

Reducing sickness absence in Scotland - applying the lessons from a pilot NHS intervention

University of Glasgow

Final Report

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SCPHRP

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Project title: Reducing sickness absence in Scotland - applying the lessons from a pilot NHS intervention	
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Structure of final report:

1. Summary
2. Original aims
3. Methodology
4. Results
5. Discussion
6. Conclusions
7. Importance to policy & practice and possible implementation
8. Future research
9. Dissemination
10. Research workers
11. Financial statement
12. Executive summary (Focus on Research)

1. Summary

In May 2008 NHS Lanarkshire (NHSL) implemented a unique sickness absence management service called 'Early Access to Support to You' (EASY) service. The EASY service supplements existing absence policies and enables communication between the absentee and their line manager from Day 1 of absence and referral to occupational health at day 10. We analysed three sources of data and showed that the EASY service was effective in reducing sickness absence and NHSL moved from the worst performing Scottish mainland Health Board to the best in terms of sickness absence management. The service was also cost effective; the value of the hours saved comfortably exceeded the cost of the intervention.

2. Original Aims

To evaluate the 'Early Access to Support to You' (EASY) sickness absence project from NHS Lanarkshire which will inform the development of an evidence-based model for early intervention for sickness absence which could be applied to other parts of the public sector and also be appropriate for SMEs throughout Scotland.

The specific research questions our study will address are:

- What is the effectiveness of the EASY project in NHS Lanarkshire?
- How can EASY be improved and developed into a larger early sickness absence intervention which can be used by employers in Scotland within the Healthy Working Lives suite of services?

3. Methodology and data sets

R&D management approval was granted for the conduct of the study within NHS Lanarkshire on the 27th April 2012 (R&D ID Number L11071).

Background to EASY service

Cabinet minister criticism facilitated an innovative approach to managing sickness absence in NHSL and the EASY service was designed based on the biopsychosocial model,¹ applying cognitive behavioural principles, and utilising evidence based interventions.²⁻⁵ The EASY service was introduced in NHSL in May 2008, with all staff included by March 2009. Non clinical call handlers from the EASY service phone the absentee on day 1 of absence and offer advice and inform employees about services to which they could self-refer, e.g. occupational health (OH), physiotherapy, counselling service, and also about the Family Friendly leave entitlements. Staff receive a further telephone call from the EASY service on day 3 if still absent from work and referral to OH occurs by day 10 of absence. Human resource (HR) and OH roles were changed to one of proactive support to both the employee and manager. An important aspect of the EASY service was extensive communications to all employees and managers to ensure the purpose of the EASY service, i.e. to provide early access to support, was understood and accepted.

The study analysed three sources of data.

a. Time series analysis of Information Services Division sickness absence data

Sickness absence data was requested from NHS Scotland Information Services Division (ISD). We were provided with monthly sickness absence rates (sickness absence rates are defined as total number of working hours lost due to sickness absence divided by total number of possible working hours) for all Health Boards in Scotland. This allowed us to produce two series of data for NHSL and NHS Scotland excluding NHSL (NHS rest of Scotland) from January 2007 to August 2012 (data prior to 2007 was not available).

The two series of data were analysed using Box-Jenkins Autoregressive integrated moving average (ARIMA) time series methodology. For the NHSL time series we adopted an input series that would allow the EASY intervention to slowly evolve from the start of the intervention in May 2008, when less than 0.01% of NHSL staff were covered to when all NHSL staff were included (March 2009). Specifically, the intervention was modelled as a 0 up to May 2008 and then was modelled as a cumulative intervention, until March 2009 where after the series was coded as a 1. In order to put the EASY intervention in context

the NHS Rest of Scotland series had to be modelled too as there had been effectively a parallel intervention at the national level (due to the Scottish Government setting a challenging HEAT target of 4 per cent sickness absence for NHS Scotland to be achieved by 31 March 2009 and therefore all health Boards were tightening their sickness absence policies) to drive down absence rates but this was a different model to that of the EASY intervention. The national intervention, for the purposes of statistical modelling, took the form of 0 up to May 2008 and a 1 thereafter.

This 4% sickness absence HEAT target to be achieved by 31st March 2009 was further taken into account in the model as it was announced to all Health Boards in December 2007.⁶ For NHSL this involved designing and implementing the EASY service in late 2007/early 2008 but other Health Boards although not introducing an EASY type service will have been tightening their sickness absence policies and procedures. Specifically in this model, the HEAT target announcement was modelled as a 0 up to December 2007 and then was modelled as 1 thereafter.

b. The EASY database

All sickness absence events reported to the EASY service are routinely collected in the EASY database by Salus at NHSL. The anonymised database was transferred to the University of Glasgow and included all sickness absence events from late May 2008 to early May 2012. Key descriptive statistics were carried out on the EASY database. For the purposes of the analyses there were three main exclusions from the database;

1. If the first day of absence was a Saturday or Sunday (n=3012). The EASY service was a Monday to Friday service and therefore it was not possible for these absentees to be phoned by the EASY service on their first day of absence.
2. Date opened was before the first day of absence (n=711).
3. Date opened was equal to or after the return to work date (n=2916).

Due to overlaps between the three exclusion groups 5707 absences were excluded resulting in 32,921 absences (32,359 open, 562 closed) being analysed.

Sickness absence incidence was modelled using ordinary least squares controlling for trend, mean monthly temperature, NHSL staff contracted hours (per thousand) and roll-out period (May 08 – March 09).

Survival analyses and Cox's proportional hazards model

Absence duration was analysed using Kaplan Meier survival analyses and Cox's proportional hazards model. In this case we are looking at the hazard (risk) of the absentees returning to work. The censor date was the 2nd May 2012. The model takes into account each sickness absence event but also the multiple absences by individuals.

Table 1 shows the variables included in the Cox's proportional hazards model.

Table 1

Variable	Reference category
Sex	female
Cause of absence	cough, cold, flu (CCF)
Month of absence	month 1, January
Age	45-49
Report of absence to the EASY service, i.e. secondary compliance	Absence event reported to EASY service on the second day of absence
Day of week of first day of absence	Wednesday
Absence date (actual date of absence) also date from the 2 nd March 2009 (in order to compare absences in the roll-out phase [May 08-Feb 09] and absences in the fully implemented phase [from March 09])	
Job family	administrative services

c. EASY satisfaction questionnaire

A satisfaction questionnaire was designed and piloted on 20 NHSL staff. Unlike the EASY database the questionnaire gathered information on which services/signposting staff were offered as part of the EASY intervention and also the uptake of these services/signposting. Further it included questions on satisfaction with the EASY call handler and on the overall EASY service. A stratified sample was constructed based on the demographics of NHSL staff and the questionnaire was mailed to 1000 NHSL staff who had a closed absence between January and April 2012 (therefore respondents included both short term absentees but also longer term absentees from 2011) in June 2012. Reminder letters were mailed out 4 weeks later. If staff had more than one absence they were asked to recall their most recent absence.

d. Methodology for economic evaluation

The economic benefit from the EASY intervention was calculated by valuing the marginal gain in sickness absences. The gain was calculated as the additional mean hours per month of reduced sickness absence in NHS Lanarkshire relative to the hours of sickness absence reduced in other NHS boards. Hourly gains per month were converted to an annual equivalent and valued at the mean annual salary per staff member in NHS Lanarkshire. Total set-up and operating costs were subtracted from this estimated saving to provide the estimated net economic benefit from operating the EASY service.

e. Design of an early sickness absence intervention service and plan of a scaled up intervention

We held a workshop (Developing a sickness absence intervention) on the 3rd June 2013 at the University of Glasgow. We invited participants from the NHS, Scottish Government, HSE, SCHWL, private OH providers, CIPD, CBI, FSB, STUC, COSLA. 32 delegates attended (no representatives from CIPD, CBI, FSB were able to attend). Dame Carol Black gave an overview of the recommendations of her Review and the Government's response.^{7;8}

Roderick Duncan gave an update on current Government policy in relation to health and work and current issues and challenges. We presented the results of the EASY evaluation but also invited speakers to present findings from other early intervention models (e.g. OHSextra, Working Health Services Scotland, Spanish sickness absence model) and a sickness absence recording tool. The key questions discussed in the workshops were;

Workshop 1 – Evaluating the Evidence. What works, when & how?

Workshop 2 – What are Employer & Employees Needs?

