bevan and Barham, 2012). In others only the direct clinical benefits and cost are examined. This makes the funding or early clinical interventions less likely.

4. *Employer behaviour*. Among many employers, failure to refer employees early to an Occupational Health specialist (if one is available and if they are tasked with prioritising early return to work) can extend the time that they are away from work through sickness absence and can increase their risk of leaving work permanently.

5. *Social Welfare, Insurance or Workers' Compensation*. Some welfare or insurance systems place more emphasis on interventions which reduce flows of claimants onto benefits than aligning with clinical and workplace interventions to prevent job loss. This can mean that some people leave the labour market before receiving a welfare-related intervention.

6. *Concerns over Costs*. It is still common to find that early intervention is regarded as the most costly option. This is clearly an issue at a time when healthcare spending is subject to greater controls. However, where there is evidence that targeting resources at early interventions can save money in the medium to long-term, it is increasingly important to highlight practical examples which can give clinicians and others to see such interventions as investments rather than costs.

7. *Silos in budgeting and cross-collaboration*. At both national and local level the segmentation of budgets into 'silos' for health, welfare, employment and social care can impede the delivery of joined-up or integrated services which allow working people with chronic illness to get access to early support. Even if earlier access to healthcare can be demonstrated to improve work outcomes and reduce welfare or social insurance costs, it can be hard to convince healthcare decision-makers to advance finance from their budgets if the benefits ultimately accrue mainly to the budgets of another agency or department (see McDaid, 2012, for an example of budget-pooling focused on vocational rehabilitation). In the UK, for example, the National Audit Office (NAO, 2009) has calculated that improved clinical outcomes for people with rheumatoid arthritis could be achieved if early intervention was increased by 10 per cent. However, these gains would be need to be achieved by first increasing expenditure in the health care system (NHS) by **£11 million** over 5 years. A productivity 'payoff' – estimated to be **£31million** from reduced sick leave and lower lost employment – would accrue to individuals, employers and to the Department of Work and Pensions. However, the incentive for a 'spend to save' approach within the UK NHS, especially in a time of austerity, is currently negligible.

8. *Patient awareness and education.* Patients may often be unaware of the option or benefits of early interventions and will not seek them out, understandably preferring to be directed in their care pathway by their physician's advice. In many circumstances patients follow the advice of their doctors about the timing of return to work very rigidly (Clayton and Verow, 2007), even if earlier, phased RTW might be beneficial. If demand from patients for early interventions which support RTW is low through lack of awareness then pressure on clinicians to prioritise it will also be low.

Many of these barriers co-exist and can be exacerbated in the case of conditions which are not well-known (eg some inflammatory conditions such as Ankylosing Spondylitis or Crohn's Disease can take several years to diagnose, tend to affect young people initially and can have a cumulative life-course impact on education, employment income and social inclusion).

Effective early intervention is, ultimately, a form of prevention as it can ensure that symptoms are discovered, treated and have only minimal impact on an individual's work ability. In order to achieve the clinical, societal and economic benefits of early intervention, however, it will be important that all stakeholders (clinicians, policy-makers, employers and patients) coordinate their efforts. As chronic ill-health becomes more prevalent, early intervention will need to become a more prominent feature of the sustainable healthcare landscape.

In this paper we examine some examples of early interventions targeted at working people with musculoskeletal disorders, though the principle of early intervention to improve work ability apply to most chronic health conditions. We will highlight examples of both the kinds of interventions which have been used and the approaches to economic evaluation used to assess their impact on productivity. In doing so, we have been mindful of the need to use evidence from well-constructed studies, especially those which include data on the cost-effectiveness of early interventions. We set out, in Annex 1, some of the technical and methodological considerations which such studies need to take into account and which have guided our choice of case studies.

In the next section we look at some examples from the literature of studies which have examined the cost-effectiveness of early interventions with people living with an MSD, with work as a specified outcome.

How strong is the evidence-base for early intervention & RTW?

The Fit for Work Europe initiative has, for several years, been working to persuade clinicians, policy-makers, employers and others to prioritise interventions which help people with musculoskeletal disorders to remain active in the labour market and productive at work. We have examined the burden of MSDs on the European economy (Bevan, Quadrello, et al, 2009) and highlighted where high level policies such as health technology appraisal (HTA) could take a societal perspective when assessing the cost-effectiveness of therapeutic interventions which support job retention and RTW (Bevan and Barham, 2012).

In this section we will look at a range of other studies (all from peer-reviewed journals) which have estimated the cost-effectiveness of healthcare interventions which are aimed at improving work ability and return to work.

A selection of studies

The studies described in this section highlight some of the methodological challenges discussed earlier in this paper. As Dagenais et al (2009) concluded after conducting a systematic review of cost-utility studies of return to work, few cost-utility analyses (CUA) were identified for low back pain (LBP), and there were wide variations in the interventions compared, the direct cost components measured, the approach to measuring indirect costs, other methods, and results. The authors concluded that the reporting quality of currently published CUAs do not provide sufficient information to assist decision makers and that, to be useful, future CUAs should attempt to measure all known direct cost components relevant to LBP, estimate indirect costs such as lost productivity,

have a follow-up period sufficient to capture meaningful changes, and clearly report their methods and results to allow interpretation and comparison.

Despite the methodological inconsistencies of many studies, the overall picture from the research is that earlier intervention for working age people with MSDs can produce better clinical and RTW outcomes in a cost-effective way. Below are a few examples.

The first study produces data on both improved work productivity (eg fewer work days lost) and QALYs gained:

Early Intervention for Patients with High-risk of Acute Low Back Pain (Rogerson et al 2010)

A total of 994 patients were screened between 2003 and 2007. Patients were included if they a) had a complaint of low back pain of less than 10 weeks' duration, b) no previous history of lower back injury or diagnosed chronic pain condition and c) high risk status as designated by the identification algorithm described by Gatchel et al. (1995). From this analysis 121 high risk subjects were selected and randomly assigned to an early intervention group (EI) and a 'medical treatment as usual' (TU) group. The EI group received a combination of physical therapy and cognitive behavioural therapy, including coping skills training, relaxation, and biofeedback. Treatment consisted of 6 to 9 sessions of both cognitive-behavioural and physical therapy, generally lasting approximately 3 months. The content and timing of the TU intervention is not specified nor is there is clear definition of 'early' regarding the timing of the intervention other than that subjects had experienced low back pain for fewer than 10 weeks.

