



## **East Ayrshire CHP Committee 23/8/10**

### **Integrated Resource Framework Programme - Mapping of Health & Social Care Resources ("IRF Phase 1")**

<b>Subject</b>	<b>Integrated Resource Framework Programme - Mapping of Health &amp; Social Care Resources ("IRF Phase 1")</b>
<b>Purpose</b>	<b>To provide feedback to CHP Committees/Forums &amp; Officer Locality Groups on the baseline mapping of resources.</b>
<b>Recommendations</b>	<p><b>CHPs note the findings from the baseline mapping of resources, along with the limitations of the analysis for some activity areas.</b></p> <p><b>CHPs consider the mapping of resources at this phase 1 macro level complete.</b></p> <p><b>CHPs having identified their priority areas within phase 2 of the IRF programme, note expenditure and budgetary analyses will occur in each of the project areas providing meaningful information for future decision making.</b></p>

## **1 Background**

- 1.1 NHS Ayrshire & Arran and the 3 Ayrshire Local Authorities are participating in the national Integrated Resource Framework programme, which seeks to enable realisation of some of the goals of Shifting the Balance of Care (Scottish Government, 2008), through fostering closer integration between health boards and local authorities. The work – considered “developmental” by Scottish Government, comprises 2 phases, with phase 1 involving the mapping of patient and locality level cost and activity information for health and adult social care, in order to gain an understanding of existing resource profiles for partnership populations.
- 1.2 This report is the culmination of the analysis which has occurred within phase 1. It maps the distribution of NHS Ayrshire and Arran and local authority spend across North, East and South Ayrshire. Additionally, it allocates relevant aspects of NHS spend to GP practices. The report then explores whether the resources are currently being divided ‘fairly’ across the three localities. An analysis of whether the budget is being allocated fairly involves calculating a ‘fair share’ of resources for each locality and GP practice, using the National Resource Allocation Formula (NRAC). This figure is then compared to the actual spend.

## **2 Current situation**

- 2.1 The total NHS Ayrshire and Arran spend can not be wholly allocated to each local authority or GP practice. Of the spend which can be allocated; North Ayrshire receives the most (£168,969,000), East Ayrshire the second largest amount (£167,398,000) and South Ayrshire the least (£146,120,000). Currently North Ayrshire Council spends £63,212,000 on social care, followed by £53,834,000 by East Ayrshire, and £53,179 by South Ayrshire Council.
- 2.2 The NRAC fair share formula also calculates that North Ayrshire should receive the largest share of resources, followed by East and South Ayrshire respectively. However, the NRAC formula calculates that North Ayrshire should receive a larger amount of resources than present (£182,656,000) and East Ayrshire less resources than present (£153,118,000). The NRAC fair share calculation for South Ayrshire is similar to what is actually being spent in the locality (£146,713,000).

## **3 Proposal**

- 3.1 The CHP Committee/Forum/Officer Locality Group should consider the implications of the analysis to date and determine what insight this gives to spend across Ayrshire.

## **4 Consultation**

- 4.1 The CHP Committee/Forum/Officer Locality Group is being consulted today with the findings (along with the caveats) from the phase 1 analysis.

## **5 Resource Implications**

- 5.1 Non-identified.

## **6 Risks**

- 6.1 The risk of utilising the analysis without heeding the caveats contained within could result in sub-optimal decision making.

## **7 Impact assessment**

- 7.1 As an internal document this paper does not require to be impact assessed at the current time.

## **8 Conclusion**

- 8.1 The total NHS Ayrshire and Arran budget could not be wholly allocated to each local authority or GP practice. This is due to data collection mechanisms in the organisation.
- 8.2 It is clear that all data considered in this paper, the NHS spend by local authority, the local authority spend and the NRAC budget allocation all arrive at a similar conclusion. That is, North Ayrshire receives the largest share of resources followed by East and South Ayrshire respectively. The variation at a local authority level and the variation that is also demonstrated by the NRAC fair shares allocation when compared with the actual budget is demonstrated in this paper. However, there are many caveats associated with the analyses and therefore the level of acceptance of the variation should be tempered alongside the limitations of the data.
- 8.3 An analysis of the Local Authority spend and NHS Ayrshire and Arran spend and budget, including exploring resource allocation and calculating a fair share budget allocation amongst different localities and GP practices, is considered complete. Consideration of any further analysis should only be considered for areas where it is perceived that greater insight into expenditure and budget allocation would influence the ability to deliver the objectives of the IRF programme.