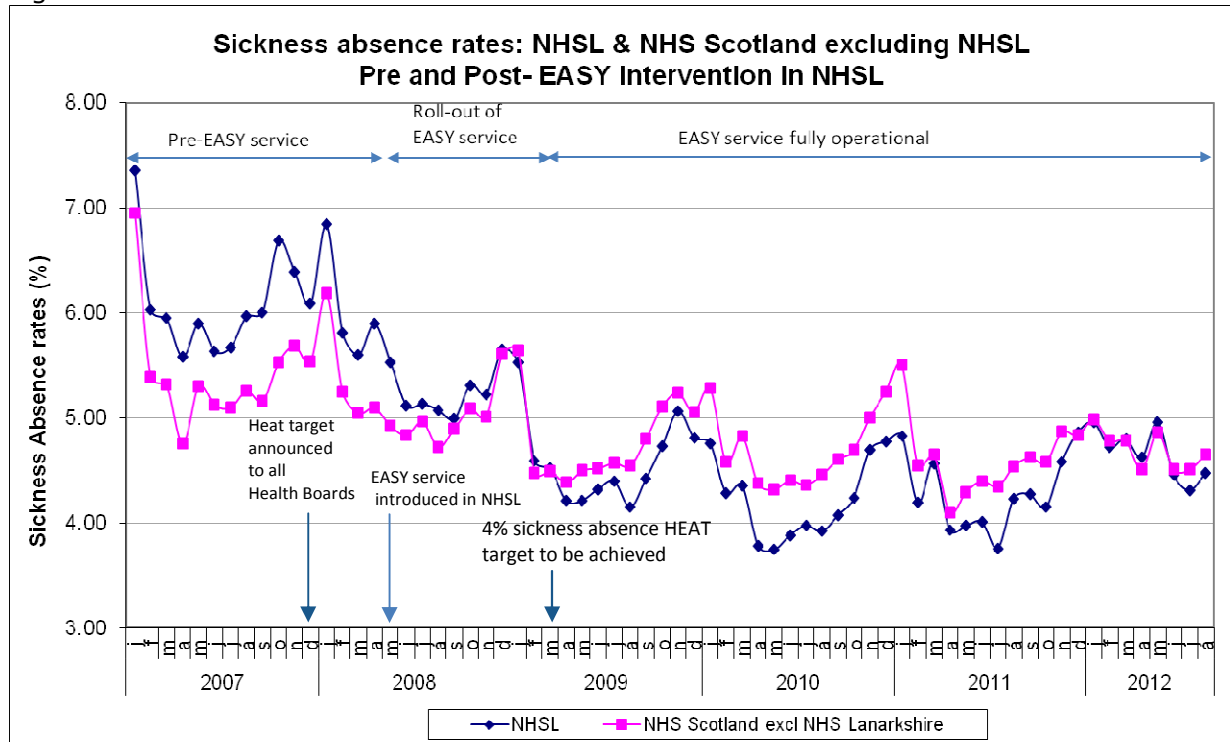
Workshop 3 – What elements do you think could be beneficial to the new model and what would this model look like?

4. Results

a. Time series analysis

Figure 1 shows the monthly sickness absence rate for NHS Lanarkshire (blue line) and for NHS Scotland excluding NHS Lanarkshire (pink line) from January 2007 to August 2012.

Figure 1



For both NHSL and NHS Rest of Scotland there is clear evidence of a downward trend that is non-linear as well as strong seasonality (Figure 1). The first 15 data points are prior to the EASY intervention in NHSL occurring and NHSL has a much higher sickness absence rate than that of the Rest of Scotland for this time period. The HEAT target of 4% to be achieved by 31st March 2009 was announced to all health boards in December 2007. The EASY intervention was introduced in NHSL in May 2008, as was the policy change for the rest of NHS Scotland. There was a continuing downward trend in the monthly sickness absence rate for NHSL and NHS rest of Scotland but for the first time in January 2009 NHSL had a lower sickness absence rate than NHS rest of Scotland. From April 2009 the NHSL monthly sickness absence rate was consistently lower than NHS rest of Scotland.

In terms of the statistical modelling, the best model for NHSL was an AR(1,12) MA(3) model with hyperbolic trend (not shown) to capture the gradual non-linear decline in the absence rate. The model coefficients are shown in Table 2. All parameters are highly significant and the Adjusted R^2 shows that the model is a good fit to the observed series. Adding the intervention effect to the model improved the fit significantly. The AIC statistic is much lower and the adjusted R^2 increased to 0.89. The coefficient on the EASY intervention variable shows that the impact of the intervention was to reduce the sickness absence rate in NHSL by approximately 21% (95% CI, 13.6, 29.3) with this significant at $P < 0.001$. In addition the variable capturing the HEAT announcement shows that the effect of the announcement was to reduce sickness absence by 5.8% (95% CI, -0.13, -0.02, $P = 0.118$) but this did not reach statistical significance.

Table 2 Final Model NHS Lanarkshire Time Series Models

Model Parameter	Estimate	95 % CIs	Probability
Intercept	1.77	1.65, 1.89	<0.0001
Moving average factor 1 lag 3	-0.34	-0.09, -0.59	0.0080
Autoregressive factor 1 lag 1	0.44	0.26, 0.62	<0.0001
Autoregressive factor 1 lag 12	0.45	0.27, 0.63	<0.0001
EASY intervention	-0.21	-0.14, -0.29	<0.0001
Step: Dec 2007 (HEAT)	-0.06	-0.13, 0.02	0.118
	Value		
R-square	0.89		
Akaike Information Criterion	-163.50		

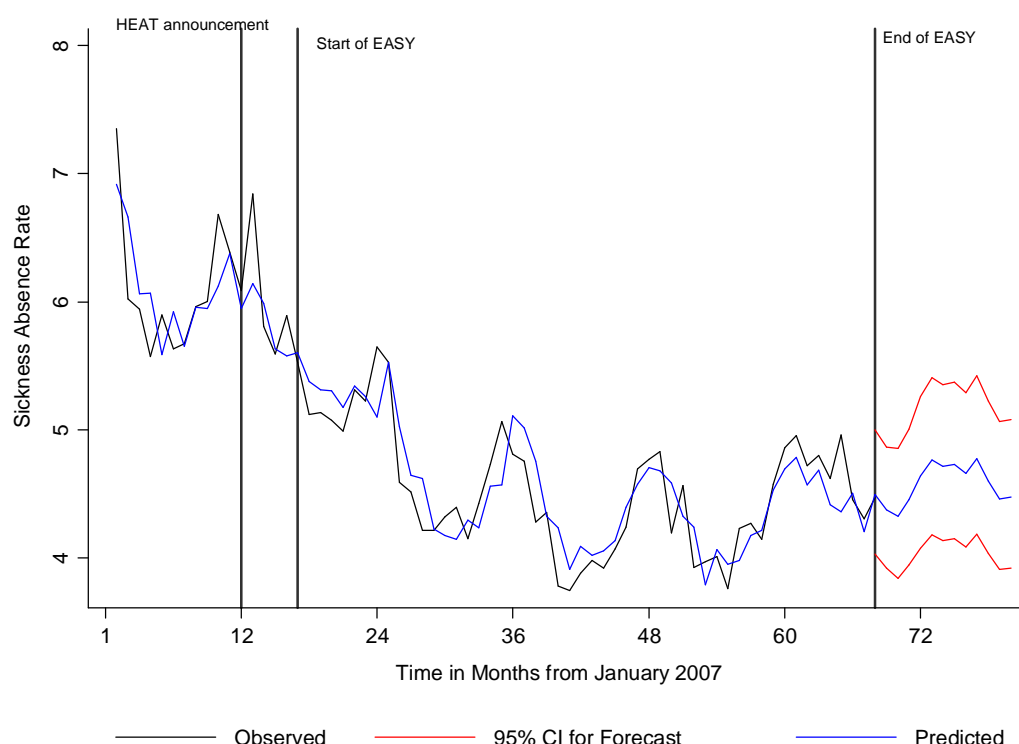
For the rest of NHS Scotland (Table 3) the final model was identified as an AR(1,12,13). After introduction of the policy intervention the model fit was significantly better with the AIC statistic lower at -180.2 and the adjusted R^2 equal to 0.75. The coefficient on the non specific intervention variable shows that the tightening of the sickness absence legislation across Health Boards (excluding NHS Lanarkshire) reduced sickness absence rates by approximately 9.4% (95% CI, 4.3 , 14.5) with this significant at $P < 0.001$. The effect of the HEAT announcement was found to be a 2.7% increase in sickness absence but this did not approach statistical significance.