As part of a 12 month follow-up after the main intervention the study captured data on self-reported pain, health status, healthcare resource utilization and work days lost. While both the self-reported pain and health status of the EI and TU groups had improved after 12 months, there were no statistically significant differences between the groups. However, over the same period, the number of health visits made by subjects in the EI group declined and the number made by those in the TU group increased. Similarly, after 12 months the subjects in the EI group reported significantly fewer work days lost than those in the TU group (the mean for EI group was 13.6 days and for the TU group it was 25.8 days). Using a human capital approach, the cost utility ratio for the EI group revealed a cost of $49,593 per QALY gained, whereas the cost utility ratio for the TU group indicated a cost of $71,001 per QALY gained. Overall, the EI group showed marginally lower medical costs, employment costs, and total costs. Indeed, the authors concluded that the observed difference in medical costs in 1 year alone would cover the entire cost of the EI treatment program.

The second study, based on a systematic review and some economic modelling, is unusual because it looks at both human capital and friction cost measures or work productivity loss and QALYs gained in a UK NHS setting:

Cost-effectiveness of RTW interventions for workers with MSDs (Squires et al, 2011)

The authors developed a UK-focused model to estimate the cost effectiveness of interventions to return workers with MSDs to work. Using a systematic review of the literature the model was used to follow a cohort of employed men and women who had been on sick leave for between 1 week and 6 months with musculoskeletal disorders over a lifetime. The interventions assessed included:

- Workplace intervention (a workplace assessment and work modifications based on

participative ergonomics involving all relevant stakeholders);

- Physical activity and education intervention (any form of physical activity and education around how to deal with pain and body mechanics);
- Physical activity, education and workplace visit (as above with a visit by the employee and the physical therapist to the workplace to inform rehabilitation and enable the employer to become actively involved in the rehabilitation process; it does not include a workplace assessment and work modifications as for the workplace intervention).

These interventions were compared within the model against usual care for musculoskeletal disorders within the UK. Usual care was assumed to generally involve GP visits and prescriptions for analgesics. The model estimated both the cost per quality-adjusted life year (QALY) gained and the cost per day on sick leave avoided. Variants of the model (using sensitivity analysis) adopted the human capital method and the friction cost method (assuming a 10 week friction period). The physical activity and education intervention was estimated to result in a cost per QALY gained of around £2,800 in comparison to usual care. The remaining two interventions assessed within the model were estimated to be more effective and less costly than usual care. From the employer perspective, the model suggests that the interventions which do not require large cost input from the employer (physical activity and education intervention; physical activity, education and workplace visit) are likely to be cost saving to the employer. Most of the costs for these interventions are incurred by the NHS. The workplace intervention is estimated to cost the employer a net 34 pence per day on sick leave avoided after taking into account productivity loss and costs such as occupational sick pay (OSP) and the cost of the intervention.

The third study looks at lost work days saved through an early intervention and the costs saved by employers as a result:

Cost-Effectiveness of Early Intervention For Acute Low-Back Pain Patients (Gatchel et al, 2003)

Approaching 700 acute low-back pain patients were screened for their high-risk versus low-risk status. On the basis of this screening, high risk patients were then randomly assigned to one of two groups: a functional restoration early intervention group (n=22), or a non-intervention group (n=48). A group of low-risk subjects (n=54) who did not receive any early intervention was also evaluated. The early intervention protocol consisted of a maximum of the following: three physician evaluations; one physical therapy evaluation lasting 1 hour; nine physical therapy sessions, consisting of 15-minute individual exercise classes; nine physical therapy sessions, consisting of 30-minute group exercise classes; nine biofeedback/pain management sessions; nine group didactic sessions lasting 45 minutes; nine case manager/occupational therapy sessions lasting 30 minutes; three interdisciplinary team conferences.

All these subjects were prospectively tracked at 3-month intervals starting from the date of their initial evaluation, culminating in a 12-month follow-up. During these follow-up evaluations, pain disability and socioeconomic outcomes (such as return-to-work and healthcare utilization) were assessed. Up to 91 percent of those in the early intervention group were still in work at the 12 month follow-up compared with 69 per cent in the non-intervention group. Using the human capital approach, the 1 year cost of lost productivity as a result of sick days was $7,072 for those in the early intervention group and $18, 951 in the non-intervention group. Results also indicated that the high-

risk subjects who received the early intervention displayed statistically significant fewer indices of chronic pain disability on a wide range of work, healthcare utilization, medication use, and self-report pain variables, relative to the high-risk subjects who did not receive such early intervention. In addition, the high-risk non-intervention group displayed significantly more symptoms of chronic pain disability on these variables relative to the initially low-risk subjects. Cost-comparison savings data were also evaluated. These data revealed that there were greater cost savings associated with the early intervention group versus the group with no early intervention.

The fourth study focused on the work outcomes, healthcare costs and overall cost-effectiveness of an early 'functional restoration' programme for people with chronic MSDs. This was compared explicitly with a delayed intervention:

Early vs Delayed Functional Restoration & RTW for workers with chronic MSDs (Theodore et al, 2014)

Despite extensive evidence for the treatment effectiveness of interdisciplinary functional restoration (FR) for chronic disabling occupational musculoskeletal disorders (CDOMD), there is little documentation on the cost-effectiveness of early rehabilitation using FR. Functional restoration includes intensive physical therapy, patient education and psycho social support and treatment. In this US study a total of 1,119 patients with CDOMD were classified according to duration of disability on FR entry, corresponding to early rehabilitation (ER: 4–8 months of disability, N = 373), intermediate duration (ID: 9–18 months, N = 373), and delayed rehabilitation (DR:[18 months, N = 373). Groups were matched on sex, age, ethnicity, and injured musculoskeletal region. After a year the post-rehabilitation outcomes which were measured included return-to-work, work retention and healthcare utilization. Economic analyses included a cost-effectiveness analysis of the FR programme, and an estimation of the total cost-of illness.

