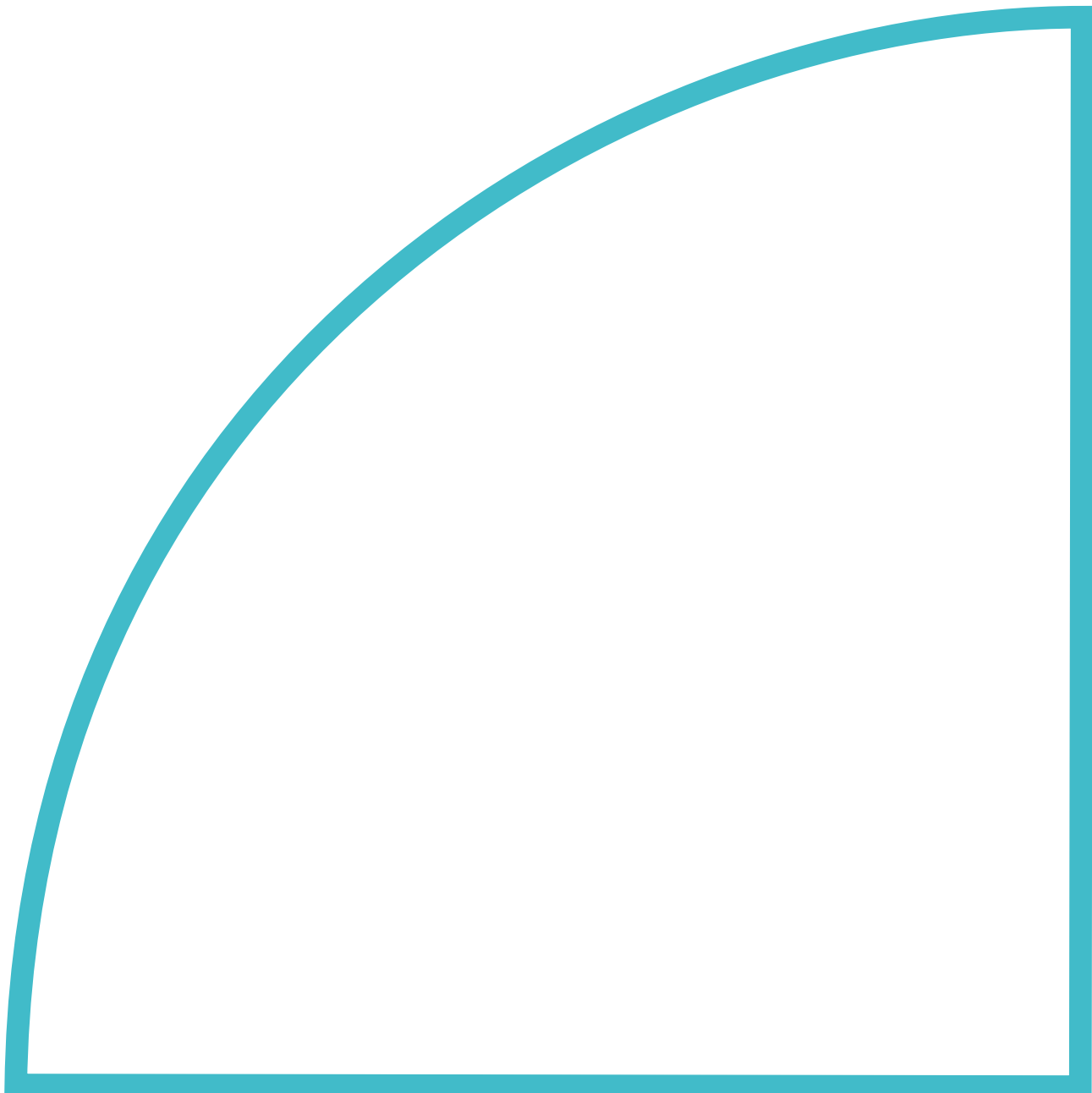


Impact of the ALLIANCE

Technical Appendix

October 2023



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1. Introduction

In summer 2023, BiGGAR Economics was commissioned to carry out an impact assessment of the ALLIANCE. This document explains how the impacts in that report were estimated.

1.1 Types of Quantifiable Impact

This report includes four main types of quantifiable impact:

- Health and wellbeing impacts were quantified using **Quality Adjusted Life Years** (QALYs) and **Wellbeing Adjusted Life Years** (WELLBYs). QALYs are used by the National Institute for Health and Care Excellence (NICE) to assess new health technologies and WELLBYs are recommended by HM Treasury for assessing changes in wellbeing. HM Treasury values one QALY at £70,000 and one WELLBY at £13,000.
- Cost savings were quantified by estimating the amount of money saved by an intervention.
- Economic activity was quantified in terms of **gross value added** (GVA) to the Scottish economy and the **number of jobs supported**. Both of these are widely used measures of economic activity.

All the quantifiable impacts considered in the analysis were effects on the Scottish economy generated by activity that took place in 2022.

To ensure the full scope of impacts generated by the ALLIANCE were captured, the ALLIANCE's contribution was also assessed in line with Scotland's National Performance Framework (NPF). Two types of contribution were assessed as part of this:

- **Contributions to Scotland's national outcomes** – these are statements of the kind of nation Scotland wants to be and reflect the extent to which the Scottish economy currently enables citizens to live full and fulfilling lives; and
- **Contributions to national capital** – these are important capital stocks that underpin the economy's ability to deliver a good standard of living in the future. For this analysis social capital (relationships, networks and social norms) and human capital (skills, capabilities and attributes of the population) were identified as particularly relevant.



2. Improving Health and Wellbeing Outcomes

This section explains how improvements to health and wellbeing outcomes were quantified.

The analysis quantifies improvements to health and wellbeing generated by three programmes:

- the links worker programme;
- the self-management fund; and
- person centred voices.

It also quantifies the wellbeing effect of employment supported either directly or indirectly by the ALLIANCE.

2.1 Links Worker Programme

The total health and wellbeing benefit from the Links Worker Programme was estimated to be at least £18.2 million, of which £3.5 million was estimated to arise indirectly because people are often referred on by link workers to other community services that raise their wellbeing.

There are likely additional wellbeing benefits from improved life outcomes, but these were not included so as to avoid double counting.

Full details as to how these estimates were obtained are given below.

