

**Manchester Health and Wellbeing Board
Report for Information**

Report to: Manchester Health and Wellbeing Board – 11 November 2015
Subject: Public Health Grant: Allocation Formula 2016/17
Report of: David Regan, Director of Public Health

Summary

On 8 October 2015 the Department of Health (DH) issued a consultation document on proposed changes to the formula for the future allocation of the public health grant to local authorities. This covering report provides a summary of the response from Manchester City Council, supported by members of the Health and Wellbeing Board. The full response is attached as Appendix 1 and was submitted to DH on 6 November 2015.

Recommendations

The Board is asked to note the report

Board Priority(s) Addressed:

Health and Wellbeing Strategy priority	Summary of contribution to the strategy
Getting the youngest people in our communities off to the best start	Whilst some aspects of the proposed formula changes are welcome, others are not. Manchester requires a larger proportion of the national grant to meet the considerable public health challenges faced by the City and to deliver the strategic priorities of the Board.
Educating, informing and involving the community in improving their own health and wellbeing	
Moving more health provision into the community	
Providing the best treatment we can to people in the right place at the right time	
Turning round the lives of troubled families	
Improving people’s mental health and wellbeing	
Bringing people into employment and leading productive lives	
Enabling older people to keep well and live independently in their community	

Lead board member: All

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Background documents (available for public inspection):

The following documents disclose important facts on which the report is based and have been relied upon in preparing the report. Copies of the background documents are available up to 4 years after the date of the meeting. If you would like a copy please contact one of the contact officers above.

This full consultation document can be accessed via the following url:
<https://www.gov.uk/government/consultations/public-health-formula-for-local-authorities-from-april-2016>

1. Introduction

- 1.1 The Advisory Committee on Resource Allocation (ACRA) developed a formula for the public health grant for the first time in 2012. The proposed changes to the formula relate to:
- 1) Using the most up to date routine data sets.
 - 2) Making the elements of the formula that relate to premature deaths, Standardised Mortality Ratios (SMRs) in the under 75s more sensitive to levels of deprivation.
 - 3) A new formula component for substance misuse services.
 - 4) A new formula component for sexual health treatment services.
 - 5) A new component for children's 0-5 services to take account of the recent transfer of funding and commissioning responsibilities to Local Authorities.
- 1.2 The Department of Health on behalf of ACRA has issued a document for consultation with Local Authorities and Health and Wellbeing Boards that describes the proposed changes. Local Authorities (LAs) are invited to respond to the consultation by Friday 6 November 2015.
- 1.3 Manchester City Council welcomes the opportunity to respond to the proposed formula changes. DH only made the decision to implement the proposed 6.2% in year cut on 4 November 2015. However, this has now been factored in to show the potential financial impacts of any formula changes for Manchester.
- 1.4 The consultation is focused solely on the target formula, which determines the preferred relative distribution of resources across local authority areas based on measures of need. The target share of resources (calculated from the formulae) is applied to the total resources available, to give each area's target allocation.
- 1.5 For each area their 'distance from target' (DFT) is then calculated as the percentage difference between their baseline allocation and the target allocation.
- 1.6 The government agrees a 'Pace of Change' (POC) policy that decides how quickly to move LAs from their baseline position towards the level of resource implied by the target share. This sets an upper and lower bound on the amount any LAs allocation would increase/ or decrease by. Between those levels, the level of increase or decrease is distributed according to each LA's DFT.
- 1.7 The consultation does not seek views on pace of change and the decision on this rests with Ministers. However, to enable sound financial planning the

Government should clarify the policy as part of the Comprehensive Spending Review (CSR) process.

- 1.8 The response of Manchester City Council to each of the consultation questions agreed by the Manchester Health and Wellbeing Board is attached as Appendix 1. A response from Greater Manchester will also be submitted, which is in line with the response from the City Council.