At the 1-year post-rehabilitation stage, all groups were comparable on rates of return-to-work (overall 88 per cent), work retention (overall 80 per cent), and additional healthcare utilization (overall, 2.2 % of patients received re-operations/new surgeries, 2 visits to new healthcare provider). However, savings of up to 64 per cent in medical costs, and up to 80 per cent in disability benefits and productivity losses was associated with the ER group. The cost of rehabilitation was also up to 56 per cent lower when administered early. Overall, ER resulted in estimated cost savings of up to 72 per cent (or almost $170,000 per claim). The study concluded that the duration of disability does not negatively impact objective work or healthcare utilization outcomes following interdisciplinary FR. However, early rehabilitation is more likely to be a cost effective solution compared to cases that progress (ie longer than 8 months) and receiving FR as a treatment of 'last resort'.

The fifth study used an early intervention involving advice and education about physical activity and self-care (eg stretching), education and physical therapy as part of a mobilisation programme:

Cost-effectiveness of Early Mobilisation for Low Back pain and RTW (Molde Hagen et al, 2003)

A total 457 patients with low back pain were placed on a sick list for 8 to 12 weeks for low back pain were randomized into two groups: an intervention group (n=237) and a control group (n=220).

The patients in the intervention group were invited to a spine clinic within week 12 of sick leave. They were interviewed and examined by a treatment team consisting of a physician (specialist in physical medicine and rehabilitation) and a physiotherapist. Special attention was given to the description of daily activities and the restrictions caused by LBP, in addition to psychosocial conditions at home and at work. Unless symptoms and clinical findings indicated any serious spinal disease, the patients were informed about the good prognosis and the importance of staying active to avoid development of muscle dysfunction. They were encouraged to take daily walks. All the patients were advised and instructed individually by the physiotherapist in how to train and stretch at home and received practical advice in coping with daily activities at home and at work and how to resume normal activities. The control group was not examined at the clinic but was treated within a conventional primary health care setting.

Over the 3 years of observation, the intervention group had significantly fewer days of sickness compensation - an average 125.7 days/person) than the control group (169.6 days/person). This difference was mainly attributable to a more rapid return to work during the first year. There was no significant difference for the second or third year. In particular, there was no increased risk for reoccurrence of illness from early return to work. At 6-month follow-up, patients in the intervention group were less likely to use bed rest and more likely to use stretching and walking to cope with their back pain compared with the control group. This effect diminished over time, however.

At the 12-month follow-up point, the only significant difference between the groups was in the use of stretching. Economic returns of the intervention were calculated in terms of increases in the net present value of production for society because of the reduction in number of days on sick leave. Net benefits accumulated over 3 years of treating the 237 patients in the intervention group amount to approximately $2,822 per person. For patients with sub-acute low back pain, a brief and simple early intervention with examination, information, reassurance, and encouragement to engage in physical activity as normal as possible had economic gains for society. The effect occurred during the first year after intervention. There were no significant long-term effects of the intervention. The study concluded that the initial gain obtained during the first year does not lead to any increased costs or increased risks for reoccurrence of illness over the next 2 years.

The sixth case study illustrates an early intervention (after 5 days of absence from work) for people with MSDs. It measured the impact on both temporary and permanent work disability, patient satisfaction and healthcare resource utilisation.

Early Clinical Intervention to Reduce Work Disability Related to Musculoskeletal Disorders (Abasolo et al, 2005).

The aim of the study was to evaluate whether a population-based clinical program offered to patients with recent-onset work disability caused by MSDs was cost-effective. Using a randomized, controlled intervention study, 13 077 patients from 3 health districts of Madrid were included in the

study, 7805 in the control group and 5272 in the intervention group, generating 16 297 episodes of MSD-related temporary work disability (work absence). These episodes were shorter in the intervention group than in the control group (mean, 26 days compared with 41 days). The control group received standard primary care management, with referral to specialized care if needed. The intervention group received a specific program, administered by rheumatologists, in which care was delivered during regular visits and included 3 main elements: education, protocol-based clinical management, and administrative duties. Fewer patients received long-term disability compensation in the intervention group (n=38) than in the control group (n=99 [1.3%). Direct and indirect costs were lower in the intervention group than in the control group. To save 1 day of temporary work disability, $6.00 had to be invested in the program. Each dollar invested generated a benefit of $11.00. The program's net benefit was in excess of $5 million.

Headline figures such as *"$1 invested generated a benefit of $11"* are eye-catching and impressive. However, they often need further scrutiny to understand the components of the calculation, assess their credibility and to identify whether these benefits might also be derived by similar interventions in other healthcare systems. So how were these figures generated in the Madrid study? First, it should be recognised that this analysis was carried out separately in each of the three health districts, with varying results. In one (district 4) the cost-effectiveness was $1 spent to generate $11 of benefit. In the other two the ratios were lower (1:8 in district 9) and higher (1:20 in district 7).

Here, the direct and indirect costs included in the calculation are set out in detail. The 1:11 cost-effectiveness ratio is arrived at by dividing the total saved ($1,960,405) by the intervention costs ($189,314). In calculating indirect costs, the researchers adopted a Human Capital perspective. This approach counts any hour or day not worked as an hour or day lost, thereby calculating productivity costs as the product of total hours (or days) lost multiplied by the hourly (or daily) wage (van den Hout, 2010). As discussed in the main body of the paper, it can be argued that using this approach may, in some cases, exaggerate some aspects of the indirect costs because the loss of an ill worker for a day may not equate to one day of pay, depending on the ways an employer chooses to 'cover' or substitute for the absent worker. Nonetheless, the 1:11 cost-effectiveness ratio obtained in the Madrid example would still be noteworthy even if the indirect costs were, for example, 50 per cent lower.