Table 3 Final Model NHS Scotland excluding NHSL Time series Models

Model Parameter	Estimate	95 % CIs	Probability
Intercept	1.62	1.56 – 1.68	<0.0001
Moving average factor 1 lag 1	0.39	0.16 – 0.62	0.0011
Autoregressive factor 1 lag 12	0.65	0.48 – 0.83	<0.0001
Autoregressive factor 1 lag 13	-0.21	-0.46 – 0.03	0.0895
Non spec SA intervention	-0.09	-0.04 – -0.15	0.0005
Step: Dec 2007 (HEAT)	0.27	0.21 – 0.34	0.3898
	Value		
R-square	0.75		
Akaike Information Criterion	-180.19		

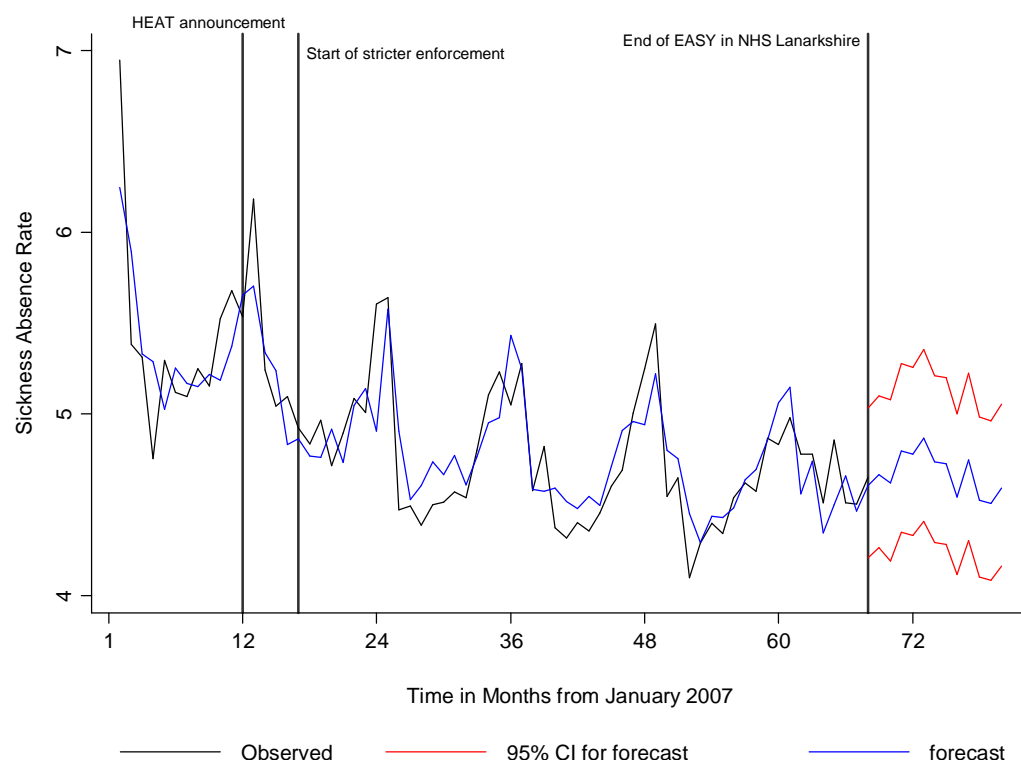
Figures 2 & 3 show the observed and fitted values for NHSL and NHS Scotland excluding NHSL as well as forecasts 12 months into the future (this assumes EASY is still present).

Figure 2 Fitted Model and Forecast for NHSL



NOTE: Forecast assumes EASY effect will continue

Figure 3 Fitted Model and Forecast for NHS Scotland excluding NHSL



NOTE: Forecast assumes stricter enforcement continues in Scotland

b. The EASY database

Demographics

Table 4 shows sex, age and job family breakdown of the EASY participants.

Table 4 Description of EASY Population

		Number	% of total
Sex	Male	3997	12.1%
	Female	28924	87.9%
Age	16-24	1610	4.9%
	25-29	3476	10.6%
	30-34	3532	10.7%
	35-39	3855	11.7%
	40-44	4934	15.0%
	45-49	5694	17.3%
	50-54	5004	15.2%
	55-59	3462	10.5%
	60-64	1257	3.8%
	>65	97	0.3%
Job Family	Administrative Services	6692	20.3%
	Allied Health Profession	3281	10.0%
	Healthcare Sciences	1471	4.5%
	Manager	100	0.3%
	Medical and Dental	710	2.2%
	Medical and Dental Support	608	1.8%
	Nursing /Midwifery	15064	45.8%
	Other therapeutic	1327	4.0%
	Personal And Social Care	284	0.9%
	Support Services	3384	10.3%

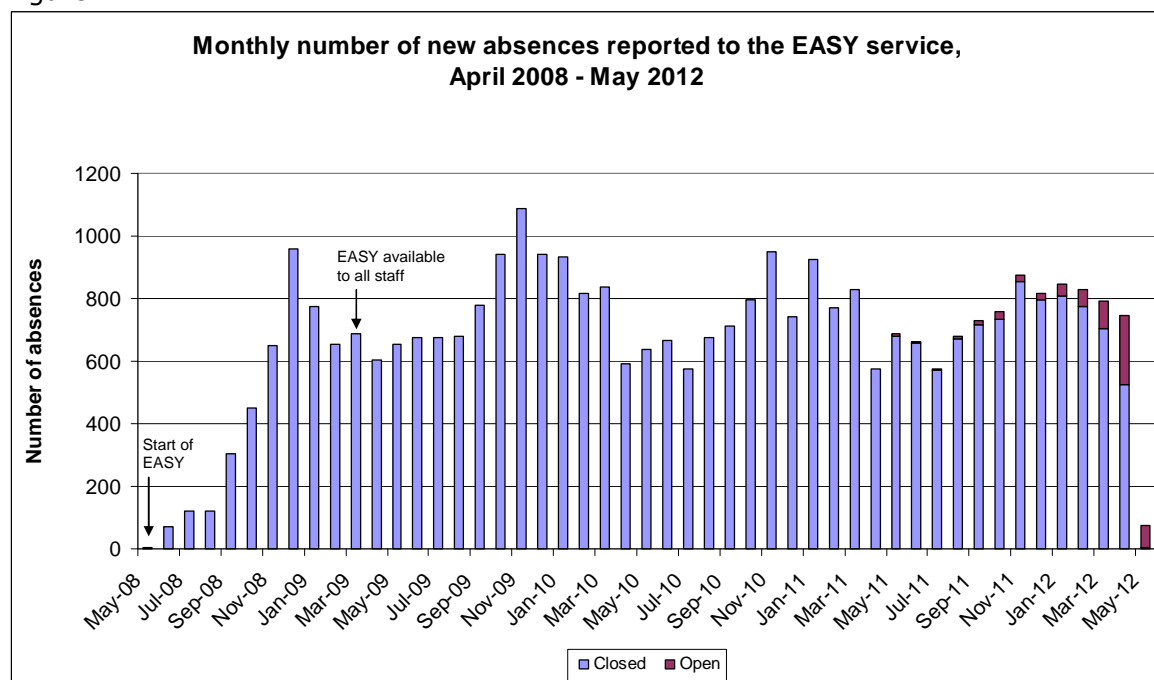
The sex, age and job families of the absentees reflect the underlying NHSL demographics.

Primary compliance refers to the percentage of sickness absence events reported to the EASY service that are routinely reported to Payroll and was calculated to be approximately 74%.

Incidence of sickness absence

Figure 4 shows the actual monthly number of absences reported to the EASY service.