2. Background

- 2.1 The ACRA panel chaired by Professor Peter Smith (Imperial College London) includes a broad cross section of academics, public health professionals and finance experts from Clinical Commissioning Groups (CCGs) and LAs. The remit of ACRA is purely technical, looking at the relative distribution of resources rather than analysing the impact on individual CCGs or LAs.
- 2.2 The Secretary of State has commissioned ACRA to update the existing public health formula. Following a review of the consultation responses, ACRA will make their final recommendations to Ministers in mid November.
- 2.3 The Manchester Health and Wellbeing Board last submitted evidence to ACRA in September 2013, in relation to CCG allocations. The evidence was prepared by John Hacking, Senior Research Officer in the City Council Public Health Team who also submitted a further paper to ACRA in October 2014. This paper focused specifically on the use of the Standardised Mortality Ratio (SMR) for the under 75s (i.e. premature deaths) in the formula for the public health grant and is referenced in the consultation document as the "Hacking proposal".
- 2.4 It is important to note that although John Hacking retired in March 2015, he has kindly agreed in a voluntary capacity to provide further evidence and analysis in support of the Manchester consultation response. We must also acknowledge the excellent work of Ben Barr, Senior Clinical Lecturer in Applied Public Health Research at Liverpool University for his support to all LAs in the North West. This work is also referenced in the Manchester response.
- 2.5 The consultation response by its very nature has to focus on the technical aspects of the formula and the various mathematical models and concepts. Therefore the response is not designed for a lay audience, however, the key messages are summarised below.

3. Key messages from the Manchester response

- 3.1 Manchester is ranked as the second worst local authority in England in terms of figures for male life expectancy at birth (behind Blackpool) and the worst local authority in terms of female life expectancy. Furthermore Healthy Life Expectancy (HLE) for both men and women in Manchester is significantly lower than the state pension age of 65. Boys born in Manchester between

2011 and 2013 can expect to live, on average, 76.8% of their lives in "Good" health; girls can expect to live 71.0% of their lives in "Good" health.

- 3.2 We believe Manchester, with these considerable challenges, should receive a greater proportion of the national public health grant going forward and whilst some aspects of the proposed formula changes would support this, others do not.
- 3.3 It cannot be right that anything Manchester gains from the partial adoption of the "Hacking proposal" linked to SMRs <75s, could be lost because the new components for substance misuse and sexual health treatments are not robust enough. Indeed they fail to take account of deprivation levels adequately and the consultation document actually states that the sexual health component favours London and more affluent areas outside the capital.
- 3.4 Furthermore although the component of the formula relating to children's public health is not detrimental to Manchester, we strongly believe that because of our poor child health profile, the weighting for deprivation needs to be increased significantly. We would also recommend that ACRA adopt a further proposal from John Hacking, so that this component has a greater age weight (i.e. more skewed towards births) in line with the recommendations from the Marmot report.

4. Financial implications of the proposed formula changes

- 4.1 It has been difficult to do the analysis of what the proposed formula will mean in relation to the actual amount of grant that Manchester will receive in future. This is because of delays in the decision on the in-year cut and also because of the lack of clarity on pace of change. The following estimates are based on a 6.2% recurrent cut in the public health grant and also make some assumptions on the pace of change. The estimates are drawn from the work of Ben Barr.
- 4.2 There are two broad areas of Public Health (PH) resource allocation that the consultation focuses on.
1. Updating data and changing aspects of the formula used to estimate target allocation for all PH resources *excluding the component for children's 0-5 services* –referred to below as the revised 'adult' formula.
 2. The introduction of a new formula for *children's 0-5 services*. – referred to below as the new 'child' formula.
- This is combined with 'adult' components to give the overall target allocation.
- 4.3 The application of the formulae will mean that areas move towards their target allocation over time. Assuming that the total level of resources remained the same (or reduces); this would mean that areas over target would gradually have their budgets cut until they reached their target allocation. The speed at which that would happen depends on the pace of change policy. Similarly areas that are under target would gradually have their budgets increased until they reached their target allocation.

- 4.4 The effect of the formula changes can be broken down into three components.
- Change in resources that would have resulted from the application of the previous 'adult' formula.
 - Additional changes in resources that result from the revisions of the 'adult' formula.
 - Changes in resources that result from the application of the new child formula.

The potential effect of these changes for each LA in Greater Manchester has been calculated in Table 1 below.

- 4.5 Table 1 below highlights the impact on resource in £millions for each local authority would potentially lose (-) or gain (+) from:
1. Distance from target of 2015/16 grant allocations against current adult formula
 2. Moving from 2015/16 grant allocations to the proposed 'adult' formula
 3. Overall impact of the application of the proposed adult formula against current adult formula.
 4. Moving from full year effect of current 2015/16 child allocations to proposed child formula. October 2015 to March 2016 for 0-5 children's public health services was primarily set on a "lift and shift" basis
 5. Moving to proposed adult and child formula from 2015/16 funding levels
 6. The effect of applying the overall proposed formula (child + adult) compared to the current formula.