2.1.1 People Get Better Care and Reduced Pressure on Primary Care Staff

The £14.4 million health benefit generated by the Links Worker scheme was based on a paper by Mercer et al.¹, who used a Randomised Control Trial to assess the effect of a community links worker intervention in Glasgow. This research found that after a nine month follow up, patients who were referred to a community links worker and had at least three appointments experienced on average a 0.071 improvement in their quality of life, as measured by the EQ-5D-5L. They found no effect on those who had fewer than three appointments.

The EQ-5D-5L is an accepted quality of life indicator (scaled between -0.5 and 1, where a score below 0 typically represents a life worse than death), that can be used to calculate a Quality-Adjusted Life Year (QALY) improvements. QALYs are a National Institute for Health and Care Excellence (NICE) recommend way of

¹ Mercer, S. W., Fitzpatrick, B., Grant, L., Chng, N. R., McConnachie, A., Bakhshi, A., ... & Wyke, S. (2019). Effectiveness of community-links practitioners in areas of high socioeconomic deprivation. *The Annals of Family Medicine*, 17(6), 518-525.



assessing new health technologies. One QALY is equal to 1 year of life in perfect health and this is valued by the HM Treasury to be worth £70,000².

This means that each person who sees a community link worker 3 or more times is estimated to experience an improvement to their health worth £4,977 (0.071 x £70,000). In 2022, 2,889 people had 3 or more appointments through the Links Worker scheme (2640 in Glasgow and 249 in West Dunbartonshire – representing 37% of all people referred and seen at least once). The total value to these individuals was therefore estimated at £14.4 million.

It is not clear how quickly this effect would have taken hold, nor how long it would have lasted. Evidence provided by ALLIANCE indicates that re-referrals were no more than 15% (13.7% in Glasgow practices and 4.4% in West Dunbartonshire). This implies that 85% of people did not return to their GP within the same year, but the duration of the effect could be longer. If the effect does last longer than one year then the cumulative impact over time would be larger than the £14.4 estimated.

The Link Worker programme is also likely to mean primary care staff are less stressed in their jobs, which could have beneficial effects on staff retention. There is no data to support a monetary valuation of this benefit. However, available GP satisfaction surveys suggest that CLWs relieve pressure on primary care staff. All 9 of the GP surveys illustrated that the CLWs are valuable additions to the team, increase capacity to see patients, and improve team wellbeing. As such, the overall health benefit is likely to be higher.

Better health and wellbeing outcomes of non-referred people: It is likely that other people who use primary care services will receive better care be it from reduced waiting times and being seen by less stressed staff. There is, however, no data to quantify this benefit.

2.1.2 Onward Referrals: Estimated at £3.5 million (Indirect Wellbeing Effect)

In total, CLWs made 6,706 onward referrals to other services. Some of these services are likely to result in wellbeing benefits if the person fully engaged with the onward service. In particular, there were 33 referrals to volunteering services, 93 for learning and development, 701 for mental health support, and 395 to community groups, all of which have been shown to have substantial wellbeing effects that can be assigned monetary values.

Those who volunteer regularly have 0.1 higher life satisfaction than those who do not volunteer regularly³. The HM Treasury values a life satisfaction increase of one unit for one year at £13,000⁴, which means that if this life satisfaction benefit of volunteering were to last one year this would be worth £1,300. Engaging with learning and development is associated with a life satisfaction increase of 0.045

² HM Treasury, 2020, The Green Book: Central Government Guidance on Appraisal and Evaluation and HM Treasury, 2020, The Magenta Book: Central Government Guidance on Evaluation.

³ Several studies have shown that regular volunteering is associated with enhanced life satisfaction. For example, Fujiwara et al. (2013), Binder and Freytag (2013) and Lawton et al. (2020).

⁴ The HM Treasury values uses the concept a Wellbeing-Adjusted Life Year (WELLBY) as a way of evaluating changes in wellbeing. One WELLBY is one unit of wellbeing (measured using life satisfaction on a 0 to 10 scale) lasting 1 year and valued by the HM Treasury (see The Green Book) at £13,000.



units⁵, which with respect to the HM Treasury valuation is worth £585. Those who receive mental health support are likely to have substantially higher life satisfaction. Although this is assumed here to be 0.2 (valued at £2,600 in wellbeing terms) this is likely to be much higher⁶. The movement from moderate to mild loneliness is valued at £9,100 per year⁷.

There is some risk of double counting. However, since the health benefit that been attributed to better care is based on those experiencing three or more appointments (37.02%), then it was implicitly assumed that the remaining 62.98% received no direct benefit from seeing a CLW. It is likely that those receiving fewer than three appointments were appropriately referred elsewhere and may have improved from receiving better care that way. This would therefore be an indirect effect in that although it is not directly attributable to the link worker programme is unlikely to have happened without it.

Assuming that 63% of those referred onward to volunteering services, learning and development, mental health support, or to community groups were seen less than three times (this is likely to be higher), then an additional indirect effect can be estimated. The calculations are shown in Table 1. The total indirect wellbeing effect is estimated to be £3.5 million. This effect is not directly attributable to the role of ALLIANCE but arises indirectly due to the community links with other organisations.

2.1.3 The Links Worker Programme Creates Jobs

Wellbeing effect estimated to be worth £352,950.

The HM Treasury Green Book suggests that being employed rather than unemployed is worth 0.5 life satisfaction units per year, which based on one life satisfaction unit for one year being valued by the HM Treasury at £13,000 is worth £6,500⁸. Jobs that wouldn't otherwise exist arise out of the Programme, as such even if the link worker had not been unemployed themselves, someone else would be. This means the Programme produces 0.5 WELLBYs for each FTE (54.3). With one WELLBY being worth £13,000. Total benefit: £352,950. This is a direct impact that is attributable to the role of ALLIANCE.

⁵ This estimate comes from a report by Dolan and Fujiwara (2012) for the Department for Business, Innovation and Skills.

⁶ Mental health interventions can have substantial benefits. For example, Ward et al. (2000) compares different therapies (non-directive and cognitive behaviour therapy) showing that a course of both improve mental health by 1.5 standard deviations on a depression scale. Fergusson et al. (2015) show that those with three or more mental health disorders have life satisfaction levels nearly 0.60 standard deviations (equating to a 1 unit life satisfaction difference on a 0-10 scale) below those without mental health problems. In a metanalysis, Butler et al. (2006) find that cognitive behaviour therapy improves depression by 0.95 on standard depression scales.

⁷ This value comes from the HM Treasury Green Book, but is assessed via different methodology than for volunteering, learning and development, and mental health.