Figure 4

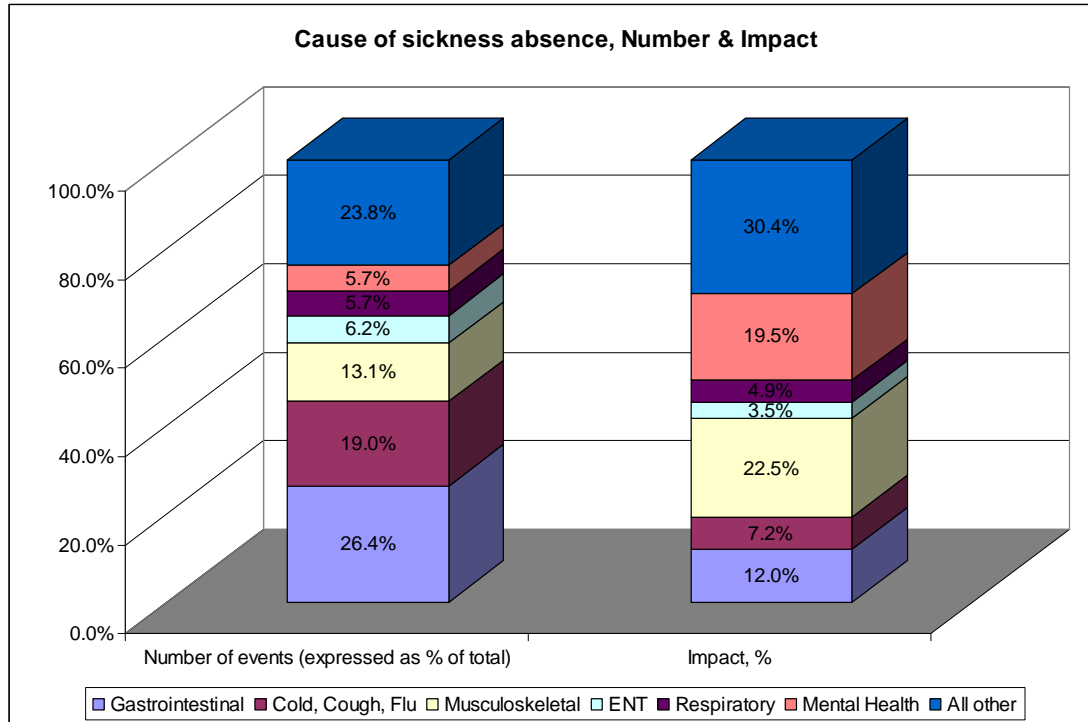


Absences follow a seasonal trend but there does appear to be a decrease in the reporting of absences to the EASY service over the four year period however this trend was non-significant when controlling for the roll-out period, mean monthly temperature and NHSL contracted hours (Appendix 1). In the roll-out up period incidence was 27% lower compared to fully implemented period but this effect was insignificant ($P=0.152$). For every one degree increase in temperature there was a 2% drop in incidence ($P=0.010$). For one in a thousand increase in hours worked there was 0.1% decrease in incidence ($P=0.588$).

Cause of sickness absence

Much sickness absence data (e.g. ISD data) does not usually record the reason for absence. The EASY database records up to 25 categories. Figure 5 shows the top 6 causes of sickness absence plus all other causes. The left hand column shows the number of sickness absence events expressed as a percent of the total. The main cause of sickness absence is gastrointestinal problems (26.4%), followed by cold, cough and flu (19.0%) and then musculoskeletal problems (13.1%). The right hand column shows the impact of the sickness condition. Gastrointestinal problems only account for 12.0% of days absent whereas musculoskeletal problems and mental health problems account to 22.5% and 19.5% of days absent due to these latter conditions typically having longer durations of absence.

Figure 5

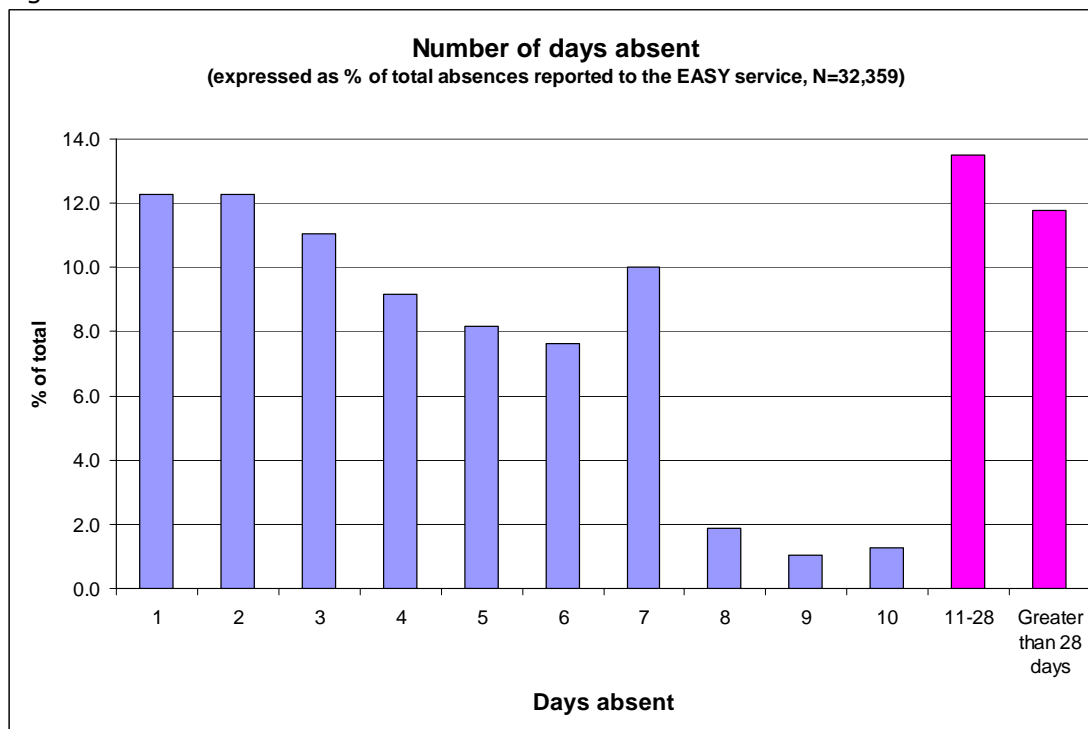


Duration of sickness absence events

Length of absence

Figure 6 shows the duration of all absences expressed as a percentage of total absences reported to the EASY service.

Figure 6

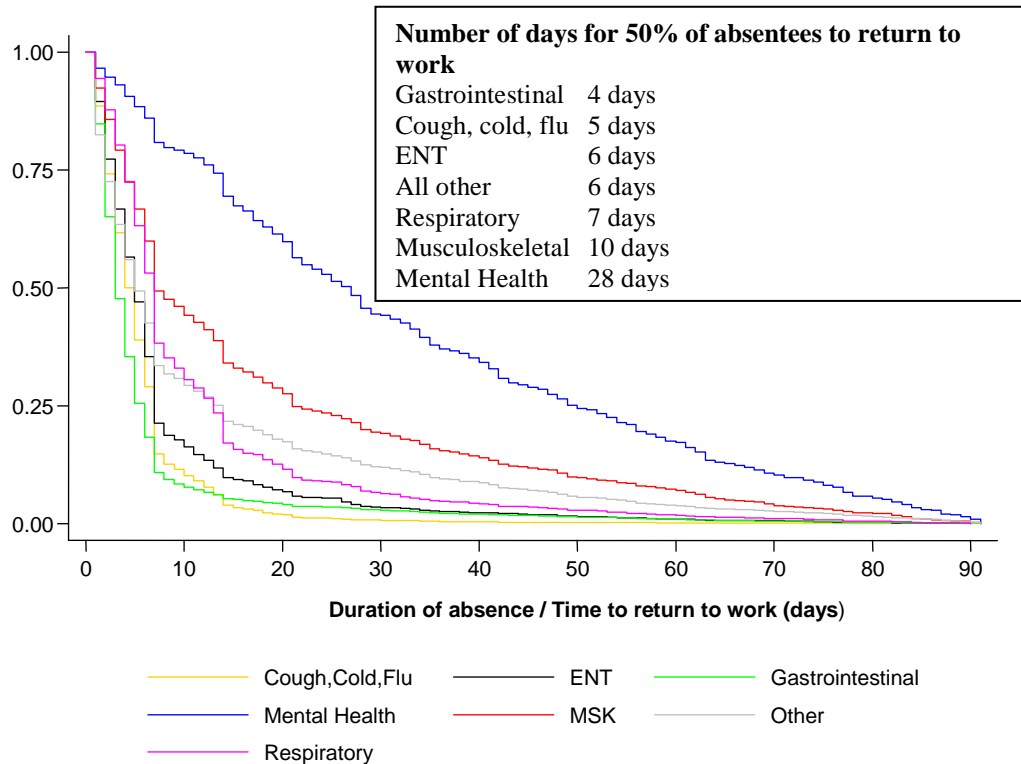


The majority of absences are 10 days or less in duration with 25% of absences 11 days or more in duration.

Length of absence and cause of sickness absence

Figure 7 shows a Kaplan Meier return to work curve for all events by cause of sickness absence.