The seventh study, based on data from Dutch temporary workers with a MSD, involved a detailed therapeutic and supported employment intervention involving education, advice and self-management.

Cost-effectiveness of a RTW Intervention for Temporary Workers with MSDs (Vermeulen et al, 2013)

The aim of this Dutch study was to evaluate the cost-effectiveness, cost-utility, and cost-benefit of a newly developed participatory return-to-work (RTW) programme for temporary agency and unemployed workers who had been sick-listed due to musculoskeletal disorders. An economic evaluation was conducted alongside a randomized controlled trial with a 12-month follow-up. Temporary agency and unemployed workers, sick-listed for 2–8 weeks due to musculoskeletal disorders, were randomized to the participatory RTW programme (N=79) or usual care group (N=84). The new RTW programme was aimed at making a consensus-based RTW action plan with the possibility of a temporary (therapeutic) workplace. It operated thus:

The new RTW programme consisted of consecutive steps starting with a combined consult with the

insurance physician and the labour expert of the Social Security Agency (SSA). Next, two structured meetings took place between the sick-listed worker and the RTW coordinator, and between the labour expert of the SSA and the RTW coordinator, respectively. In the meeting with the sick-listed worker the RTW coordinator used a structured interview to identify and prioritise obstacles for RTW. The ranking of the main obstacles to RTW was performed based on frequency (how often do they occur?) and severity (how large is the perceived impact on functioning in daily life and/or work?). The meeting between the RTW coordinator and the labour expert was carried out in a comparable manner and resulted in a selection of prioritised obstacles for RTW from the perspective of the labour expert. Next, the RTW coordinator, the sick-listed worker, and the labour expert brainstormed about solutions to address the prioritised obstacles. The proposed solutions were judged on the basis of availability, feasibility and ability to solve the barrier. The final step resulted in the making of a consensus-based RTW plan describing the prioritised obstacles for RTW, the consensus-based solutions, the person(s) responsible for implementation of each selected solution, and a time-path when it should be carried out. To create opportunities for therapeutic work resumption, a commercial vocational rehabilitation agency could be contracted to find a temporary (therapeutic) workplace matching with the formulated RTW plan and taking into account the worker's (functional) limitations. Six weeks after the brainstorm session the RTW coordinator contacted the sick-listed worker and the labour expert by telephone to evaluate actual implementation of the solutions, including the progress regarding placement in temporary therapeutic) work.

The study was focused on two main outcomes - sustainable RTW and quality-adjusted life years (QALY). Healthcare utilisation was measured from the social insurer's perspective and societal perspective. The researchers assumed that workers were 100 per cent productive during the hours of work resumption in a temporary workplace. To calculate the productivity gain during work resumption with ongoing sickness benefit, the total number of working hours (with ongoing sickness benefit) during the 12-month follow-up was multiplied by the estimated price of productivity per hour based on age and gender.

Total healthcare costs in the participatory RTW programme group (€10,189) were statistically significantly higher compared to care-as-usual (€7,862). The cost-effectiveness analyses showed that the new intervention was more effective but also more costly than usual care (ie, to gain RTW one day earlier in the participatory RTW programme group, approximately €80 needed to be invested). The net societal benefit of the participatory RTW programme compared to care-as-usual was €2,073 per worker. The study concluded that the newly developed participatory RTW programme was more effective but also more costly than usual care. However, the programme enhanced work resumption and generated a net socioeconomic benefit. Hence, implementation of the participatory RTW programme may have potential to achieve a sustainable contribution of vulnerable workers to the labour force.

What do these studies tell us?

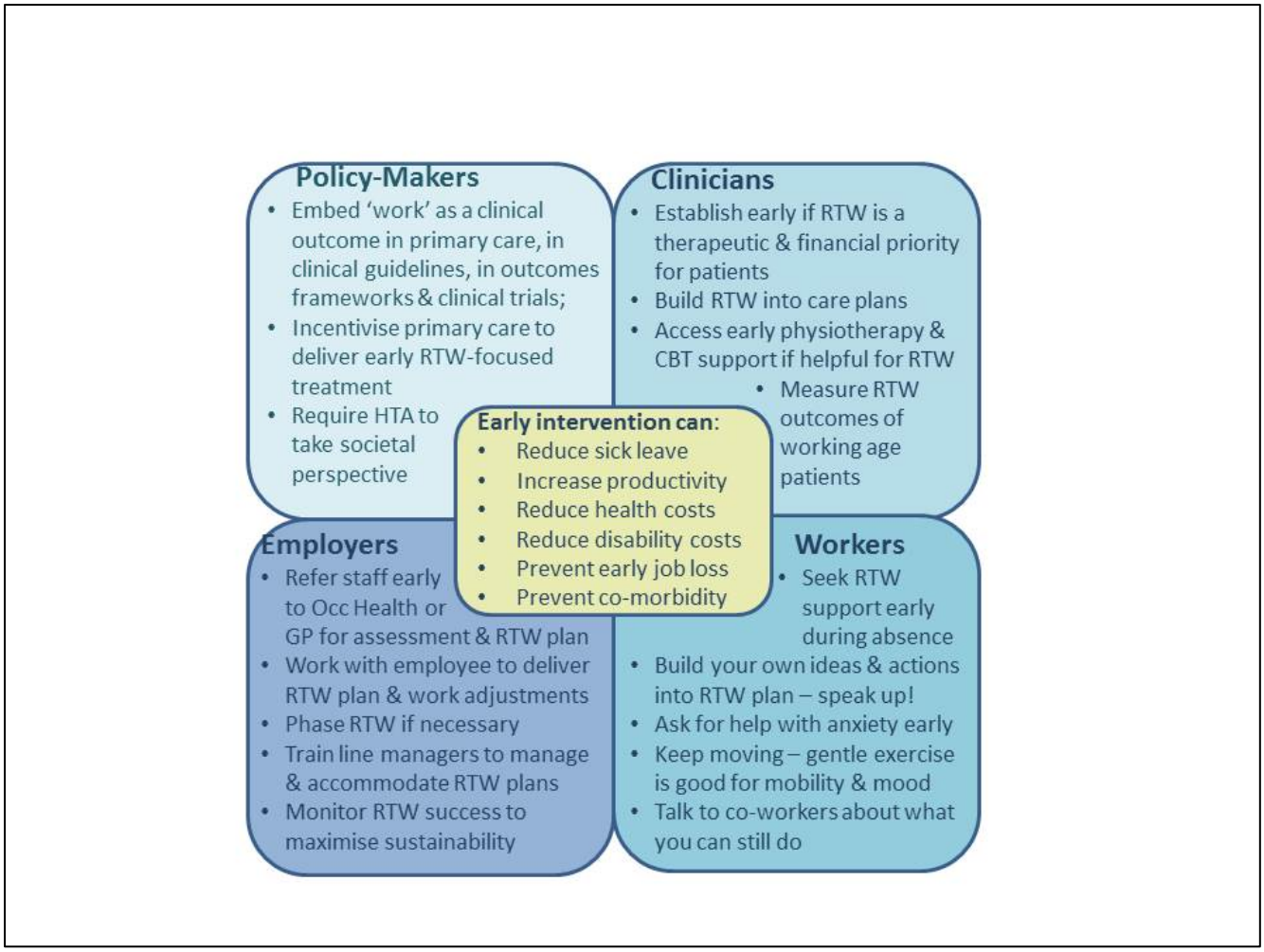
These seven studies give us a reasonable degree of confidence that targeted, multidisciplinary, work-focused, consensual and **early** therapeutic interventions which are clinically-led but involve employers and individual workers can deliver superior and cost-effective return-to-work and related outcomes compared to 'usual care'. More specifically, they have shown us that, in the right combination, such early interventions can:

7. Reduce **sick leave** and lost **work productivity** among workers with MSDs by more than 50 per cent. Even in studies using 'friction cost' approaches, the early intervention is more cost-effective than 'usual care';
8. Reduce **healthcare costs** by up to two-thirds;
9. Reduce **disability benefits costs** by up to 80 per cent;
10. Reduce the risk of permanent **work disability** and **job loss** by up to 50 percent;
11. Reduce the risk of developing a co-morbid **mental illness**
12. Deliver **societal benefits** by supporting people with work-limiting chronic conditions to optimise their **functional capacity** and remain active at work and maintain **economic independence**.

The evidence-base for early healthcare interventions which result in the cost-effective delivery of better clinical, psycho-social, productivity and employment outcomes seems to be growing. If so, what can the four stakeholder groups which stand to benefit most from earlier intervention do to deliver its benefits more systematically and sustainably?

Figure 1, below, sets out a number of key actions which **Policy-makers, Clinicians, Employers** and **Workers** with impaired functional capacity themselves can do help.

Figure 1 Realising the Benefits of Early Intervention – Stakeholder Actions



Source: The Work Foundation, 2015

The case studies have identified circumstances where early intervention can be 'cost-effective' in relation to productivity, reduced sickness absence and reduced healthcare resource utilisation. There remain, however, a number of barriers to early intervention becoming part of the 'mainstream' of clinical practice and vocational rehabilitation. Again, these barriers vary by stakeholder.

1. Among most **Policy-Makers** the logic and the growing evidence in support of earlier interventions which result in improved work outcomes is clear at least in theory. In practice, the dominance of silo budgeting both at national and local level means that there are few incentives to 'pool' budgets or to invest in cross-agency working even if there are proven advantages of doing so. Some examples of success in this area to exist. McDaid (2012) highlights the work which has been conducted in Sweden to allow agencies at municipality level to 'pool' up to 10 per cent of local budgets to form local associations which coordinate rehabilitation services. This required enabling legislation (the 2003 Act on Financial Coordination of Rehabilitation Measures) but, between 2003 and 2012 the proportion of early retirement and disability claims accounted for by musculoskeletal disorders (MSDs) fell from approximately 40 per cent to 20 per cent. The economic and social returns from this success accrue to government, employers and to individuals and the Swedish example shows that there is an alternative to silo-budgets where there are low incentives to invest in interventions where the returns are shared. Another challenge that policy-makers face is the impact of electoral cycles on the willingness to 'invest' interventions which may take several years to have an effect or which make take some time to evaluate robustly. This can even mean that there is a cultural resistance to build on or 'scale-up' small or pilot interventions which appear successful into larger scale regional or national initiatives. Finally, in periods of increased scrutiny over healthcare and other spending the 'proof' needed to justify increased early investment in interventions where the costs are 'front-end' loaded can be onerous. The case material presented in this paper shows that, in the case for investing in early interventions which deliver positive work and productivity outcomes for people living with chronic conditions such as MSDs is building;
2. The over-riding interest for most **Employers** is to maximise the availability of skilled and motivated employees so that operational demands and productivity targets can be met. For large employers with access to Occupational Health, Physiotherapy, Occupational Therapy or Cognitive Behavioural Therapy (CBT) services the process of referral for employees who have long-term sick leave may be well established. However, given that most employees in the majority of countries work in Small and Medium-sized companies (SMEs) or in larger organisations with little or no access to healthcare or rehabilitation support, the early intervention 'infrastructure' is rarely present. In some countries with high unemployment there is anecdotal evidence that some employers feel that employees with chronic ill-health and reduced productivity are a financial burden and that they are happy for them to retire early or move onto long-term disability schemes so that the business can hire a new, healthy employee from the large labour pool currently out of work. However, in countries like The Netherlands and Belgium this is not an option as regulations require all employers of all sizes

to pay the costs of employees on long-term sick leave (for up to 2 years) and to implement return to work plans with oversight of Occupational Health professionals (also paid for by the employer). In such systems the economic and operational benefits of both prevention and early intervention are made clear to employers;