⁸ HM Treasury, 2020, The Green Book: Central Government Guidance on Appraisal and Evaluation and HM Treasury, 2020, The Magenta Book: Central Government Guidance on Evaluation.



2.1.4 CLWs Support People to Have Better Life Outcomes

Wellbeing effect estimated to be worth £5.2 million. However, since there is a high risk of overlap with the health benefit this estimate was not included in the overall health and wellbeing estimate.

Improved life outcomes that may have led to wellbeing gains may also have been a factor in improved health scores. A community link worker may have supported someone to improve their life circumstances generally, and whilst this may have been a pathway to improved health, it may have had benefits beyond health. For example, supporting someone to obtain a job or find a home may primarily result in improved wellbeing, only some of which will have health consequences. As such, there may be additional effects beyond that calculated in the overall health effect earlier. Nevertheless, since there is also likely to be overlap in these effects, there is a high risk of double counting this effect and therefore the effect calculated is not included in the overall health and wellbeing benefit. It is offered as a means to illustrate alternative pathways to impact and to provide additional confidence in the robustness of the approach.

Whilst there is no data available on life outcomes that arose from seeing a CLW, there is data on the reasons why someone was referred. Three key reasons to which monetary valuations can be attributed are employability issues (127 referrals), homelessness (16 referrals), and housing issues (1158 referrals).

The HM Treasury Green Book suggests that being employed rather than unemployed is worth 0.5 life satisfaction units per year, which is worth £6,500⁹. Using wellbeing data Fujiwara and Vine¹⁰ found that the average impact of moving from rough sleeping to temporary accommodation has a value of £16,448 per person and that the impact of a move from temporary accommodation to settled housing is valued at £8,019 per person.

If it is assumed that 50% of these issues were resolved through seeing a CLW, the wellbeing benefit owing to these improvements could be £5.2 million. As specified above this effect is likely to overlap with the health effect and therefore not included. However, there are likely to be additional effects that arose from improved life outcomes, suggesting that the overall health and wellbeing estimate could be higher.

2.2 Self-Management Fund

The total health and wellbeing benefit from Self Management funds were estimated to be at least £4.8 million. This estimate was based on funds awarded by ALLIANCE in 2021 to 49 projects that lasted up to 2 years. Evaluating the impact of funds awarded in 2021, rather than 2022, was carried out because it was the latest year where full engagement data was available across the duration of the funded projects.

⁹ HM Treasury, 2020, The Green Book: Central Government Guidance on Appraisal and Evaluation and HM Treasury, 2020, The Magenta Book: Central Government Guidance on Evaluation.

¹⁰ Fujiwara, Daniel and Vine, Jim (2015). *The Wellbeing Value of Tackling Homelessness: Identifying the impact on life satisfaction using the Journeys Home dataset*. London: HACT.



The £4.8 million impact arises from those engaging with the services that the funds provide to improve their health, as well as the jobs that were created as a result of the fund and the number of volunteers that engaged with the service. However, this value is likely to be much higher due to uncertainty around the total numbers of people engaging with the services and the use of conservative estimates, as well as many of the funds being research and development focused and likely to have impacts into the future.

There are also likely additional wellbeing benefits arising from improved life outcomes of those engaging in the services, which could not be estimated.

Full details as to how these estimates were obtained are given below.

2.2.1 People Are Better Able to Manage Their Own Health

Health benefits were estimated to be worth at least £3.9 million.

This estimate is based on a paper by Panagioti et al.¹¹, who carry out a systematic review and meta-analysis on self-management support interventions. They include 184 studies and examine the effect on health outcomes, hospital use, and costs. They found that self-management support was associated with small but significant improvements in health outcomes, with the best evidence of effectiveness in patients with diabetic, respiratory, cardiovascular and mental health conditions. There are also hospital use and cost reductions across some conditions, but these are less compelling.

This paper provides results on the effect of self-management support interventions on health outcomes are provided as effect sizes on quality of life variables. However, to interpret their results as Quality-Adjusted Life Year (QALY)¹² improvements the effect sizes need to be translated into a more suitable form – namely the unstandardised Quality of Life variable.

Effect sizes are a way of standardising effects to aid comparison and can be obtained by dividing the overall effect by a variable's standard deviation. Effect sizes can therefore be easily converted back to their unstandardised values by multiplying by the variable's standard deviation. Although the standard deviations are not provided in the Panagioti study, a typical standard deviation in a healthy population of the EQ-5D-5L, a suitable Quality of Life input into calculating QALY's, is approximately 0.15.

Whilst it should be noted that the standard deviation in an unhealthy population is likely to be much higher¹³ and would produce higher QALY values, to be conservative the standard deviation of the healthy population (0.15) is used and that it lasts for one year. This means that engaging with a self-management support intervention

¹¹ Panagioti, M., Richardson, G., Small, N., Murray, E., Rogers, A., Kennedy, A., ... & Bower, P. (2014). Self-management support interventions to reduce health care utilisation without compromising outcomes: a systematic review and meta-analysis. *BMC health services research*, 14, 1-14.

¹² QALYs are a National Institute for Health and Care Excellence (NICE) recommend way of assessing new health technologies. One QALY is equal to 1 year of life in perfect health and this is valued by the HM Treasury to be worth £70,000

¹³ See, for example, Mercer et al. (2019), which was used to estimate the links worker effect, where the standard deviation was 0.337.



according to the following types of conditions has the following impacts: Respiratory (0.0405), cardiac (0.0315), arthritis (0.024), pain (0.0195), diabetes (0.066), mental health (0.033), and mixed (0.0195).

These numbers are combined with engagement data across various self-management projects that were funded by ALLIANCE in 2021. The reason 2021 is used is because projects last up to 2 years ensuring the engagement data for the duration of the projects. There were 49 projects funded in 2021 of which most were categorised as specifically targeting general health condition (17), mental health (13), or diabetes (2). There were 17 projects targeting specific health conditions, including ME, cerebral palsy, IBD, sensory loss etc. Since all types of conditions were found to have at least some effect, all projects, except mental health and diabetes, were assumed the minimal QALY effect per engagement of 0.0195.

There was considerable variation in engagement numbers across the 49 projects. Most had fewer than 100 people engaging. However, several were in the 100s with a couple registering several thousand. Following examination of the engagement data, engagement numbers were capped at 100 per project to reduce the potential for overestimating the benefit. Also, of the 49 projects, 10 were aimed primarily at research, scoping, development, or validation, and as such any recorded engagement, though likely to have been with people with lived experience, would not have been explicitly for self-management. It is likely that such projects will result in health benefits in the future. Given these adjustments, it is likely that the overall health benefit would be much higher than that estimated.