Table One: Financial impacts of proposed changes

Local Authority	(1) Distance from target under current adult formula	(2) Loss (-) gain (+) under proposed adult formula	(3) Overall change on adults formula	(4) Loss (-) gain (+) from new child formula	(5) Overall change in 2015/16 funding baseline	(6) Overall change from current to proposed formula
	£m	£m	£m	£m	£m	£m
Bolton	+0.7	+1.0	+0.3	-0.4	+0.6	-0.1
Bury	+0.3	+0.4	+0.1	-0.6	-0.2	-0.5
Manchester	+4.5	-0.2	-4.7	+1.4	+1.2	-3.3
Oldham	+1.6	-1.2	-2.9	+0.2	-1.0	-2.7
Rochdale	+0.5	-1.0	-1.5	-0.4	-1.4	-1.9
Salford	+0.8	+0.4	-0.5	+0.2	+0.6	-0.3
Stockport	+0.1	+0.3	+0.3	-0.7	-0.4	-0.4
Tameside	+1.7	-0.3	-2.0	+0.5	+0.2	-1.5
Trafford	-0.3	-1.4	-1.0	+0.1	-1.3	-0.9
Wigan	-3.8	-4.5	-0.7	-0.6	-5.1	-1.3
Total	6.1	-6.5	-12.6	-0.3	-6.8	-12.9

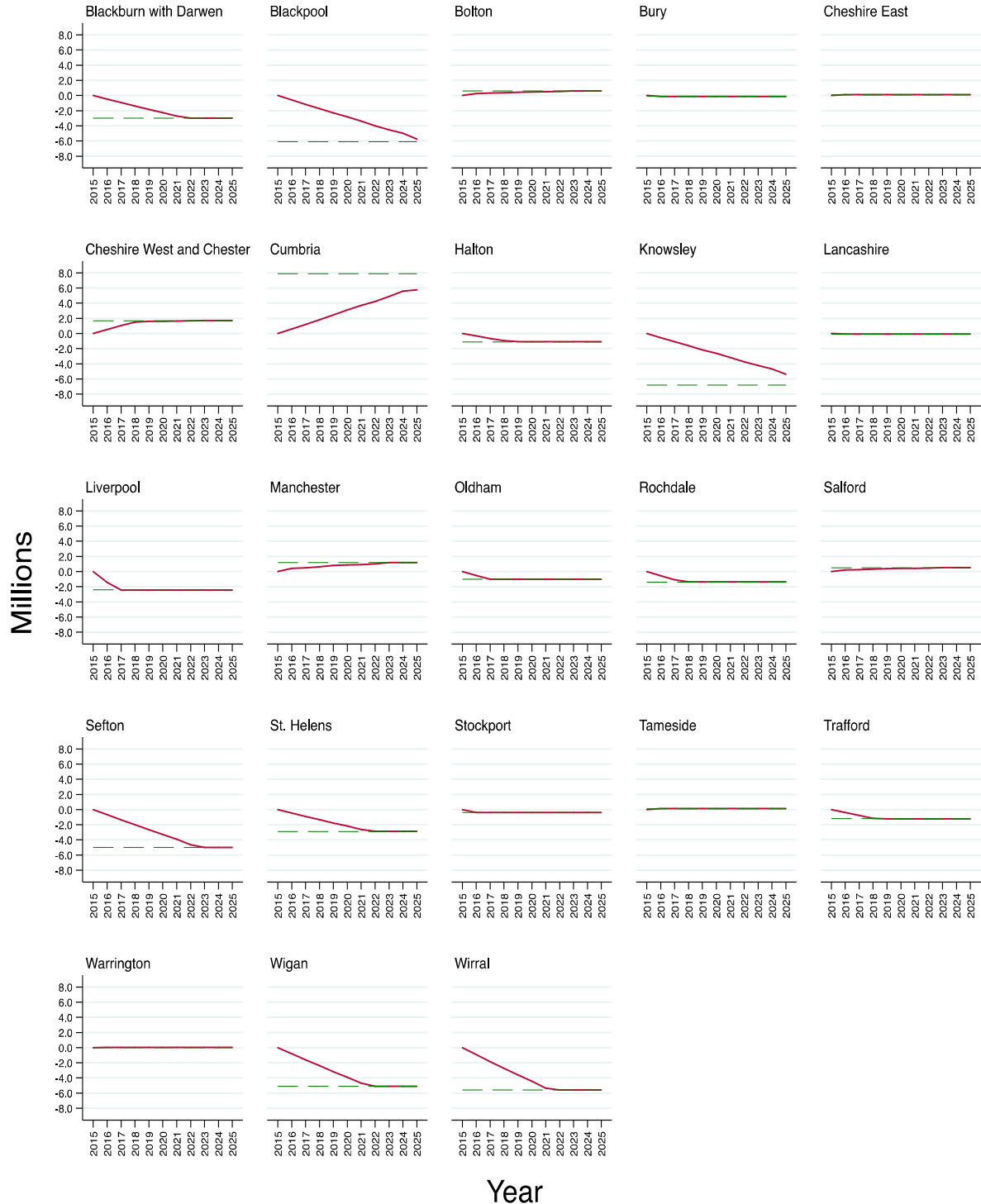
(Figures assume baseline allocation is current 2015/16 allocation with the proposed 6.2% cut applied and 0-5 funding increased to the full years funds, and the total resources available remained at the same level until all LAs reached their target)