**Owen Moseley  
Kirsti Dickson  
Joanne Atkinson  
July 2010**



## Integrated Resource Framework Programme Phase 1 – Mapping of Health & Social Care Resources

### Introduction

This report describes the distribution of NHS Ayrshire & Arran's budget across North, East and South Ayrshire, and how the budget is allocated to GP practices in Ayrshire and Arran. The report then explores whether the resources are currently being divided 'fairly' across the three localities, and across the GP practices. An analysis of whether the budget is being allocated fairly involves calculating a 'fair share' of resources for each locality, and GP practice, using the National Resource Allocation Formula (NRAC).

### **NHS Ayrshire and Arran budget by locality**

The purpose of this section of the analysis is to determine how much of the total NHS Ayrshire and Arran budget is allocated to each of the local authorities; North, East and South Ayrshire. The analysis involved classifying various service costs as Hospital Based, Community Based or Other. Then determining how much was being spent on a particular service in North, East and South Ayrshire. Once the costs have been allocated to each service, and to each local authority, it is possible calculate in total how much is being spent on NHS services in the three localities.

### **Budget by Locality Methodology**

This section provides detail regarding the composition and calculation of the service costs, which are then attributed to each local authority.

Starting with the Hospital Based Costs, the inpatient and day case costs were calculated by individual patient activity reported to ISD, multiplied by average blue book cost per occupied bed day, which was then summed for total activity cost in each locality. The figure includes all activity across all specialties and age ranges. Geriatric long stay information was included on the basis of where it was provided.

Outpatient costs were calculated from SMR00 returns which capture all new referrals. The total number of new and return outpatients was specified and a New/Return ratio was calculated for each specialty. This ratio was then multiplied by the SMR00 activity figures to provide total activity and was also summed for total activity in each locality.

The Allied Health Professional (AHP) out-patient costs are based on the locality where the service is provided, and therefore this figure is much lower for North Ayrshire as there is no significant acute facility in this locality.

Obstetrics costs are allocated to each locality on the basis of the number of patients, however some cases will relate to non-Ayrshire and Arran patients. The specialist (HDU/CCU/ICU) costs were allocated on the basis of utilisation of acute in-patient services which were determined through analysing individual patient activity reported to ISD.

## APPENDIX 1

Psychiatry costs are allocated on the basis of the number of cases in each locality and some cases will relate to non Ayrshire and Arran patients. The Learning Disability Services (LDS) inpatient costs are allocated on the basis of the GP list sizes, and day patient costs are allocated to the local authority where the day hospital is sited. Haemodialysis at Crosshouse is displayed as Area NHS currently but will be reallocated in the future.

In terms of costs which are classified as Other, the category Other NHS bodies includes, Health bodies out-with Scotland and primary care bodies. Payments to external bodies include private sector payments, support finance, resource transfer, contributions to voluntary organisations and charities and capital grants. Capital grants are mostly made to the Local Authorities.

The receipts from other NHS activity include income from NHS Ayrshire and Arran undertaking activity for non Ayrshire and Arran residents, which mainly includes cochlear implants and breast screening. The category miscellaneous costs include closed hospital charges, patient travel, post graduate medical education and shared services.

## Budget by Locality Results

Tabulated below are the breakdown of the 2007/2008 NHS Ayrshire and Arran by cost and Local authority.

Table 1: Budget by Locality

Cost	EAST AYRSHIRE		NORTH AYRSHIRE		SOUTH AYRSHIRE		AREA NHS	TOTALS
	LA	NHS	LA	NHS	LA	NHS		
<b><u>HOSPITAL BASED</u></b>								
In patients & Day Cases		59,388		59,030		51,342	3,788	173,548
Outpatients		11,918		11,103		9,813		32,834
Allied Health Professional out-patients		7,667		2,557		6,019		16,243
Obstetrics		3,493		4,320		2,429	93	10,335
Specialist (HDU/CCU/ICU)		6,405		6,366		5,537		18,308
Psychiatry		10,313		13,245		11,443	318	35,319
Learning Disability Services		1,456		2,427		485	971	5,340
A&E		3,366		4,124		3,277		10,768
Day patients		2,242		3,306		3,936	0	9,484
<b><u>COMMUNITY BASED</u></b>								
GP Services		15,227		17,531		14,630		47,388
GP Prescribing Costs		23,801		27,991		22,049	5,396	79,238
District Nursing		4,371		4,817		4,300		13,487
Health Visiting		2,181		2,301		1,501		5,984
Midwifery		748		925		520		2,193
Community Mental Health Services		2,263		2,923		2,562		7,748
General Dental Services & Community Dentistry							22,572	22,572
General Ophthalmic Services							6,329	6,329
Learning Disability Services	7,706	688	9,939	709	7,955	628		27,625
Addictions & substance abuse	163		1,028		270		4,613	6,074
Physical/Sensory Disability Services	3,321		3,626		2,647			9,594
Older Peoples Services	26,371		27,424		28,229			82,024
Services for families & children incl Chdns Panel	13,940		18,363		13,371			45,674
Adults with Mental Health Needs	1,658		2,077		615			4,350
Criminal Justice Social Work Services	71		60		50			181
Other Community Services		1,463		1,044		1,038	45,828	49,372
<b><u>Other</u></b>								
Other NHS Bodies		10,403		18,559		7,966	6,487	43,414
Payments to external bodies		8,481		8,595		8,803	10,675	36,554
Receipts from other NHS activity							(8,534)	(8,534)
Miscellaneous costs							628	628
Service Strategy	604		695		42			1,341
<b>Per LFRs</b>	53,834		63,212		53,179			170,225
<b>Per NHS A&amp;A Statutory Accounts</b>		175,874		191,873		158,278	99,163	625,188
<b>TOTALS</b>	53,834	175,874	63,212	191,873	53,179	158,278	99,163	795,413