The first step required to estimate the health and wellbeing benefits associated with self-management projects was to assign an appropriate QALY effect to each project based on the type of condition it related to. The total QALY effect was then estimated by multiplying this by the total number of engagements supported through each project. The value of this benefit was then estimated by applying the standard treasury valuation of £70,000/QALY. In this way it was estimated that the health benefit arising solely from those engaging with the self-management projects funded by ALLIANCE was worth at least £3.9 million.

2.2.2 Self Management Funds Creates Jobs

Wellbeing effect estimated to be worth at least £0.3 million.

For many of the projects, additional staff were needed and some of the funds resulted in employment that wouldn't otherwise have been there.

The HM Treasury Green Book suggests that being employed rather than unemployed is worth 0.5 life satisfaction units per year, which based on one life satisfaction unit for one year being valued by the HM Treasury at £13,000 suggests that a newly created job is worth £6,500 in wellbeing terms¹⁴. Jobs that wouldn't otherwise exist arise out of the funds and even if the newly employed worker had not been unemployed themselves, someone else would be. This means the Programme produces 0.5 life satisfaction units per job, per year.

¹⁴ HM Treasury, 2020, The Green Book: Central Government Guidance on Appraisal and Evaluation and HM Treasury, 2020, The Magenta Book: Central Government Guidance on Evaluation.



The number of jobs each project created were scaled according to the length of time that the project lasted to create the number of job-years. For example, if a project created two jobs lasting 1.5 years this would be worth 3 job-years. This gave a total of 43.4 FTE job years, which equates to 21.7 life satisfaction units worth £0.3 million.

The projects in which the funds were used to contribute to existing staff wages were not included in this funding suggesting that wellbeing value arising from jobs that self-management funds create is much higher.

2.2.3 Self Management Funds Provide Volunteer Opportunities

Wellbeing effect estimated to be worth £629,200.

Regular volunteering can bring many benefits to an individual, including a sense of purpose, personal growth, and social connectedness. Research has shown that, although variable across different demographic groups, regular volunteering has a small but robust influence on a person's life satisfaction of approximately 0.1 units on a 0-10 scale¹⁵.

Across all projects there were a total of 484 volunteers. Each volunteer was assigned a value of 0.1 additional life satisfaction units per year which equated to 48.4 life satisfaction units worth £0.6 million.

This assumes that each volunteer engages with their respective project regularly for one year. However, volunteer roles will not be similar across projects, with some having different levels of engagement, being irregular or one offs, and many of the volunteers will volunteer for different amounts of time – shorter or longer than the duration of the project's funding. On the whole, and whilst there are other ways to count the volunteers, it is assumed these differences will balance out and represent on average at least one year of regular volunteering.

2.2.4 Self-Management Enables People to Have Better Life Outcomes

Those who engaged with self-management projects funded by the ALLIANCE, as well as experiencing better health outcomes, may also experience better life outcomes. For example, they may gain employment, be able to volunteer, undertake training, or remain at home etc. Although there is no data available to quantify this effect, it is likely to be substantial.

2.2.5 Community Benefits

Self-management projects funded by the ALLIANCE are also likely to bring community benefits. Not just of those who engage with projects directly, who may experience benefits to their health by engaging with people in similar circumstances, but more widely in the community. A stronger and more cohesive community may arise that may benefit others indirectly, be it those that are vulnerable and at risk of loneliness or the increased volunteering opportunities. Whilst some of this benefit to the wider community might be picked up by things already calculated there are likely to be additional effects. No data was available to quantify this effect.

¹⁵ Several studies have shown that regular volunteering is associated with large life satisfaction. For example, Fujiwara et al. (2013), Binder and Freytag (2013) and Lawton et al. (2020).



2.3 Person Centred Voices

Person Centred Voices is an ALLIANCE programme aimed at embedding person centred care and a culture of kindness in frontline services. In 2022/23, 250 talks were given to 16,300 people to encourage a mindset shift from one of fulfilling tasks to one where people are acknowledged as well as treated. This section attempts to illustrate the value of this programme.

2.3.1 Encouraging a Person Centred Approach Within the Health and Social Care System

Health effect was estimated to be worth £2.5 million.

There is good evidence that person centred care delivers better health outcomes and reduced health and social care costs¹⁶. In their meta-analysis of 55 studies of interventions, Nkhoma et al. show across multiple studies that heart failure, type 2 diabetes, COPD, cancer and various others, benefit from person centred care.

The Nkhoma paper also suggest that educational based interventions (similar to what ALLIANCE delivers) are an important component: *“The core component of the interventions considered included workshop training of healthcare professionals on communication skills, training patients and families on self- assessment, identifying their problems and concerns, creating action plans based on the problems, identifying resources to self- management of the problems and evaluating the care.”*

A 2020 study by Pirhonen et al.¹⁷ examined person centred care interventions for patients with chronic obstructive pulmonary disorder (COPD) and chronic heart failure (CHF). There are around 140,000 people living with diagnosed COPD in the UK¹⁸ and around 48,000¹⁹ with CHF. Any intervention that made even a small improvement to these groups would therefore be very impactful.

Since the ALLIANCE has delivered training in person centred care to around 16,300 people, of which 39% (6,357) are frontline staff. A survey of 370 indicates that around two thirds of them intend to implement changes to how they deliver care as a result. This implies that 4,238 frontline staff intend to adopt a more person centred approach as a result of the training they receive from ALLIANCE staff. Assuming that around one half may not implement what they had learned (or may not do so effectively) reduces this number to 2,119 who might effectively implement elements of person-centred care.

There are currently around 182,000²⁰ NHS staff in Scotland. The staff trained by ALLIANCE who go on to adopt a more person-centred approach therefore represent around 1.1% of the total workforce. Assuming COPD and CHF patients are

¹⁶ See Nkhoma, K. et al. (2022). A systematic review of impact of person-centred interventions for serious physical illness in terms of outcomes and costs. *BMJ open*, 12(7), e054386.

¹⁷ Pirhonen, L., Gyllensten, H., Olofsson, E. H., Fors, A., Ali, L., Ekman, I., & Bolin, K. (2020). The cost-effectiveness of person-centred care provided to patients with chronic heart failure and/or chronic obstructive pulmonary disease. *Health Policy OPEN*, 1, 100005.