- 4.6 For Manchester this means that under the current formula, the allocation would have eventually increased by £4.5 million. The proposed revisions to the adult parts of the formula decrease this significantly to an actual loss of £200,000. The application of the new child formula would eventually increase the allocation to Manchester by £1.4 million. However when this is combined with the £200,000 loss from the revised adult component, this would reduce to £1.2 million. Finally when comparing the current formula with the overall proposed new formula (adult + child components), Manchester is potentially £3.3 million “worst off” in terms of the proportion of grant the City should receive, when moving to target over the pace of change period.
- 4.7 Therefore although Manchester benefits from partial adoption of the Hacking proposal in the revised adults formula, as stated previously, the components for sexual health treatment and substance misuse services take these “gains” away. The revised adults formula is not as beneficial to the City as the current formula. The children's component does have some merits although we believe a number of improvements could be made to this part of the formula. These improvements are described in the attached response.
- 4.8 The timing of the effects depends on the pace of change (POC) policy. In the past pace of change policies have tended to be relatively gradual. The illustrative figure below (Figure 1) illustrates the change in allocation for North West (NW) LAs that would result from a pace of change policy that set the maximum cut for any area in any year at 3% and the maximum increase for any area at 3%. The timing of the gains or losses in Table 1, depends on how far from target the LA is. Manchester according to this analysis is £1.2 million under target (see column 5, Table 1) and would recoup the funding very slowly over a 7 year period (i.e. by 2022).

Figure One: Predicted changes in allocations for NW Authorities

Predicted change in public health allocation (including 0-5 year olds)

Assuming Pace of Change: max cut 3% & min increase 3% in any year
- flat overall funding from 2016



Figures include full year 0-5 funding and assume 6.2% has already been applied - analysis @benj_barr

5. Conclusions

- 5.1 The transfer in responsibility of public health services on 1 April 2013 was a fundamental change to the role of local government. This process has continued with the transfer, from October this year, of the responsibility of children's public health for 0-5 year olds.
- 5.2 It is important that the Government ensures that this responsibility remains fully funded, and that any proposals regarding the formula for the distribution of the public health grant are fair and transparent.
- 5.4 The potential re-distribution of resources (i.e. cuts to the most deprived authorities) on top of the unequal and unfair 6.2% cut appears to run in the opposite direction to the Government's stated principles of "equal opportunity of access for equal need" and "contributing to the reduction in health inequalities". For Manchester this essentially means a £3.3 million in year cut, followed by a "budget shortfall" of £3.3 million (see 4.6) if the new formula is fully implemented. A combined total of £6.6 million.
- 5.5 Any further cuts to LAs, or LAs with poor health outcomes not receiving the resources they require will clearly have a detrimental impact on the delivery of important preventative services.

6. Summary and Next Steps

- 6.1 The summary Manchester response to each of the consultation questions in the appendix is set out below:
- Q1 Do you agree that a modelled SMR<75 should be developed for use in the longer term?
Yes, a modelled version of SMR<75 in the longer term is acceptable.
- Q2 Do you agree that the sixteen groups outlined above provide a sensible balance between sensitivity to the most extreme mortality rates and protection against volatility of measurement?
Yes, the extension to 16 groups is seen as reasonable step; however we would recommend the adoption of the "Hacking proposal" in full.
- Q3 Do you agree that the proposed new substance misuse formula component should be introduced?
No, more work is needed to make this component more robust. In the case of Manchester, most of the impact does not target resources at the most deprived areas as stated in the consultation document.
- Q4 Do you agree that the proposed new sexual health services formula component should be introduced?
No, the utilisation models for sexual health are not considered robust enough at this time and would contribute to a distribution of the allocation in the 'wrong' direction in terms of reducing health inequalities between local

authorities. It moves the allocation in general from poorer health LAs to better health LAs, apart from London.