## **NRAC and the 'fair share' analysis**

The National Resource Allocation Committee (NRAC) formula is a method of allocating budgets. The formula calculates a 'fair share' taking into account the following information: the population size, age-sex composition of the population, the need of the population due to morbidity and life circumstances, and the relative costs of providing services in rural or remote areas. It can be applied nationally at a NHS Board level to determine the resource allocation for each Board, or it can be used locally to determine the financial allocation for each GP practice or Local Authority.

### **NRAC and the 'fair share analysis' Methodology**

This section provides detail regarding the calculation of the actual and NRAC 'fair share' allocations.

The total NHS Ayrshire & Arran budget is £572,982,000 and only £482,487,000 is attributable at a local authority level. Therefore the NRAC fair share allocation for each locality was calculated using the budget of £482,487,000. A total of £90,495,000 could not be allocated to the three localities.

The NRAC fair share budget for each of the three localities in Ayrshire was calculated, and this figure compared to the actual allocation in each locality.

The second element of the NRAC analysis was to calculate the actual and fair share allocation of resources at GP practice level. The analysis considered only GP prescribing and Acute spend, and not the other care programmes: mental illness, care of the elderly, maternity and community. Of the total budget of £572,982,000, only £280,605,846 (49% of the budget) was attributable at a GP level. A total of £292,322,513 could not be allocated to the GP practices. If the additional care programmes were included in the analysis then both the actual and NRAC budget allocations would be considerably higher.

The calculations regarding the NRAC analysis were based on the inclusion of an additional GP practice when compared to the Actual spend analysis. The Actual spend calculations were based on there being 59 practices in Ayrshire and Arran, while the NRAC calculations were based on there being 60 practices in the area. The additional practice is the Challenging Behaviour Service. The impact on the analysis of not including the Challenging Behaviour Service is minimal.

In some cases such as the Largs Medical Group, a large difference between the NRAC and Actual allocations may be expected. It could be anticipated that the NRAC fair share allocation is much larger than the Actual allocation. The variation in cost may be due to including or excluding patients who were not treated within Ayrshire and Arran. In Largs, a large volume of patients travel cross-border to Glasgow hospitals, these patients were included in the NRAC calculations but not the actual calculations. Therefore the number of patients, and as a result the associated cost, may be much larger in the NRAC calculations when compared to the actual calculations. Despite the fact that cross-border patients were omitted from the actual calculations, it would not explain all of the variation between NRAC and actual allocations. Some of the variation may be caused by the referral patterns of clinicians within the practices.

## NRAC and the 'fair share analysis' Results

Tabulated below is the actual budget allocation of the three localities, versus the budget allocation calculated through the NRAC fair shares formula.

*Table 2: NRAC and Actual Budget Allocation by Locality*

Locality Ayrshire	NRAC Budget Allocation (£)	Actual Budget Allocation (£)	Difference between actual and NRAC (£)
North	182,656,000	168,969,000	(13,687,000)
South	146,713,000	146,120,000	(593,000)
East	153,118,000	167,398,000	14,280,000
<b>Total</b>	<b>482,487,000</b>	<b>482,487,000</b>	<b>0</b>

Tabulated below is the actual budget allocation of the Ayrshire and Arran GP Practices, versus the budget allocation calculated through the NRAC fair shares formula.