Figure 7

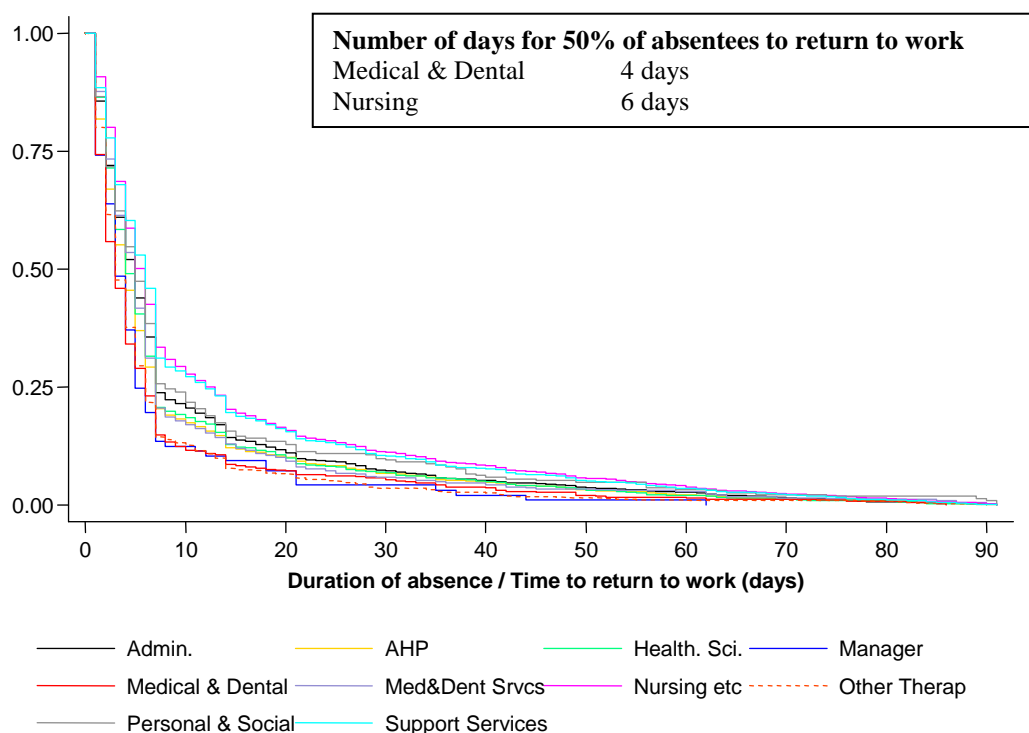


Return to work (RTW) for staff absent because of mental health problems is much longer than all other causes of absences.

Length of absence and job family

Figure 8 shows a Kaplan Meier return to work curve for all events by job family.

Figure 8



The length of time for the different job families to RTW was less varied. Medical and dental staff returned to work faster whereas RTW is longer for nursing/midwifery staff.

The full results of the Cox's proportional hazards model time varying regressions assuming proportional hazards are shown in the Appendix 1.

Return to work in the EASY service roll-out period and the fully implemented period.

The comparison of RTW rates during and after the EASY service roll-out period is the best proxy we have of the programme's effect purely on duration. When we use variables for effectiveness during the roll-out period, the underlying chance of returning to work was 21.7% per year ($P=0.006$). During the full implementation period return to work declined by 17.4% per annum ($P=0.01$). The net effect is an insignificant increase in return to work of approx 0.58% ($P=0.478$).

Length of absence and secondary compliance

The novelty of the EASY service is that the intervention is from Day 1 of absence. The service relies on the line manager informing the EASY call centre of the employee's absence and although the aim is for all absentees to be phoned on the first day of absence (FDA) this is not always the case. Secondary compliance is defined as the percentage of sickness events reported to EASY on the FDA and in this study was calculated to be approximately 80%.

Figure 9 shows a Kaplan Meier return to work curve for all events by secondary compliance.

Figure 9

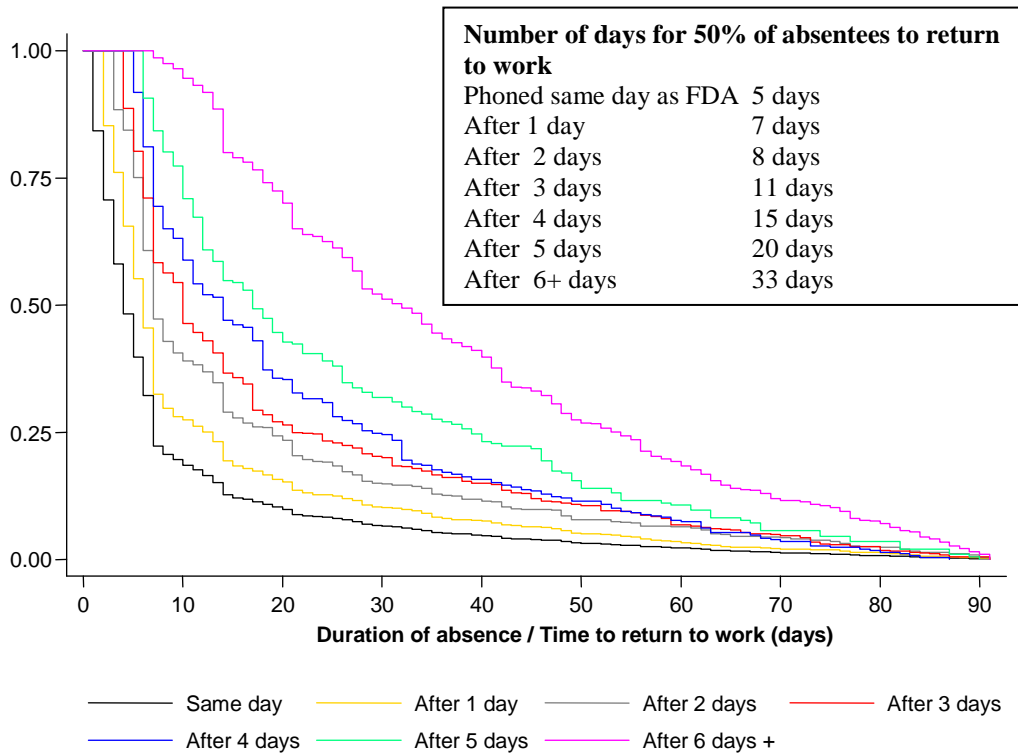


Figure 9 shows that those absentees who were phoned on the same day as FDA (black line) returned to work much quicker than those phoned on subsequent days (i.e. those phoned on the same day as FDA 50% of absentees had RTW by 5 days, yet those phoned on for example 3 days after FDA 50% of absentees had RTW by 11 days). However the groups in Figure 9 are not directly comparable because every day of delay in not being phoned by the EASY service removes the mild cases who have already gone back to work days. We therefore attempted to adjust for these cases by carrying out the analysis shown in Figure 10.

Figure 10 Kaplan Meier return to work curve for corrected secondary compliance groups