3. The challenge for many **Clinicians** is that, even though they know that early intervention can often have clinical and occupational benefits, it can be hard to find or get payment for support services or medical interventions which deliver early benefits. In many healthcare systems – especially those which prioritise treatment over prevention – investment in early intervention is harder because the infrastructure is focused on acute care and the 'mind-set' of healthcare decision-makers is not attuned to the notion of 'investment' rather than 'cost'. Another problem is that building RTW into a care plan for a patient is not incentivised in many health systems nor is the principle that work should be regarded as a clinical outcome of care. This especially the case in systems where the QALY's gained by a healthcare intervention dominate the 'cost-effectiveness' decision, even though there may be a supplementary societal benefit (eg work productivity, improved support for carers etc).
4. Among **Workers** with chronic conditions early interventions which allow them to remain active at work – even if this is on a limited basis to support recovery – are often in their best clinical and financial interests. Nonetheless, if the workplace itself is felt to have contributed to the decline in health, or if medical advice is to stay away from work for several weeks, or if the individual, their doctor or their employer believes that the worker has to be 100 per cent fit to return to work, the cultural and practical barriers to early intervention can be powerful. The modern emphasis on clinical self-management may hold part of the answer. Self-management is widely regarded as part of the answer to the challenge of healthcare system sustainability. However supporting patient self-management in workplace settings is a relatively under-explored topic (Summers et al, 2014). Yet the evidence shows that empowered patients who can lead the process of making workplace accommodations, co-designing timely return to work plans and helping managers and co-workers to support rehabilitation and recovery as productivity increases can have significant benefits for all stakeholders. Resources which support greater patient education on how to manage and benefit from an early return to work are now becoming available (see Summers et al, 2014 for a summary and links to resources).

Overall, all stakeholders have something to gain from making early, work-focused, interventions more routinely available to working age people with chronic, work-limiting health conditions. In the right circumstances the economic, clinical and rehabilitation benefits can be considerable – especially if some of the political, attitudinal and cultural barriers described above can be overcome. The next challenge is to ensure that early interventions which support RTW in a cost-effective way become part of mainstream practice.

Making Early, Work-focused, Intervention Mainstream

Giving priority to the key actions highlighted in Figure 1, above, would make a considerable difference to our collective ability to realise the benefits promised by more systematic and mainstream access to early intervention. Some focus on the wider political and financial environment, others on the clinical culture where the cost-effectiveness of acute treatment is easier to measure than prevention or early intervention.

Our case studies, and the growing body of evidence which looks at the cost-effectiveness of early, work-focused, interventions show that getting this right can benefit everyone. As workforces in many developed economies age, retire later and – as a consequence – have to live with more chronic ill-health while they are still working, the case for a dramatic shift in the way we allocate healthcare resources for working age people is becoming irresistible. Early, rather than later, is almost always better and more cost –effective.

Annex 1 Cost-Effectiveness of Early Intervention – Methodological Considerations

In assessing the quality and generalisability of studies which assess the cost-effectiveness of early healthcare interventions on work outcomes, it is important to explore some of the methodological issues faced by those conducting economic evaluations and those seeking to interpret the results. Here we look at three (though several more are commonly cited in the technical and academic literature – see Drummond et al, 2005 for more detailed descriptions):

1. Methods for estimating indirect costs – more specifically, the Human Capital and the Friction Cost methods;
2. The reliability of 'return to work' as an outcome measure of healthcare interventions;
3. The inclusion (or non-inclusion) and choice of comparator interventions, especially in the context of 'early' intervention.

The methodological challenges raised by these three issues are discussed below.

Estimating Lost Productivity in Economic Evaluations

The conventional approach to estimating the cost-effectiveness of a healthcare intervention is to calculate the Quality-adjusted Life Year (QALY). The QALY measure is used in assessing the value for money of medical interventions and is based on the number of years of life that would be added by these interventions. A QALY gives a measure of how many extra months or years of life of a reasonable quality a person might gain as a result of treatment and helps in the assessment of the cost-utility of this treatment. An HTA agency may then determine that a healthcare intervention which costs below, for example $50,000 per QALY gained, may be eligible for reimbursement.

However, if healthcare decision-makers, clinicians and employers are to be able to assess the likely cost-effectiveness of investing in interventions which help people of working age with chronic ill-health to remain economically active they will need to be able to access information about the **productivity gains** likely to accrue from these investments. These estimations go beyond the criteria represented by the QALY measure as they seek to supplement data about the direct costs of treatment with data about the indirect costs of a health condition to society at large, to employers and to individuals and their families or carers. While there is broad consensus that the QALY is a standardised measure which has credibility and validity for the purposes of assessing the clinical benefits of a healthcare intervention, there is more debate – and less consensus – about how to measure and incorporate indirect costs (including lost productivity) in these calculations. The challenges posed by this debate are summarised briefly below.

In principle, health economic evaluations that seek to include an estimate of indirect costs should provide decision-makers with a more complete picture of the economic (eg. Productivity) costs which result from illness, impaired functional capacity, permanent work loss or even premature death (Rice, 1967). However, there are different methods in use to estimate these productivity losses, and the choice of method used can have a significant impact on the magnitude of indirect costs estimated and, therefore, on the outcomes and decisions made as a result of from health economic evaluations.

Contrasting the two main methods – the human capital method and the friction cost method - will illustrate the variability in the assumptions which underpin them and the differences in the results they produce (Hodgson, 1994; Koopmanschap and Rutten, 1996; Hutubessy, 1999; van den Hout, 2010).