- Q5 Do you agree that the proposed new services for children under five years formula component should be introduced?
Yes, but only if our proposals on additional weighting for deprivation and age are accepted.
- 6.2 ACRA will analyse and review the consultation responses and make their final recommendations to Ministers in mid November. Allocations will be announced in December 2015/January 2016 subject to the Comprehensive Spending Review (CSR) settlement.

Appendix 1-

Response of Manchester City Council, supported by the Manchester Health and Wellbeing Board, to the consultation on the Public Health Grant: Proposed Target Allocation Formula for 2016/17

Contact Details:

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Overview

Manchester is ranked as the second worst local authority in England in terms of figures for male life expectancy at birth (behind Blackpool) and the worst local authority in terms of female life expectancy. Furthermore Healthy Life Expectancy (HLE) for both men and women in Manchester is significantly lower than the state pension age of 65. Boys born in Manchester between 2011 and 2013 can expect to live, on average, 76.8% of their lives in "Good" health; girls can expect to live 71.0% of their lives in "Good" health.

We believe Manchester, with these considerable challenges, should receive a greater proportion of the national public health grant going forward and whilst some aspects of the proposed formula changes would support this, others do not.

It cannot be right that anything Manchester gains from the partial adoption of the "Hacking proposal" linked to SMRs <75s, could be lost because the new components for substance misuse and sexual health treatments are not robust enough. Indeed they fail to take account of deprivation levels adequately and the consultation document actually states that the sexual health component favours London and more affluent areas outside the capital. The two new components cancel out both the increase of 13.5 % given by the revised SMR<75 formula and the initial Manchester position of being 10% under target. This leaves Manchester simply very close to target (excluding the new 0-5 component) and the City will not get the funding it requires going forward.

Furthermore although the component of the formula relating to children's public health is not detrimental to Manchester, we strongly believe that because of our poor child health profile, the weighting for deprivation needs to be increased significantly. We would also recommend that ACRA adopt a further proposal from John Hacking (see Question 5 below), so that this component has an age weight (i.e. more skewed towards births and the younger end of the 0-5 age range) in line with the recommendations from the Marmot report.

Q1: Do you agree that a modelled SMR<75 should be developed for use in the longer term?

- 1.1 Yes. The use of SMR<75 is considered to be a crude measure of relative needs of the population and we would agree that a modelled SMR<75 should be developed in the longer term as it is a good indicator of public health need.
- 1.2 Using a modelled rather than the actual standardised mortality ratio has a number of benefits, particularly that it can continue to identify underlying drivers of poor health in a local authority that has been successful in meeting those challenges. However, any modelling would need to be based on robust information that has the ability to be refreshed on a regular basis to ensure the Public Health allocation can reflect changing needs across the country.
- 1.3 Reliance on Census data as a key component to the model would not fit this criteria given the significant time lag in the collection and dissemination of data and the ten year cycle between each Census. We note that ACRA's own view is that the modelling is not yet robust enough for implementation and recommend the actual SMR<75 continue to be used, while work continues to develop the model. There are no implications for the proposed target allocation formula for 2016-17, but it appears a positive proposal.

Q2: Do you agree that the sixteen groups outlined above provide a sensible balance between sensitivity to the most extreme mortality rates and protection against volatility of measurement?