¹⁸ [Asthma and Lung UK website](#) accessed September 2023

¹⁹ [British Heart Foundation website](#) accessed September 2023

²⁰ NHS Education for Scotland (June 2022), NHS Scotland Workforce statistical bulletin.



distributed reasonably uniformly between NHS staff that implies the staff trained by ALLIANCE might be responsible for treating around 2,000 people with these conditions.

Pirhonen et al. estimated an “incremental effect” of delivering person centred care of 0.018 QALYs, which is the additional benefit/person over and above the benefit they would have gained from receiving regular care. This implies the ALLIANCE training could lead to c.36 additional QALYs in 2022/23. At £70,000/QALY that would give a total benefit of c.£2.5 million.

This estimate quantifies the benefits accruing to only on two patient groups (chronic obstructive pulmonary disorder, and chronic heart failure), across only one year (impacts are likely to last longer), for frontline staff only (does not include student attendees, many of whom will become frontline staff). As such the overall impact is likely to be higher.

2.4 Wellbeing Benefit of Jobs Supported

The HM Treasury Green Book suggests being employed rather than unemployed is worth 0.5 life satisfaction units per year. Based on the HM Treasury’s valuation of one life satisfaction unit of £13,000 suggests that a newly created job is worth £6,500 in wellbeing terms²¹. Jobs that wouldn’t otherwise exist arise out of the existence of ALLIANCE and even though employees might not otherwise be unemployed, someone else would be. This means that ALLIANCE contributes 0.5 life satisfaction units per job, per year.

As such, the 110 jobs directly provided by the ALLIANCE are worth £0.7 million in wellbeing terms and the 51.5 additional jobs arising because of supply chain effects, staff spending, and internships are worth £0.3 million.

The employment related wellbeing effect of the Links Worker programme and Self-Management fund were estimated in the same way, resulting in an additional impact of £0.4 million and £0.3 million respectively.

Taken together these sources of impact amount to a total wellbeing benefit of £1.7 million.

²¹ HM Treasury, 2020, The Green Book: Central Government Guidance on Appraisal and Evaluation and HM Treasury, 2020, The Magenta Book: Central Government Guidance on Evaluation.



3. Reducing the Cost of Health and Social Care

This section explains how the estimates for reducing cost of health and social care were obtained.

It is likely that many of the ALLIANCE's programmes lead to cost savings within the health and social care system, however it was only possible to quantify these effects for the Links Worker programme. The impact presented in this section should therefore be treated as an underestimate.

3.1 Links Worker Programme

The total costs savings from the Links Worker programme were estimated to be £0.8 million. Full details on how this estimate was obtained are given below.

3.1.1 The Programme Reduces Overall Health Care Use

Those referred receive care which is more aligned with their needs, resulting in fewer emergency admissions to hospital. The cost savings associated with this were estimated at £0.8 million.

A paper by Wildman & Wildman²² examines the impact of having a link worker on non-elective admitted patient care costs in the NHS. It examines the extent to which patients seen by a link worker have less emergency admission to hospital as a result of better overall support. The paper show that for high engagement patients, non-elective admitted patient care costs reduce by £77.57 per patient, per year. Scaling this up to all people linked to the ALLIANCE Links Worker programme (7,804) gives a total saving of £0.6 million.

There is also evidence that Link Workers reduce demand on GPs, with a review reporting a 28% reduction on average in demand for GP services following referral²³. The ALLIANCE also report that there are reductions in the number of people who frequently access to the service. Assuming that each referred patient sees their GP one less time a year than they otherwise would this results in 7,804 less appointments. Taking the value of one appointment to be worth £30, which is what the NHS estimates the cost of a missed GP appointment to be²⁴, this equates to £234,129 of savings. Non-referred patients receiving better care are assumed to be factored into this.

²² Wildman, J., & Wildman, J. M. (2023). Impact of a link worker social prescribing intervention on non-elective admitted patient care costs: A quasi-experimental study. *Social Science & Medicine*, 317, 115598.

²³ See Kimberlee, R., Polley, M., Bertotti, M., Pilkington, K., & Refsum, C. (2017). A review of the evidence assessing impact of social prescribing on healthcare demand and cost implications.

²⁴ <https://www.england.nhs.uk/2019/01/missed-gp-appointments-costing-nhs-millions/>



3.2 Self Management Fund

Although it is hoped that the self management fund resulted in reductions in health care use and therefore reduced overall costs, the evidence for reduced costs was not strong so it was not possible to provide a quantitative estimate of these benefits.²⁵

3.3 Staff Retention

Some of the other programmes, in particular the links worker programme and person centred voices, are likely to have impacts on staff retention rates. Such programmes may reduce pressure on health and social care staff and/or inspire them to continue in their roles when they otherwise wouldn't. This would not only prevent the loss of experience, but also help save costs on recruitment and training. This cost saving was not quantifiable.

3.4 More Efficient Health and Social Care System

Many of the programmes offered by the ALLIANCE will either help to improve the health and social care system for everyone. This may occur through reducing pressure on services so that others can get more effective care, saving costs in the future. However, there are also likely effects from research and policy or that ALLIANCE partnerships help the dissemination of best that may leads to better health care for everyone. This potentially wide-reaching benefit is not quantifiable.

²⁵ See the meta analysis by Panagioti et al. (2014), who show that there were limited reductions in health care usage and costs.



4. Generating Economic Activity

The ALLIANCE supports economic activity through its operations, purchases of supplies and its staff spending their wages.

Every employer generates economic activity, regardless of the nature of its work. There are three main economic impacts associated with all organisations, each of which is discussed in turn below.

The economic value generated by the ALLIANCE is expressed using two widely accepted measures of economic impact: gross value added (GVA) and employment (jobs).

4.1 Direct Impact

The direct economic impact of an organisation is the value it adds to the economy through its operations. It is measured in terms of GVA which is calculated by subtracting non-staff expenditure from total income, and employment directly supported.

In 2021/22, the ALLIANCE had a total income of £8.0 million and total non-staff expenditure (i.e. spending on goods and services) of £5.3 million. The ALLIANCE directly employed 110 staff.

Consequently, it was estimated that the ALLIANCE generated a direct impact of £4.7 million GVA and supported 110 jobs in 2021/22.

4.2 Supply Chain Impact

The ALLIANCE generates an economic impact through its spending on goods and services. The ALLIANCE's purchases increase turnover and employment in the businesses within its supply chain.

In 2021/22, the ALLIANCE spent £5.3 million on purchasing goods and services, of which 54% was spent in Scotland.