Using the so-called **human capital** method the potential loss of work productivity is quantified in terms of forgone earnings, assuming full productivity on the part of the worker. The individual rate of pay is assumed to be equal to the value of a person's labour activity. Koopmanschap and Rutten (1996) call this 'potentially lost production' as a consequence of ill-health, with the assumption that lost working time attributable to short-term absence and long-term disability would have been spent in full productivity. While this approach relies on relatively simple (or, perhaps, simplistic) calculations about lost working time (ie lost hours or days multiplied by mean hourly or daily wage rates), it is open to the criticism that it will almost always over-estimate productivity losses. This is primarily for two reasons. First, that the assumption that healthy workers are always fully productive is probably flawed. There may be workplace factors that undermine productivity (such as inefficient work organisation, poor training, poor technology, low motivation or morale or ineffective management or team working) even if the health of the worker is excellent. Second, the human capital method assumes that the full productive capacity of the absent worker is lost during their absence and is not replaced by the employer and that it takes no account of strategies employers adopt to 'cover' or temporarily replace absent workers. A study in the UK (Bevan and Hayday, 2001) highlighted that, for some occupations such as administrative and clerical roles, employers are more likely to hire temporary or agency workers to cover absences (often at significant cost) while the work of absent managers and professionals is most often covered informally and at zero additional cost by co-workers or just left undone until the absentee returns.

By contrast, the **friction cost method** makes the explicit assumption that the absent worker, especially in cases of long-term absence, will eventually be replaced. This method estimates the costs by calculating the production losses caused by sick leave during what is called a 'friction period'. The friction period is defined as the number of days needed to restore the performance of tasks in the role to the initial levels of production. It is assumed that employees who are on sick leave will be replaced after completion of the friction period. For example, the friction period for a nursing job may be set at 40 days – the number of days before the performance of the role returns to 100 per cent of the pre-absence productivity level. If a nurse has been on sick leave for 10 days, while the friction period has been estimated to be 40 days, then only the production losses of all these 10 days will be taken into account. However, if the nurse has been on sick leave for 60 days, production losses will be limited to the friction period of 40 days.

By taking the **employer perspective** the friction cost method attempts to build in realistic assumptions about the way sick leave is managed and seeks to guard against overestimation of absence costs. The human capital method addresses the same absence events from the employee perspective and explicitly takes into account the whole period of absence regardless of the way the work of the absent employee is covered. In practice, the complexity of the friction cost method and the data required to calculate friction periods for different job roles means that it is only rarely used while the human capital method – taking the **employee perspective** - is used almost universally. In most cases, estimates of work productivity losses using the human capital approach are – for the reasons set out above – significantly higher than those derived using the friction cost method.

Neither method is perfect, but the size of indirect cost estimates included in economic evaluations should be scrutinised with care to establish which method has been used.

Using 'Return to Work' as an Outcome Measure

In general terms we know that being in work is good for health and wellbeing (Waddell and Burton, 2006). More specifically, we know that good quality work is better for both physical and psychological wellbeing than poor quality work (Butterworth et al, 2011; Marmot et al, 2012). However, for the purpose of economic evaluations of health interventions where employment outcomes are being measured it is important to be a precise as possible about what kind of work context is being discussed. Several alternative definitions may be possible:

1. Job retention. This can mean the employee stays in their current job, with no long-term absences from work, with the same or adapted duties. Adapted duties may be permanent or temporary, with different implications for work productivity loss;

2. Return to work (RTW) in same organisation. This may be after an extended period of absences (attributable to the effects of a health condition on functional capacity and/or the need to receive and recover from treatment for a health condition). Again, RTW may be to the same job that the worker held prior to the absence, with the same, reduced or adapted duties or to a different job with the same, reduced or adapted duties;

3. Volunteering/unpaid work/sheltered work. If a worker experiences job loss as a result of their health it is possible that they will be given the opportunity to engage in a range of work-related activities which are intended to support rehabilitation, to re-build confidence and work skills after a period of unemployment or to qualify the individual for receipt of state welfare payments. However, evidence from the use of supported employment interventions for people with mental illness show that volunteering or sheltered work do not act as an effective 'bridge' into mainstream paid employment (Rinaldi and Perkins, 2007). Thus, RTW measures which include volunteering or sheltered employment need to be treated with caution in economic evaluations;

4. A new job. This may be a wholly positive outcome if the job is a good match with the skills of the individual and if it provides a working environment where both physical and psychosocial risk factors are well managed. However a new job with skill demands below qualifications the skills, qualifications or aspirations of the individual or where these are below the demands of the previous job may be less desirable from a health and wellbeing perspective. If the worker has health conditions which include mental illnesses such as depression or anxiety (and up to 30 per cent of people with MSDs, for example, have co-morbid depression for example) a new job with low psychosocial quality may risk a relapse or threaten the success of vocational rehabilitation interventions. Equally, if a new job includes a precarious or contingent element (eg zero-hours contracts, temporary or agency work) it is possible that the poor financial rewards, the unpredictable nature of the hours or the lack of job security might place the health of the individual at elevated risk.

Thus, 'return to work' (RTW) as an outcome measure may not be a straightforward or binary (ie any work=good; no work=bad) way of measuring the 'success' of a clinical intervention. Indeed, poor quality, precarious or 'contingent' work cannot usually be expected to have the kind of therapeutic

benefits that 'good work' might have (Butterworth et al, 2011). This is important if we think that sustained employment is also a valued employment outcome because it supports recovery.

There are three other reasons why RTW poses challenges as an outcome measure. These have been highlighted by analysis conducted by WHO Europe as part of its 'Research agenda for health economic evaluation' (RAHEE) project (Tordrup et al, 2015). With regard to the use of RTW as an outcome measure in health economic evaluations it sets out the following challenges:

1. RTW may risk underestimating disability. An individual may be able to return to work despite having significant functional impairments which have a detrimental impact on their quality of life (eg somebody with depression or with chronic pain or fatigue). In this situation, using RTW as an outcome measure instead of a QALY may risk underestimating the disability of the individual worker;

2. RTW may risk overestimating the success of treatment. It should not be assumed in all cases that RTW can be used as a proxy for 'recovery'. A Canadian study which tracked workers recovering from injury found that using RTW as a measure of recovery would result in an assumption that 85 per cent of workers recovered from their injury, while in fact 61 per cent of workers actually had subsequent spells of disability (Baldwin, Johnson & Butler, 1996). In addition practices such as phased or graduated RTW (often used in vocational rehabilitation interventions) may well result in successful and sustained RTW but inevitably involve reduced productivity until the worker attains full or optimal functional capacity in relation to their job. In the context of 'early' interventions which support RTW it is also important to recognise that the economic cost and benefits of early RTW (before full recovery – which is often perfectly feasible and usually better than prolonged sick leave) will need to take into account reduced functional capacity and productivity.