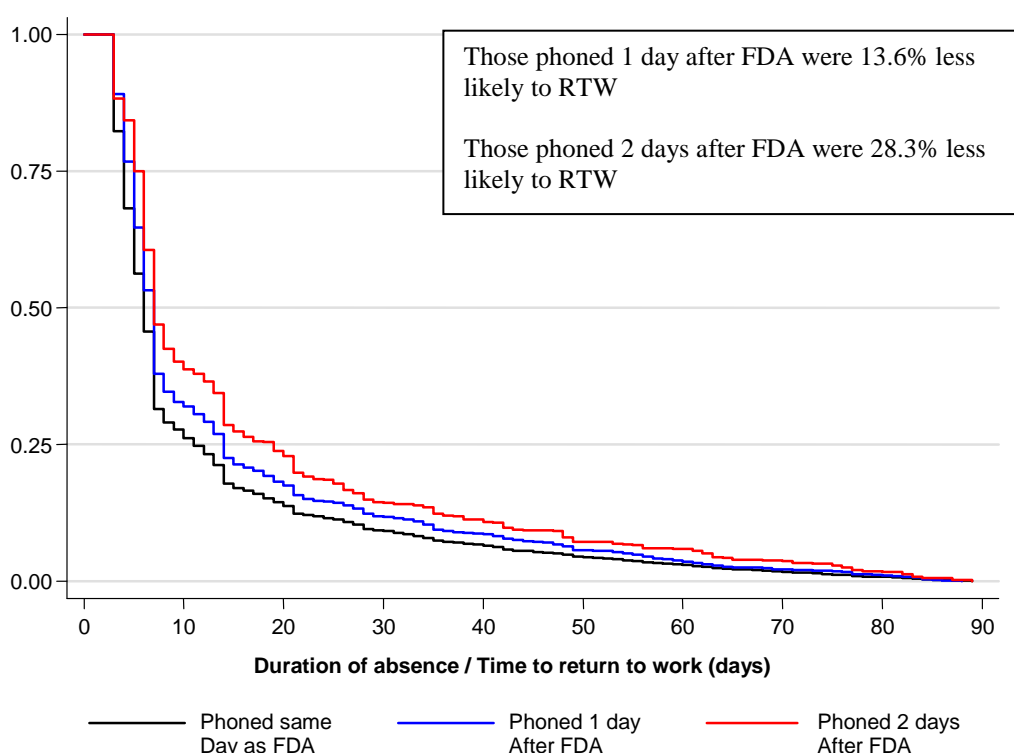


Figure 10 compares the RTW patterns of those who were phoned by the EASY service on the same day as their FDA and those phoned one day subsequently and two days subsequently. We removed all those mild cases of Day 1 and 2 returners prior to analyses in order to make the three groups comparable and estimated the likelihood of returning to work using Kaplan Meier survival analyses and Cox's proportional hazards model. Uncontrolled those phoned 1 day after FDA were 13.6% less likely to RTW, $P < 0.001$ (Controlled 0.88% less likely to RTW, $P = 0.655$). Uncontrolled those phoned 2 days after FDA were 28.3% less likely to RTW, $P < 0.001$ (Controlled 13.8% less likely to RTW, $P < 0.001$).

c. Satisfaction Questionnaire

257 questionnaires were returned (response rate 25.7%). Only 13% of staff found the initial contact with the call handler unhelpful or very unhelpful (42% found this contact helpful/very helpful; 45% gave a neutral response). 50% of staff were offered signposting/advice. The most common advice offered was OH, infection control & employee counselling. Uptake of the advice was overall 50% but varied by type of advice with OH advice taken up by 70% of staff. 81% of staff who had contact with OH found this very helpful/helpful. 35% found the help/advice/information received from EASY service very helpful or helpful (51% gave neutral response; 14% unhelpful or very unhelpful).

d. Economic evaluation

Estimated financial savings

Extrapolating the time series analyses for NHS Lanarkshire and NHS Scotland, excluding NHS Lanarkshire, indicated the EASY service had achieved additional savings, relative to other initiatives conducted across Scotland, of 1,825 hours per month. Over the 4 years to May 2012 these summed to 87,600 hours saved. Dividing 87,600 hours by 37.5 hours a week indicates 2,336 additional weeks saved, equivalent to 44.71 years saved because of the EASY service.

The Annual Report and Accounts for NHS Lanarkshire for the periods 1 April 2008 to 31 March 2012 reported total salaries and total staff employed. Over the 4 years, the mean annual salary per staff member was £31,240. Multiplying annual years saved (44.71) by this annual salary provides an estimate of total savings from reduced sickness absence of £1,396,680.

Data provided by NHS Lanarkshire showed overtime costs reduced from £3.43 m in 2008/09 to £2.46 m in 2009/10, £1.85 m in 2010/11, with a slight increase to £2.30 m in 2011/12. Some of the savings in hours and hence costs may be because of the EASY service but no attribution is possible.

There was no evidence of a reduction in other labour related costs such as bank nursing and midwifery costs in NHS Lanarkshire relative to the rest of Scotland.

Estimated costs

SALUS provided estimates of the annual staff required, associated operating costs and initial start-up costs for the EASY service. These are reported in Table 5. In the first three years 10.5 staff were employed in operating the EASY service, declining to 7.5 in 2011/12.

Start-up costs incurred in 2008/09 consisted of £23,000 for capital equipment, 0.5 of the annual cost of a band 8 nurse and 10% of the cost of the Chair of SALUS. These costs were amortised over 5 years at an annual cost of capital of 3.5%.

Table 5 Annual and total costs to operate the EASY service

	2008/9	2009/10	2010/11	2011/12
2 HR advisers to 31 March 2011	£66,000	£66,000	£66,000	£0
2 nurses	£66,000	£66,000	£66,000	£66,000
3.5 call handlers	£70,000	£70,000	£70,000	£70,000
1 supervisor	£28,000	£28,000	£28,000	£28,000
1 analyst to 2010/11 then 0.5	£42,000	£42,000	£42,000	£21,000
1 manager to 2010/11 then 0.5	£50,000	£50,000	£50,000	£25,000
IT maintenance	£500	£500	£500	£500
Start-up costs amortised over 5 years at 3.5%	£13,072	£13,072	£13,072	£13,072
Total	£335,572	£335,572	£335,572	£223,572
Grand total				£1,230,290

Estimated total costs over the 4 years are £1,230,290.

The estimated net benefit of £166, 390 is obtained by deducted this cost from estimated savings. Return on investment is the ratio of savings to direct cost and was estimated to be 1.135:1.

In future years, if savings remain at 1,825 hours per month the annual value of these is estimated at £349,170, compared to costs of £223,572, giving a return on investment of 1.56:1. However, the impact of reducing the staff complement by 3 on effectiveness of the service measured as hours saved is unknown.

Reducing absences may be anticipated to bring about other savings, particularly for critical frontline services; sickness absence disrupts handovers on a ward and places strain on remaining staff. A key limitation is not being able to quantify these benefits. Thus estimated benefits are conservative.

A second limitation concerns all costs of the EASY service being deducted from additional hours saved in NHS Lanarkshire over and above those achieved by other health boards in Scotland. However, some costs should be attributed to the contribution the EASY service has made to achieve the national reduction in sickness absence. For example, if 50% of the costs delivered the reduction in sickness absence equivalent to that achieved nationally, then the additional costs would fall to £615,145, yielding net savings of £781,535, with a return on investment of 2:27 to 1.

The data show EASY service contributing to both efficiency savings, equivalent to 44 years of absences avoided, and direct savings through reductions absences and overtime costs. Savings comfortably exceed cost of delivering the service.

5. Discussion

There are currently 140 million working days lost per year in the UK due to sickness absence which equates to 2.2% of all working time or 4.9 days for each worker each year.⁷ Much sickness absence ends in a swift return to work however a significant number of absences last longer than they need to and each year over 300,000 people fall out of work onto health-related state benefits.⁷ Although sickness absence has been gradually declining in recent years and employers report that they have been managing the issue more actively, sickness absence remains a significant problem for employees, employers and society. In this project we have shown that the EASY service, which intervenes from Day 1, has been effective in reducing sickness absence in NHSL and has enabled NHSL to move from the worst performing Scottish mainland Health Board to the best in terms of sickness absence management.

NICE guidance on long-term sickness and incapacity considers early intervention as an important factor in the delivery of interventions.⁹ Although early intervention has been reported as an effective measure in sickness absence management,¹⁰ there is inconsistency in the definition of early intervention in different studies and some interventions focus on those still in work and at risk of sickness absence.¹¹⁻¹⁴ Recent systematic reviews found that multidisciplinary interventions involving employees, health practitioners and employers working together to implement modifications for the absentee were consistently more effective than other interventions.^{11;15} However, the criterion for one of the reviews was sickness absence of over two working weeks at the time of intervention. Earlier intervention after the two week period was found to be more effective. The grey literature consistently recommends early intervention in sickness absence,¹⁶⁻¹⁸ but there is also little consistency in the definition of *early* intervention. Hoefsmit et al.(2012) concluded that time-contingent-, and activating interventions were most effective in supporting RTW, but the earliest intervention included in the review also started 2 weeks post absence start.¹⁴ To our knowledge there are few studies or reviews of very early intervention (under two weeks), despite the fact that there are a number of commercially successful companies offering sickness absence management services to employers which involve the employee being telephoned on day one,^{19;20} similar to the EASY service in NHSL. The findings from this study also suggest that intervention on day 1 is better than day 2 and on day 2 is better than day 3. Therefore in order to explore the findings from this study and investigate early intervention further we have carried out a systematic literature review (separate to this funding) investigating if occupational health interventions provided by employers for sickness absence starting before day 16 are effective in returning people to work earlier and these results will be published shortly.