To estimate the economic impact generated from the ALLIANCE's spending on supplies it was necessary to assign each category of expenditure to one of the industrial sectors in the UK's Standard Industrial Classification (SIC) codes. The broad categories of ALLIANCE's expenditure were sourced from its financial accounts. To estimate the direct GVA and employment for each category, the additional turnover in each sector and study area was divided by the relevant turnover/GVA and turnover/job ratios gathered from the Scottish Annual Business Statistics (SABS)²⁶.

²⁶ Scottish Government (2023), Scottish Annual Business Statistics 2021.



This initial expenditure on goods and services stimulates further economic activity throughout the wider supply chain (indirect impact). In addition, employees of the ALLIANCE's suppliers also create a further economic impact by spending their salaries in the economy (induced impact).

In order to estimate the indirect and induced impacts arising as a result of spending on supplies, the calculated direct GVA and employment were multiplied by sector appropriate Scottish GVA and Employment Type 1 and Type 2 multipliers, as found in the Scottish Input-Output tables²⁷.

In this way, it was estimated that supply chain spending by ALLIANCE in 2021/22, generated £1.6 million GVA and supported 30 jobs in Scotland.

4.3 Staff Spending Impact

By spending their salaries and wages, staff employed at the ALLIANCE support further economic activity in the areas where they live. This increases turnover in the businesses where they spend their salaries, resulting in economic activity and employment.

The ALLIANCE's staff costs amounted to £3.5 million in 2021/22. This includes wages and salaries, social security costs and other pension costs. The economic impact of this depends on where staff live and on the pattern of household spending. All of the ALLIANCE's staff are based in Scotland. Based on an analysis of the Input-Output Tables and household spending patterns, it was assumed that the ALLIANCE's staff spent 67% of their income in Scotland. Value Added Tax (VAT) was deducted from this household spending as VAT is not included in the SABS statistics. A European Commission²⁸ study on VAT structures in 2013 found that 8% of UK household spending was VAT.

In this way it was estimated that the spending of staff employed at the ALLIANCE contributed £1.4 million GVA and 20 jobs in Scotland.

The ALLIANCE also hosts a number of short term student placements (7 in 2022) which benefits those individuals attending, gaining insight into what a career in this industry could look like and gain knowledge that can help them in their studies. As the majority of these placements are short (1-4 weeks), it is not possible to quantify any effect from this activity. However, the ALLIANCE hosted two year-long interns in 2022, which generates economic activity in addition to the human capital value.

Based on previous analysis undertaken by BiGGAR Economics on the value of such placements, it was assumed that the productivity of the interns during their placement was equivalent to 33% of an average worker employed by the ALLIANCE. Applying this to the number of weeks on placement, it was estimated that the two internships supported one job during 2022. Applying this job to the appropriate GVA/job ratios and multipliers for the human health and social work sector, it was

²⁷ Scottish Government (2022), Supply, Use and Input-Output Tables 2019

²⁸ European Commission (2013), A study on the Economic Effects of Current VAT Rate Structures



estimated that the internships supported £24,600 GVA for the Scottish economy in 2022.

4.4 Total Economic Impact of the ALLIANCE

Summing together its direct, supply chain and staff spending impacts provides the ALLIANCE's total economic impact, which in 2021/22 amounted to £7.6 million GVA and 160 jobs.

4.5 Total Fiscal Contribution of the ALLIANCE

The ALLIANCE's fiscal contribution includes:

- income Tax of £0.3 million;
- employee National Insurance of £0.2 million;
- employer National Insurance of £0.3 million; and
- VAT from staff spending of £0.3 million.

Income tax, employer and employee national insurance data was provided by the ALLIANCE. The VAT element arises from the ALLIANCE staff spending their wages and salaries and the VAT they pay when making these purchases. This was deducted in the economic impact calculations above but is included here as a fiscal contribution.

This gives a total fiscal contribution of £1.0 million.



5. Building the Wellbeing Economy

5.1 Scotland's National Performance Framework

Scotland's National Performance Framework sits at the apex of Scotland's policy hierarchy. It is designed to give a more rounded view of economic performance and progress towards achieving sustainable and inclusive economic growth and well-being across Scotland and aims to:

- create a more successful country;
- give opportunities to all people living in Scotland;
- increase the well-being of people living in Scotland;
- create sustainable and inclusive growth; and
- reduce inequalities and give equal importance to economic, environmental, and social progress.

5.1.1 Outcomes

The NPF sets out 11 outcomes, underpinned by 81 indicators, that combine to give a better picture of societal progress. The 11 national outcomes relate to:

- **children and young people:** grow up loved, safe and respected so that they realise their full potential;
- **communities:** live in communities that are inclusive, empowered, resilient and safe;
- **culture:** are creative and their vibrant and diverse cultures are expressed and enjoyed widely;
- **economy:** have a globally competitive, entrepreneurial, inclusive, and sustainable economy;
- **education:** are well educated, skilled and able to contribute to society;
- **environment:** value, enjoy, protect, and enhance their environment;
- **fair work and business:** have thriving and innovative businesses, with quality jobs and fair work for everyone;
- **health:** are healthy and active;
- **human rights:** respect, protect and fulfil human rights and live free from discrimination;
- **international:** are open, connected and make a positive contribution internationally; and
- **poverty:** tackle poverty by sharing opportunities, wealth, and power more equally

To make a positive contribution to national wellbeing, a sector (business, organisation or project) must contribute in some way to at least one of these.



5.2 Methodology

5.2.1 Outcome Identification

The first step in this work was to establish which of the outcomes are most relevant to the ALLIANCE. Based on the consultations undertaken, and the evidence provided the following were identified as most relevant: Children and Young People, Communities, Economy, Education, Fair Work and Business, Health, Human Rights and Poverty.

5.2.2 Capturing the Contribution

The Government measures progress toward the national outcomes using 81 indicators. The next step in the assessment was to identify the indicators most relevant to the ALLIANCE and (using the available evidence) assess the extent to which the organisation contributes to each. A summary of the relevant indicators and highlights from the evidence considered are provided in Table 5-1.