- 2.1 We are pleased that the DH proposal goes most of the way towards adopting the "Hacking proposal" and thus treating more fairly those LAs with the worst mortality. However, the reason given for not fully adopting the Hacking proposal is, we believe, not valid. Section 4 of the Hacking paper previously submitted by Manchester City Council, argues that it is not the number of Medium Super Output Areas (MSOAs) in each group that determines the proportion of MSOAs that move randomly between groups, but the variability of the data relative to group width. Therefore a key metric would be absolute confidence interval divided by group width. This concept would not hinder the use of 20 groups and even groups with one MSOA.
- 2.2 Having said the above, the DH proposal gives a result equivalent to the Hacking proposal for all but thirteen local authorities at the high deprivation level (except that there would also be a small negative balancing effect for all other local authorities). There are only 16 MSOAs with values above 230 which would qualify for higher scores, if more than 16 groups were used. Of these most are the sole MSOA within an LA and therefore if they did attract a higher score would only be expected to have a small effect on the overall LA score (unless the values were exceptionally high). The exceptions are Blackpool and the Wirral. Blackpool has three MSOAs in this group out of a total of 19 MSOAs (16%) and they are all very high (243.2, 245.5, 265.1). The Wirral has two out of 42 MSOAs (5%) which have values 237.9 and 247.7. Thus of these two LAs it is Blackpool which loses out the most from a reduction from 20 to 16 groups. This concept indicates that the DH Group 16 can be divided into several narrower groups.

2.3 The above were subjected to objective calculation by substituting the “Hacking proposal” for the DH proposal using the same exponential factor between groups to give weights to groups 17 to 20 of 11.659, 13.593, 15.849 and 18.478 respectively. The results were calculated in terms of the effect on the SMR<75 weighted population and the effect on the overall weighted population if the other formulae, including the new 0-5 formula, proposed by the DH were used in addition as set out in the engagement spreadsheet. The results are in Table 1 below:

Table 1 showing the effect on weighted populations of using the Hacking proposal compared with using the DH proposal for the SMR<75 formula: The first column shows the percentage change on the SMR<75 weighted population alone; the second column shows the effect on the overall weighted populations assuming that all other formulae are those currently proposed by the DH in the engagement

Local Authority	% change in SMR<75 weighted population	% change in overall weighted population using current DH proposals for other formulae.
Blackpool	+12.86	+5.01
N.E.Lincolnshire	+9.83	+3.08
Stockton-on-Tees	+6.44	+2.25
Wirral	+3.78	+1.27
Salford	+3.06	+1.26
Stockport	+2.98	+1.09
Middlesbrough	+2.85	+0.91
Southampton	+2.22	+0.77
Manchester	+1.19	+0.50
Oldham	+1.04	+0.46
Bolton	+0.98	+0.36
Leicester	+0.65	+0.25
Bradford	+0.59	+0.21
All other local authorities	-0.31	-0.07 to -0.13

2.5 This table shows that it is important, for a small number of local authorities, to see the full “Hacking proposal” adopted especially since the reason given for not doing is, we believe, statistically invalid. In particular Blackpool which has the worst mortality and life expectancy in England; it is therefore important to fully account for this extreme mortality in the allocation formula.

In view of the above data and argument we propose use of the full “Hacking proposal”.

Q3: Do you agree that the proposed new substance misuse formula component should be introduced?

3.1 No, more work is needed to make this component more robust. The problem with introducing this component of the formula is that its distribution for

deprivation is weaker than the previous formula (SMR<75 and age weights). Thus it contributes to a distribution of the allocation in the 'wrong' direction in terms of reducing health inequalities between local authorities and takes resources away from Manchester. This is despite the assertion in the consultation document that most of the impact will target resources at the most deprived areas.

Q4: Do you agree that the proposed new sexual health services formula component should be introduced?

- 4.1 No, again more work is needed to make this component more robust. The problem with introducing this formula is that its distribution for deprivation is weaker than the previous formula (SMR<75 and age weights). Thus it contributes to a distribution of the allocation in the 'wrong' direction in terms of reducing health inequalities. Indeed outside London, the effect is predominantly to target more resources to more affluent areas and away from more deprived areas, and so fails to address the criticism of the existing model.
- 4.2 We also feel that none of the three models proposed are appropriate for implementation at this time, especially as none of them include the use of the Sexual and Reproductive Health Activity Dataset (SRHAD). Genito-Urinary Medicine (GUM) clinics are specialist services. GUM clinics are responsible for most but not all screening and treatment activities. Contraception and Sexual Health (CASH) clinics also provide STI testing and treatment services - and these activities are reported via SHRAD. Discounting SHRAD data will disadvantage areas, such as Manchester, that has CASH clinics to offer screening and treatment activities. Indeed in Manchester, CASH clinics see more patients than GUM clinics. GUM clinics account for around 40% of all attendances at sexual and reproductive health services and CASH clinics account for around 60%.
- 4.3 GUM clinics also provide HIV treatment and care. HIV positive patients often attend clinics three to four times a year. Attendances related to HIV treatment and care are not reported via GUMCAD but via Hospital Episode Statistics (HES). The formula as it stands could disadvantage local areas that have clinics that operate as regional centres for HIV treatment, such as Manchester, as these clinics have additional workloads that are not properly reflected in GUMCAD.
- 4.4 None of the models adequately reflect need for preventative services rather than need for treatment services. However, longer term, we would welcome further development of the formulae for the sexual health component including the use of SHRAD. There should be a greater emphasis on prevention in the weighting that does not disadvantage more deprived local authorities with high levels of need outside London, such as Manchester.
- 4.5 We would also suggest that prevalence of diagnosed HIV infections should be included as one of the need variables. HIV prevalence is a better indicator of need within a local population and consequent demand for services This is