*Table 3: NRAC and Actual GP Expenditure by Locality*

Local Authority Area	NRAC (£)	Actual (£)	Difference (£)
North Ayrshire	106,210,505	102,138,837	(4,071,667)
South Ayrshire	85,325,868	86,157,275	831,407
East Ayrshire	89,050,607	92,309,734	3,259,127
<b>Total</b>	<b>280,586,980</b>	<b>280,605,846</b>	<b>18,867</b>

## Discussion

It is clear from the analysis that the whole of the NHS Ayrshire & Arran spend cannot be allocated to a local authority level, or GP practice level. Some spend areas cannot be allocated at a geographical level smaller than Ayrshire and Arran wide as information on all resource spend is not collected electronically at an individual patient level.

Of the spend which can be allocated, it is clear that it is relatively evenly distributed across the three local authorities. North and East Ayrshire are allocated similar amounts of the budget (approximately 35% each) while South Ayrshire is allocated the remainder (30%). Currently North Ayrshire Local Authority spends £63,212,000, followed by £53,834,000 from East Ayrshire, and £53,179 from South Ayrshire Local Authority.

The NRAC calculations also suggest that North Ayrshire receives the largest amount of the budget, followed by East and South Ayrshire respectively. This order of local authorities is consistent with that of Actual spend and Local Authority spend i.e. North Ayrshire the most, East Ayrshire the second largest, and South Ayrshire the least.

However according to the NRAC calculations there should be greater variation between the local authorities, when compared to what is actually allocated. NRAC suggests that North Ayrshire should be attributed a greater share of the budget (approximately 38%) while East Ayrshire should receive less (approximately 32%). In terms of South Ayrshire, the NRAC spend and actual spend are similar, at 30% of NHS Ayrshire and Arran's Budget.

The variation between the NRAC allocations of North and East Ayrshire may be due to measures of deprivation. There are 45 datazones in North Ayrshire which are amongst the highest 15% of deprived areas in the whole of Scotland. This figure implies that of the 179 datazones in North Ayrshire, 25% are amongst the 15% most deprived in Scotland. In East Ayrshire there are 30 datazones in the highest 15% of deprived areas. Therefore, of the 154 datazone in East Ayrshire, 19% are amongst the 15% most deprived.

Both North and East Ayrshire contain 11 datazones amongst the highest 5% of deprived areas in Scotland. This implies that of the datazones in North Ayrshire, 6% are amongst the 5% most deprived in Scotland while 7% of East Ayrshire's datazones meet that level of deprivation. It could be argued that although there is more deprivation across North Ayrshire, the degree of deprivation is worse in East Ayrshire. However, the larger levels of deprivation at the 15% level in North Ayrshire could be contributing to the larger NRAC fair share allocation for that authority, when compared to East Ayrshire.

It should be noted that the NRAC formula does not use SIMD data directly in the 'fair share' calculations. However, it does use other similar measures of deprivation which may be producing similar conclusions to that of the SIMD data.

Table 3 provides information on total General Practitioner expenditure by locality, compared to expected expenditure when utilising the NRAC formula.

The local GP analysis for IRF shows significant variation between practices and also for individual practices against the NRAC shares. This is not surprising as it is consistent with research on primary care behaviour. CHPs should be reassured that this observation then confirms that the IRF is a valid exercise.

Variation in demand already features as a matter which is considered at both practice and individual GP level through the work of the prescribing team, GP appraisal and primary care metrics. It is important to note that it is not lawful to restrict the decisions a GP takes with regard to the necessary treatment of their patients. Therefore GP engagement is critical to the success of the IRF.

## **Conclusion**

The total NHS Ayrshire and Arran budget could not be wholly allocated to each local authority or GP practice. This is due to data collection mechanisms in the organisation.

It is clear from all data considered in this paper, (1) NHS spend by local authority, (2) local authority spend and (3) NRAC budget allocation all arrive at a similar conclusion. Namely, North Ayrshire receives the largest share of resources followed by East and South Ayrshire respectively. The variation at a local authority level and the variation that is also demonstrated by the NRAC fair shares allocation when compared with the actual budget is demonstrated in this paper. However, there are many caveats associated with the analyses above and therefore the level of acceptance of the variation should be tempered alongside the limitations of the data.

An analysis of the Local Authority spend and NHS Ayrshire and Arran spend and budget, including exploring resource allocation and calculating a fair share budget allocation amongst different localities and GP practices, is considered complete. Consideration of any further analysis should only be considered for areas where it is perceived that greater insight into expenditure and budget allocation would influence the ability to deliver the objectives of the IRF programme.