Table 5-1 Quantifiable Evidence Relating to NPF Indicators and Outcomes

	Relevant Indicators	Quantifiable Evidence
Economic		
	Income inequality	Direct: £4.7 million GVA & 110 jobs
	Spend on research and development	Supply Chain: £1.6 million GVA & 30 jobs
	Economic growth	Staff Spending: £1.4 million GVA & 20 Jobs Student Internships: £24,560 GVA & 1.5 jobs
Health		
	Quality of care experience	Community Links Worker Programme: Health and wellbeing benefit = £18.2 million.
	Healthy life expectancy	Self-Management Fund: Health and wellbeing benefit associated with self-management fund projects = £4.8 million.
	Mental wellbeing	Employment and volunteering: Total wellbeing benefit from employment = £1.7 million and from volunteering activities = £0.6 million.
	Healthy weight	
	Physical activity	Person Centred Voices: 30,000 pledges made by frontline staff to work differently. Based on QALYs, the total health effect delivering person centred voices programme is £2.5 million. Policy and research impact improving health care delivery: examples include National Care service (Scotland) Bill, Covid-19 Scottish and UK inquires, The Cost of Living crisis, Self-directed support Act 2013, Scottish Sensory Hub.
	Work related ill health	



Communities		
	Social capital	<p>Person centred voices: 250 talks given in 2022/23 and attended by 16,300 people. Around 1/3 of attendees are health and social care students and 1/3 from the health and social care workforce.</p> <p>ALLIANCE Live: in 2022, undertaken 76 videos, 5 webinars, 6,227 YouTube views, 5 podcast, 4 equally valued podcast, 448 total podcast listens. Speakers and guests included 21 third sector colleagues, 9 individuals with lived experiences, 4 health professionals and 2 MSPs.</p>
	Places to interact	
	Loneliness	
Human Rights		
	Quality of public services	<p>Reinstatement of the Graduate Low Vision Rehabilitation Course in Scotland for 2023/24 which will train people to deliver rehabilitation services for people with sight loss.</p> <p>Influencing policy and practice around implementing the Social Care (Self-Directed Support) (Scotland) Act 2013 (SDS).</p> <p>The ALLIANCE is embedding a human rights and equalities approach at the centre of the COVID-19 Inquiries and has secured the inclusion of social care in the Scottish Inquiry.</p> <p>Contributing to the design of the National Care Service (Scotland) Bill and the proposed new National Care Service (NCS).</p> <p>The ALLIANCE is working with partners to support and promote human rights budget work in Scotland.</p>
	Influence over local decisions	
	Access to justice	
	Public services treat people with dignity and respect	
Fair work and Business		
	Economic participation	<p>ALLIANCE "Delivers programmes that enhance employability and support people into work.</p> <p>93% of staff in alliance are on permanent contracts. All employees are on the Scottish Living Wage.</p>
	Employees on living wage	
	Contractually secure work	
Poverty		
	Relative poverty after housing costs	<p>The ALLIANCE reported to the Scottish Government, ahead of the December 2022 Budget, on the impact of the cost-of-living crisis on disabled people, those living with long-term conditions and carers.</p>
	Persistent Poverty	
	Cost of living	



		<p>Those with long-term conditions are more likely to have higher energy costs. The ALLIANCE secured meetings with the Deputy First Minister and Social Security Minister and pre-budget briefing for MSPs to make this heard.</p> <p>In 2022/23, the ALLIANCE surveyed its third sector members to understand the impact the cost-of-living crisis has had on their organisations.</p>
Children and Young People		
	Child wellbeing and happiness	<p>Getting it Right for Every Child: In 2022, the Children and Young People Programme delivered Getting to Know GIRFEC information sessions to over 240 individuals and practitioners.</p>
	Quality of Children’s services	
Education		
	Workplace learning	<p>A range of training programmes including CPD courses such as High Speed Training and Self-Management reflective practice. ALLIANCE creates networks and hosts events that shares best practice.</p>
	Skills profile of the population	

Source: BIGGAR Economics analysis of evidence supplied by the ALLIANCE

5.2.3 Putting it all Together

To present the overarching assessment of the contribution that the ALLIANCE makes to the national outcomes, for each indicator two analysis questions were asked. These looked at the importance of the ALLIANCE’s contribution to the overall indicator, and the strength of the evidence available to supporting its contribution.

The answer to these questions was assessed based on a scoring system, with a maximum score of 5 available for each analysis question (Table 5-2). This means that for each indicator, the total contribution of the ALLIANCE was assessed out of 10.



Table 5-2 National Outcomes Assessment Methodology

Analysis Question	Factors considered	Score				
		1	2	3	4	5
How important is this contribution to the overall indicator?	The scale of the impact at a local, regional or national level.	Incidental: Even a very significant change in ALLIANCE’s output would result in only a negligible change in the overall indicator.	—————→			Fundamental: Even a very small change in ALLIANCE’s activity could result in a very significant change in the overall indicator.
How strong is the evidence available to support this contribution?	The nature of the evidence supporting each way in which alliance contributes to this indicator	Tenuous: A weak theoretical relationship between ALLIANCE’s activity and the indicator. There is limited direct evidence supporting its contribution, and/or there is only evidence to support a few ways.	—————→			Strong: A strong and direct relationship between ALLIANCE’s activity and indicator supported by good direct evidence of all ways in which it does so.



Once this was assessed for the relevant indicators, it was important to assess how these contributions affected the corresponding national outcome. To do this, the scores for each indicator that ALLIANCE contributes to were added together. For example, the scores for income inequality, economic growth and spend and research were totalled to find the total contribution to the economic outcome.

To accurately state the contribution of ALLIANCE to each outcome, it was also important to account for the other indicators in which ALLIANCE did not contribute to. For example, although ALLIANCE contribute to three indicators within the economy outcome, there is a total of 10 indicators that equally determine its success. To account for this, we divided the contribution of ALLIANCE by the outcome score potential. This was calculated by multiplying the number of indicators within the outcome, by the maximum available score of each indicator (or by 10 in this case). In the case of the economy outcome, the outcome score potential would be 100.

Applying this method across all outcomes, we get the results outlined in Table 5-3.