The aim of this project was to evaluate an early intervention and to inform potential wider public health interventions. However after the project was agreed a major Government funded sickness absence review was published in 2011⁷ and this has been followed by the

Government response in early 2013 proposing a health and work assessment and advisory service (HWAAS) to be introduced in late 2014 which will provide an independent OH assessment and intervention in workers who have had sickness absence for 4 weeks.⁸ This new forthcoming service was taken into account in the workshop which identified that Scotland has the building blocks for an effective early intervention model that could complement the HWAAS and there was an opportunity to refresh the messages of Health Works.²¹

6. Conclusion

This project has shown that the EASY service, which intervenes from day 1, has been effective in reducing sickness absence in NHSL and has enabled NHSL to move from the worst performing Scottish mainland Health Board to the best in terms of sickness absence management. In particular;

- The EASY service is effective in reducing sickness absence in terms of hours lost in NHSL.
- Sickness absence incidence shows year on year downward trend
- Those absentees phoned on the first day of absence were more likely to return to work than those phoned on subsequent days
- The richness of EASY database gives detailed information on absentees by cause, duration, job family, secondary compliance
- Having a control group would have allowed a more rigorous investigation on the effectiveness of EASY service
- There is a high level of satisfaction of the EASY service in NHSL staff
- The study highlights the importance of early intervention for sickness absence management

The EASY service has also been cost-effective; the value of the hours saved from the reduced sickness absence comfortably exceeds the cost of operating the service.

7. Importance to policy & practice and possible implementation

This study provides important new evidence for policy makers to consider. The established paradigm within DWP and many enterprises is that early intervention is not an efficient use of resources because of the large number of individuals who will RTW relatively early without any specific intervention. This paradigm has informed the timing of the proposed HWAAS at 4 weeks;⁸ the design of the Job Retention and Rehabilitation (JRRP) pilots which tested interventions over 6 weeks off work;²² eligibility for the Work Programme being set at between 6 and 12 months off work;²³ many individuals with long term work incapacity not accessing vocational rehabilitation interventions for several years after losing their jobs; and the traditional approach by employers of arranging an OH intervention after day 28. What is clear from this study and the lessons drawn from sports medicine²⁴ is that very early intervention can be beneficial and indeed may help to prevent chronicity of health problems and the downward spiral to worklessness and dependency of the small but significant proportion who fall out of work due to ill health each year and who cumulatively contribute to the £100 billion benefit costs which the UK spends each year.⁷

8. Future research

Future work is needed to further develop an early intervention model which should be tested in a randomised controlled trial in different settings e.g. small and medium-sized enterprises and public and private sector. Where possible control groups should be identified as a limitation of this study was the lack of a control population.

This project has established a rich data set with ample opportunity for further research to explore sickness absence epidemiology.

Future qualitative research would explore what aspects of the early intervention are associated with improved outcomes e.g. is it awareness of the services available, the fact

of on-going contact and tracking by the employer and the relative contribution of the various services to which individuals are signposted. Evaluation of the role of the case manager and call handler and testing the frequency of contacts with the service should be explored.

9. Dissemination

Three papers are in preparation;

- Concept paper

Sickness Absence Management: The EASY (**E**arly **A**ccess to **S**upport for **Y**ou) Way

- Analysis paper

The EASY (**E**arly **A**ccess to **S**upport for **Y**ou) service: an evaluation of the impact on sickness absence

- Systematic review paper

Are early workplace health interventions effective in returning people to work: a systematic review

10. Research workers

Judith Brown, Research Associate, University of Glasgow.

Joyce Craig (Craig Health Economics Consultancy Limited) carried out the economic evaluation.

11. Financial statement

This has been sent separately by the University of Glasgow Finance Department.

12. Executive summary (Focus on Research)

Focus on Research Summary

Aim:

In May 2008 NHS Lanarkshire (NHSL) implemented a unique sickness absence management service called Early Access to Support to You (EASY) service. Three main changes made to sickness absence management included:

- Telephone contact with absent staff on days one, three and ten
- From day one staff are made aware of a range of support services, including physiotherapy, HR advice, occupational therapy and counselling
- At day 10, referral to occupational health (previously day 28) and, dependent on need, assignment of a case manager who can offer non-clinical support.

The EASY service supplements existing absence policies and enables communication between the absentee and their line manager from day 1 of absence. The aim of the study was to determine if the EASY service was effective in reducing sickness absence in NHSL. Secondly to consider how the EASY service could be developed into a larger early sickness absence intervention which could be used by employers in Scotland within the Healthy Working Lives suite of services.

Project outline/methodology:

The study analysed three sources of data;

- **ISD monthly sickness absence data**

We requested monthly sickness absence rates for all Health Boards in Scotland. This allowed us to produce two series of data for NHSL and NHS Scotland excluding NHSL from January 2007 to August 2012. The two series of data were analysed using Box-Jenkins Autoregressive integrated moving average (ARIMA) time series methodology.

- **The EASY database from NHSL**

All sickness absence events reported to the EASY service are routinely collected in the EASY database by Salus at NHSL. The anonymised database was transferred to the University of Glasgow and included all sickness absence events from late May 2008 to

early May 2012. Key descriptive statistics were carried out on the EASY database. Absence duration was analysed using Kaplan Meier survival analyses and Cox's proportional hazards model.

- **EASY satisfaction questionnaire**

A satisfaction questionnaire was designed to gather information on which services/signposting staff were offered as part of the EASY intervention and also the uptake of these services/signposting. Further it included questions on satisfaction with the EASY call handler and on the overall EASY service. A stratified sample was constructed based on the demographics of NHSL staff and the questionnaire was mailed to 1000 NHSL staff who had a closed absence between January and April 2012.

We also held a workshop (Developing a sickness absence intervention) on the 3rd June 2013 at the University of Glasgow and invited participants from the NHS, Scottish Government, HSE, SCHWL, private OH providers, CIPD, CBI, FSB, STUC, COSLA. The key questions discussed in the workshops were;

Workshop 1 – Evaluating the Evidence. What works, when & how?

Workshop 2 – What are Employer & Employees Needs?

Workshop 3 – What elements do you think could be beneficial to the new model and what would this model look like?

Key Results:

This project has shown that the EASY service, which intervenes from day 1, has been effective in reducing sickness absence in NHSL. In particular;

- The EASY service is effective in reducing sickness absence, in terms of hours lost, in NHSL
- The richness of the EASY database gives detailed information on absentees by cause, duration, job family, secondary compliance
- Sickness absence incidence shows year on year downward trend
- Those absentees phoned on the first day of absence were more likely to return to work than those phoned on subsequent days
- There is a high level of satisfaction of the EASY service in NHSL staff

It was also cost-effective; value of hours saved comfortably exceeded cost of delivering the service.

Conclusions:

This project has shown that the EASY service, which intervenes from day 1, has been effective in reducing sickness absence in NHSL and has enabled NHSL to move from the worst performing Scottish mainland Health Board to the best in terms of sickness absence management. The study also highlights the importance of early intervention for sickness absence management.

What does this study add to the field:

There are currently 140 million working days lost per year in the UK due to sickness absence which equates to 2.2% of all working time or 4.9 days for each worker each year.⁷ Much sickness absence ends in a swift return to work however a significant number of absences last longer than they need to and each year over 300,000 people fall out of work onto health-related state benefits.⁷ In this project we have shown that the EASY service, which intervenes from day 1, has been effective in reducing sickness absence in NHSL.

NICE guidance on long-term sickness and incapacity considers early intervention as an important factor in the delivery of interventions.⁹ Although early intervention (involving employees, health practitioners and employers working together to implement modifications for the absentee), has been reported as an effective measure in sickness absence management,¹⁰ there is inconsistency in the definition of early intervention and many studies focus on those off work for at least 4 weeks.¹¹⁻¹⁴ To our knowledge there are few studies or reviews of very early intervention (under two weeks), despite the fact that there are a number of commercially successful companies offering sickness absence

management services to employers which involve the employee being telephoned on day one,^{19;20} similar to the EASY service in NHS. The findings from this study also suggest that intervention on day 1 is better than day 2 and on day 2 is better than day 3. Therefore in order to explore the findings from this study and investigate early intervention further we have carried out a systematic literature review (separate to this funding) investigating if occupational health interventions provided by employers for sickness absence starting before day 16 are effective in returning people to work earlier and these results will be published shortly.