Another factor to consider is whether RTW is, in some circumstances, identical to clinical recovery. If recovery and RTW occur concurrently, then there little or no added value in considering RTW as an outcome, they are identical – the patient recovers and goes back to work. The exception would be if patients who have recovered clinically delay RTW for other reasons (for example, social, anxiety, depression). If RTW and recovery are really the same event, then early intervention is simply an effective way of ensuring clinical recovery and RTW is captured (in economic terms) as the decreased productivity loss associated with the early intervention. Clearer economic returns from early intervention accrue if RTW is occurring before full clinical recovery, where the patient is supported through phased or graduated vocational rehabilitation during (or as part of) treatment, where workplace adaptations are made and so on. In this case the economic gains include lower costs associated with productivity loss, lower risk of comorbid mental health issues associated with unemployment, lower risk of long-term unemployment and risk of exiting the labour force. Economic costs here will, of course, include the cost of the intervention, work place adaptations, etc. Many studies fail to clarify what assumptions they are making about the alignment of clinical recovery (or the attainment of an acceptable level of functional capacity)with RTW, risking the overstating of the economic and productivity benefits of early intervention.

In most cases return to work (RTW) is a desirable outcome for the worker as it provides income, supports social inclusion, maintains social connections and promotes psychological wellbeing (Franche and Krause, 2003). However, in some circumstances RTW may not be unambiguously

beneficial and it is important that economic evaluations which include RTW measures as outcomes are clear about the precise measures of RTW which are being used.

Comparators and Attributions

One of the challenges posed by the considerable array of economic evaluations of healthcare interventions – whether they focus on work outcomes or not – is that of the choice of 'comparator'. At its most basic, if we want to assess whether a simple headache pill is a cost-effective form of pain relief it will be very hard to draw firm conclusions unless the costs and benefits of the headache pill were compared with an alternative approach to managing the headache. For example, no treatment at all could be a suitable comparator as could a placebo (a dummy pill with no active ingredient) or another treatment such as a shoulder and neck massage. Of course the costs and the benefits of each of the comparators would also need to be measured.

Other examples of comparators might include:

- Surgery vs non-surgical management in osteoarthritis (eg lifestyle management, weight loss)
- Hip resurfacing vs total hip replacement
- Drug therapy A vs Drug therapy B
- Total knee replacement vs intensive physiotherapy
- Multidisciplinary intervention (eg physiotherapy & CBT for back pain) vs 'normal treatment' such as NSAIDs & exercise
- Anti-depressants vs cognitive behavioural therapy (CBT)
- Insulin pump vs Self-administered blood sugar monitoring & insulin injections

Another finding from the RAHEE project (Tordrup et al, 2015) is that relatively few economic evaluations of healthcare interventions include details of the comparators being used. Even in cases where clear comparators are included, it can sometimes be difficult to use them to replicate the results of studies as insufficient detail on these comparators is provided. One consequence of this methodological imprecision is that it can be difficult to attribute any observed differences in clinical or cost-effectiveness outcomes to the intervention being tested. Thus, if the cost-effectiveness of a total knee replacement is calculated but is not compared with the cost-effectiveness of alternatives such as intensive physiotherapy (Critchley et al, 2007), acupuncture, weight loss or no treatment at all it will be hard to draw conclusions which allow informed decisions about healthcare resource allocation to be made.

This principle applies equally when examining the cost-effectiveness of early interventions – whether the outcome being measured is a QALY gained, RTW or productivity improvements. In this case it is arguably more important to establish a clear comparator because it is possible that the nature and the timing of the earlier intervention may differ from the comparator. For example, if 'normal' treatment for people with chronic low back pain includes cognitive behavioural therapy (CBT) to deal with any depressive co-morbidities, an earlier intervention soon after onset may only require patient education and supported physical therapy or exercise because the risk of developing depression in the early stages of acute back pain are lower. In many studies looking at the costs-effectiveness of early intervention, 'usual treatment' or 'usual care' is a common choice of comparator. From the perspective of an economic evaluation, this comparator can be helpful to

healthcare decision-makers. As McCrone and Knapp (2007) highlight in their work looking at the economic consequences of early interventions for people with a diagnosis of schizophrenia:

'The two most appropriate methods for evaluating early intervention services appear to be cost-effectiveness analysis and cost–utility analysis. If an early intervention service is compared with usual care using either of these approaches, then a number of results could occur, for example it would be appropriate to adopt an early intervention service if it results in lower costs than existing care and better outcomes. The early intervention service should also be favoured if outcomes are no different but costs are reduced or if costs are the same and outcomes are improved. Usual care would be the preferred option if the results were the opposite way round. However, it is unclear whether or not early intervention should be adopted if outcomes are better but costs are higher. In effect this becomes a value judgement that has to be made by decision-makers, with the key question being whether or not the increased costs are justified by the level of improved outcomes.'

So, if we are interested in understanding what economic impact early healthcare interventions among working age people have on work ability, return to work and productivity it is important to ensure that the evidence we use is drawn, where possible, from studies which are clear about:

1. The methods which have been used to estimate indirect costs – especially productivity gains or losses;
2. The measure of 'return to work' (RTW) being used;
3. The choice of comparator interventions used in drawing conclusions about cost-effectiveness, especially in the context of 'early' intervention.

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