Table 5-3 Summary of ALLIANCE’s Contribution to National Outcomes

Outcome	Contribution
Human Rights	83%
Health	50%
Communities	26%
Poverty	18%
Fair work and business	18%
Children and Young People	17%
Economy	17%
Education	11%

Source: BIGGAR Economics

5.3 Contributions to National Capital Stocks

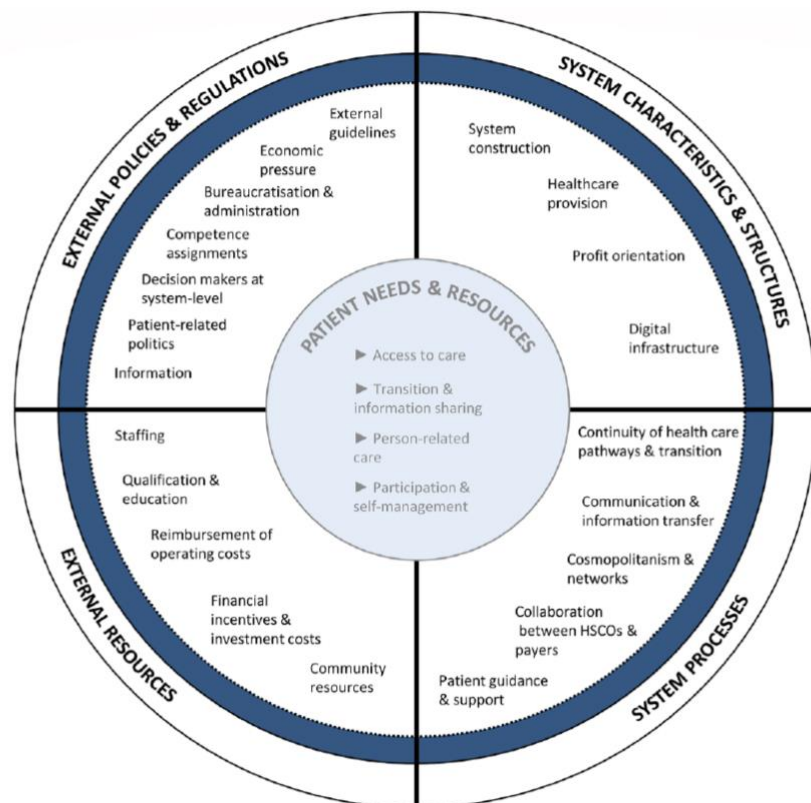
From an early stage in the work programme it was apparent that one of the most important ways in which the ALLIANCE contributes to Scotland’s wellbeing economy is through the work it does to build and maintain a person-centred health and social care system. Effective health and social care is fundamental to any progressive society and can therefore be considered an important part of the foundations of a wellbeing economy.

A system is a collection of inter-related elements that interact with each other to produce a particular result. Any system therefore consists of two important elements: the components that comprise the system and the relationships that exists between these components. Both are important for the system to function

well. From the evidence collated it is clear the ALLIANCE makes an important contribution to both.

Research published in the British Medical Journal in 2021²⁹ used qualitative analysis of interviews with decision makers from a variety of health and social care organisations and evidence from the existing research base to assess the system level determinants of patient centred care. The study identified 21 system-level determinants across four domains. These are summarised in Figure 5-1.

Figure 5-1 System-level Determinants of Patient Centred Care Implementation



Source: Leidner C. et al. (2021)

The contribution ALLIANCE makes to the development and maintenance of a person-centred system of health and social care was assessed by considering the extent to which it enhances each of these dimensions. The evidence suggests the ALLIANCE makes a significant contribution to at least 11 of the elements across all four domains. Within this its contribution to the “patient-related politics”, “decision makers at system level”, “qualification and education” and “cosmopolitanism and networks” dimensions was found to be particularly substantial. A summary of this analysis is presented in Table 5-4.

²⁹ Leidner C., et al. (2021), Implementation of patient-centred care: which system-level determinants matter from a decision maker’s perspective? BMJ Open 2021



Table 5-4: ALLIANCE Contribution to System-level Determinants of Person Centred Care

System Component	Example Contributions
External policies and regulations	
External guidelines	Significant contribution. Work with various partners to develop and improve guidance to support PCC, including guidance on self-directed support, an improvement plan to support the implementation of self-directed support and toolkits for Social Work Scotland.
Economic pressure	Significant contribution. Research into potential improvements, including research setting out how national and local government could improve funding support for the third sector. The support delivered through the Links Worker scheme also helps to reduce economic pressures on health care providers by reducing emergency admissions and freeing up GP time.
Bureaucratisation and admin	No specific contribution identified.
Competence assignments	No specific contribution identified.
Decision makers at system-level	Major contribution. Regular engagement with ministers and decision makers, to ensure the voices of health care professionals and the people they support are 'heard'. e.g. 2023 meetings with the Deputy First Minister, Cabinet Secretary for Social Justice and the Social Security Minister on the impact of the cost-of-living crisis on the third sector and people with long term conditions and the provision of a ministerial briefing.
Patient related policies	Major contribution. Programmes to put people at the centre of health and social care are at the heart of ALLIANCE's activity. E.g. include Getting it Right for Every Child, Humans of Scotland, Lived Experience Networks, the Health and Social Care academy, Person Centred Voices and the Scottish Sensory Hub. Policy work is also particularly important to this, e.g. developing amendments to the National Care Service (Scotland) bill, contributing to guidance for the built environment, work to inform the inquiry into poverty related stigma and recommendations to the COVID-19 Recovery Committee.
Information	Significant contribution. A See Hear Leads network has been established in each local authority to support knowledge sharing in relation to people with sensory loss.



Characteristics and Structures	
System construction	Significant contribution. The self-management fund enables innovation and makes it possible to try new things.
Healthcare provision	No significant contribution identified.
Profit orientation	No significant contribution identified.
Digital infrastructure	Significant contribution. E.g. ALISS, a web-based system for finding and sharing information about community assets across Scotland.
System Processes	
Continuity of healthcare pathways and transition	Significant contribution. The Links worker programme, which is a core part of suite of services delivered by the ALLIANCE, operates through GP service, recognising role of GPs as 'gatekeepers'.
Information transfer	No significant contribution identified.
Networks	Major contribution. Through its network of over 3,000 members the ALLIANCE helps to connect national and local third sector organisations, health care professionals, disabled people, people living with long term conditions and unpaid carers. By enabling, maintaining and developing these connections ALLIANCE directly supports inter-agency collaboration.
HSCOs/payer collaboration	No significant contribution identified.
Patient guidance and support	No significant contribution identified.
External Resources	
Staffing	No significant contribution identified.
Qualifications and education	Major contribution. In-house student placements and staff training, developing training resources for partners (e.g. for professionals working with people with sensory loss) and major national programme of events to disseminate learning about person centred care.
Reimbursement of costs	No significant contribution identified.
Financial incentives and investment costs	Significant contribution. Work with commercial partners to help direct corporate social responsibility investment toward impactful new PCC initiatives (e.g. project to reduce gambling harm).
Community resources	Significant contribution. Integration support programme, designed to increase the third sector's capacity to contribute to health and social care. Support for third sector organisations in the Borders to engage with local statutory partners.

Source: BiGGAR Economics, based on framework developed by Leidner et al.

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