The aim of this project was to evaluate an early intervention and to inform potential wider public health interventions. However after the project was agreed a major Government funded sickness absence review was published in 2011⁷ and this has been followed by the Government response in early 2013 proposing a health and work assessment and advisory service (HWAAS) to be introduced in late 2014 which will provide an independent OH assessment and intervention in workers who have had sickness absence for 4 weeks.⁸ This new forth coming service was taken into account in the workshop which identified that Scotland has the building blocks for an effective early intervention model that could complement the HWAAS and there was an opportunity to refresh the messages of Health Works.²¹

Implications for practice or policy:

This study provides important new evidence for policy makers to consider. The established paradigm within DWP and many enterprises is that early intervention is not an efficient use of resources because of the large number of individuals who will RTW relatively early without any specific intervention. This paradigm has informed the timing of the proposed HWAAS at 4 weeks;⁸ the design of the Job Retention and Rehabilitation (JRRP) pilots which tested interventions over 6 weeks off work;²² eligibility for the Work Programme being set at between six and 12 months off work;²³ many individuals with long term work incapacity not accessing vocational rehabilitation interventions for several years after losing their jobs; and the traditional approach by employers of arranging an OH intervention after day 28. What is clear from this study and the lessons drawn from sports medicine²⁴ is that very early intervention can be beneficial and indeed may help to prevent chronicity of health problems and the downward spiral to worklessness and dependency of the small but significant proportion who fall out of work due to ill health each year and who cumulatively contribute to the £100 billion benefit costs which the UK spends each year.⁷

Where to next:

Further work is needed to further develop an early intervention model which should be tested in a randomised controlled trial in different settings e.g. small and medium-sized enterprises and public and private sector. Where possible control groups should be identified as a limitation of this study was the lack of a control population.

This project has established a rich data set with ample opportunity for further research to explore sickness absence epidemiology.

Future qualitative research would explore what aspects of the early intervention are associated with improved outcomes e.g. is it awareness of the services available, the fact of on-going contact and tracking by the employer and the relative contribution of the various services to which individuals are signposted. Evaluation of the role of the case manager and call handler and testing the frequency of contacts with the service should be explored.

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Appendix 1 Incidence model

```
. regress logtot L.logtot index rampup1 temp hoursthou
```

Source	SS	df	MS	Number of obs = 47		
Model	11.5623065	5	2.3124613	F(5, 41) = 57.99		
Residual	1.63485448	41	.0398745	Prob > F = 0.0000		
				R-squared = 0.8761		
				Adj R-squared = 0.8610		
Total	13.197161	46	.286894804	Root MSE = .19969		

logtot	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logtot						
L1.	.4573835	.0466626	9.80	0.000	.3631465	.5516205
index	-.0015417	.0040704	-0.38	0.707	-.009762	.0066786
rampup1	-.2693432	.1846365	-1.46	0.152	-.6422241	.1035377
temp	-.0208244	.0077141	-2.70	0.010	-.0364034	-.0052455
hoursthou	-.0010014	.0018354	-0.55	0.588	-.004708	.0027052
_cons	5.450683	3.07085	1.77	0.083	-.751025	11.65239

Appendix 2 Time varying hazard ratios for RTW (+ 95% CIs and P values)

Reference categories

Cause of absence – Cold, cough, flu

Job Family – Administrative services

Table 9

		Duration (days)							
		1	2	5	10	15	30	60	90
Cause of absence									
ENT	Haz. Ratio	0.858	0.846	0.812	0.759	0.709	0.579	0.385	0.256
	95% CI	0.812-0.905	0.803-0.891	0.774-0.853	0.715-0.806	0.653-0.771	0.487-0.687	0.268-0.553	0.147-0.447
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Gastrointestinal	Haz. Ratio	1.257	1.229	1.149	1.026	0.916	0.652	0.331	0.168
	95% CI	1.208-1.308	1.185-1.276	1.110-1.188	0.978-1.075	0.853-0.984	0.558-0.763	0.237-0.463	0.100-0.281
	Prob	0.000	0.000	0.000	0.292	0.016	0.000	0.000	0.000
Mental Health	Haz. Ratio	0.191	0.191	0.189	0.187	0.184	0.177	0.163	0.151
	95% CI	0.178-	0.178-	0.178-	0.174-	0.169-	0.151-	0.117-	0.090-

		0.205	0.204	0.201	0.200	0.200	0.208	0.229	0.253
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Musculoskeletal	Haz. Ratio	0.423	0.419	0.406	0.387	0.368	0.317	0.235	0.174
	95% CI	0.402- 0.445	0.399- 0.439	0.389- 0.424	0.367- 0.407	0.342- 0.396	0.271- 0.370	0.168- 0.328	0.104- 0.292
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other	Haz. Ratio	0.630	0.621	0.597	0.558	0.521	0.426	0.284	0.189
	95% CI	0.602- 0.659	0.595- 0.649	0.574- 0.620	0.531- 0.586	0.485- 0.560	0.364- 0.498	0.203- 0.396	0.113- 0.317
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Respiratory	Haz. Ratio	0.646	0.640	0.619	0.587	0.556	0.473	0.343	0.249
	95% CI	0.612- 0.682	0.608- 0.673	0.590- 0.650	0.554- 0.622	0.513- 0.603	0.401- 0.560	0.241- 0.488	0.145- 0.427
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Job Family									
Allied Health Profession	Haz. Ratio	1.087	1.087	1.086	1.084	1.083	1.078	1.068	1.059
	95% CI	1.027- 1.150	1.028- 1.149	1.028- 1.146	1.028- 1.144	1.025- 1.143	1.010- 1.151	0.956- 1.193	0.899- 1.248
	Prob	0.004	0.003	0.003	0.003	0.004	0.026	0.242	0.494
Healthcare Sciences	Haz. Ratio	1.058	1.056	1.049	1.039	1.029	0.998	0.940	0.886
	95% CI	0.983- 1.138	0.982- 1.135	0.977- 1.126	0.968- 1.115	0.955- 1.108	0.903- 1.103	0.786- 1.125	0.677- 1.159
	Prob	0.135	0.145	0.184	0.293	0.459	0.972	0.500	0.375
Manager	Haz. Ratio	1.350	1.350	1.342	1.318	1.280	1.242	1.136	0.951
	95% CI	1.030- 1.768	1.030- 1.768	1.025- 1.755	1.010- 1.719	0.986- 1.661	0.961- 1.606	0.885- 1.459	0.734- 1.233
	Prob	0.030	0.030	0.032	0.042	0.064	0.098	0.317	0.705
Medical & Dental	Haz. Ratio	1.341	1.331	1.302	1.255	1.210	1.083	0.869	0.697
	95% CI	1.195- 1.504	1.188- 1.491	1.167- 1.453	1.129- 1.395	1.088- 1.345	0.955- 1.230	0.699- 1.080	0.502- 0.967
	Prob	0.000	0.000	0.000	0.000	0.000	0.215	0.206	0.031
Medical and Dental Support	Haz. Ratio	0.947	0.948	0.953	0.961	0.970	0.995	1.048	1.104
	95% CI	0.841-	0.844-	0.850-	0.854-	0.853-	0.828-	0.748-	0.666-

		1.065	1.066	1.070	1.082	1.102	1.195	1.469	1.829
	Prob	0.361	0.371	0.413	0.513	0.637	0.958	0.785	0.702
Nursing/Midwifery	Haz. Ratio	0.884	0.885	0.887	0.891	0.894	0.905	0.928	0.950
	95% CI	0.852- 0.917	0.853- 0.918	0.856- 0.920	0.859- 0.923	0.862- 0.928	0.866- 0.947	0.862- 0.999	0.853- 1.059
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.358
Other Therapeutic	Haz. Ratio	1.311	1.305	1.286	1.257	1.228	1.145	0.996	0.867
	95% CI	1.208- 1.421	1.204- 1.414	1.190- 1.391	1.164- 1.358	1.135- 1.329	1.035- 1.267	0.834- 1.190	0.664- 1.131
	Prob	0.000	0.000	0.000	0.000	0.000	0.008	0.967	0.291
Personal and Social Care	Haz. Ratio	0.928	0.930	0.935	0.944	0.954	0.982	1.042	1.106
	95% CI	0.806- 1.068	0.809- 1.069	0.815- 1.073	0.825- 1.082	0.832- 1.093	0.845- 1.143	0.837- 1.298	0.811- 1.508
	Prob	0.296	0.306	0.339	0.409	0.496	0.817	0.712	0.525
Support Services	Haz. Ratio	0.823	0.823	0.824	0.826	0.828	0.833	0.844	0.855
	95% CI	0.776- 0.872	0.777- 0.872	0.779- 0.872	0.781- 0.873	0.782- 0.876	0.781- 0.889	0.764- 0.932	0.741- 0.986
	Prob	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.032

Example of interpretation of table

First row – Staff who were off work because of an ENT problem for one day were 14.2% less likely to return to work than staff off work one day due to CCF