perhaps more useful than including as needs variables the proportion of black African / black Caribbean people and the number of people in a same sex marriage. The latter gives a very limited picture. In Public Health England's strategic framework to promote the health and wellbeing of gay, bisexual and other men who have sex with men – it states that "Gay, bisexual and other men who have sex with men (MSM) constitute an estimated 5.5% of the UK male population" and we know this percentage is much higher in cities such as Manchester.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/313692/Strategic_Framework_to_promote_the_health_and_wellbeing_of_MS_M_FINAL_DRAFT_For_comment.pdf

Q5: Do you agree that the proposed new services for children under five years formula component should be introduced?

5.1 Yes, but only if our proposals on additional weighting for deprivation and age set out below are accepted.

Proposal One

The formula for services for children under 5 should include an age weight. This is because:

- (i) Spend is skewed to births and the earlier ages of years 0 to 4.
- (ii) The fractions of the England population at ages 0-1, 1-2, 2-3, 3-4 and 4-5 vary within local authorities.

This variation appears systematic in that in general urban areas have higher fractions for the earlier years (and for births) while rural and some suburban areas in general have the opposite - higher fractions in the later years of 0-5. This pattern reflects migration of families with very young children who migrate from urban to suburban or rural areas.

Thus urban areas often have a greater burden of births and very early years high costs while many suburban and rural areas have a greater 0-5 population at the higher ages where costs are less. To simply use the 0-5 population without age weight would unfairly penalise urban areas where families with young children migrate out, and favour some suburban and rural areas.

The variation in population fraction is illustrated with examples in the tables below. The metric used is the percentage difference in the fraction of the England population compared with the overall 0-5 population fraction (2014 population estimates).

Table 2 Examples of urban areas. These often have populations skewed to the earliest years The metric used is the percentage difference in the fraction of the England population compared with the overall 0-5 fraction of the England population (2014 population estimates).

Region or LA	0-1	1-2	2-3	3-4	4-5	0-5
London Region	+4.4	+3.1	+1.6	-3.6	-5.3	0.0
Newham LA	+14.6	+6.5	+4.6	-9.5	-15.8	0.0
Haringey LA	+12.2	+4.5	-1.5	-8.3	-6.4	0.0
Manchester LA	+6.5	+1.7	+0.9	-4.9	-3.8	0.0
Liverpool LA	+6.8	+1.4	+3.7	-4.0	-7.8	0.0
Birmingham LA	+4.7	+2.8	-0.1	-3.1	-4.1	0.0
Bristol LA	+5.3	+2.4	+1.7	-4.0	-5.1	0.0
Reading LA	+5.7	+7.3	-3.3	-4.2	-5.1	0.0

Table 3 Examples of rural and suburban areas. These often have populations skewed to the later years The metric used is the percentage difference in the fraction of the England population compared with the overall 0-5 fraction of the England population (2014 population estimates).

Region or LA	0-1	1-2	2-3	3-4	4-5	0-5
South East Region	-3.1	-2.0	-0.5	+2.4	+3.1	0.0
Wokingham LA	-10.8	-2.3	-0.8	+4.6	+8.8	0.0
West Berkshire LA	-7.8	-4.8	-0.9	+7.9	+5.3	0.0
Leicestershire LA	-7.5	-1.9	-0.5	+5.1	+4.5	0.0
Dorset LA	-7.5	-3.2	-0.5	+2.4	+7.5	0.0
Northumberland LA	-6.7	-2.1	-1.1	+3.1	+6.6	0.0
East Sussex LA	-5.7	-2.8	-1.4	+4.0	+5.7	0.0
E Riding Yorks LA	-4.8	-5.8	+0.5	+3.9	+6.0	0.0

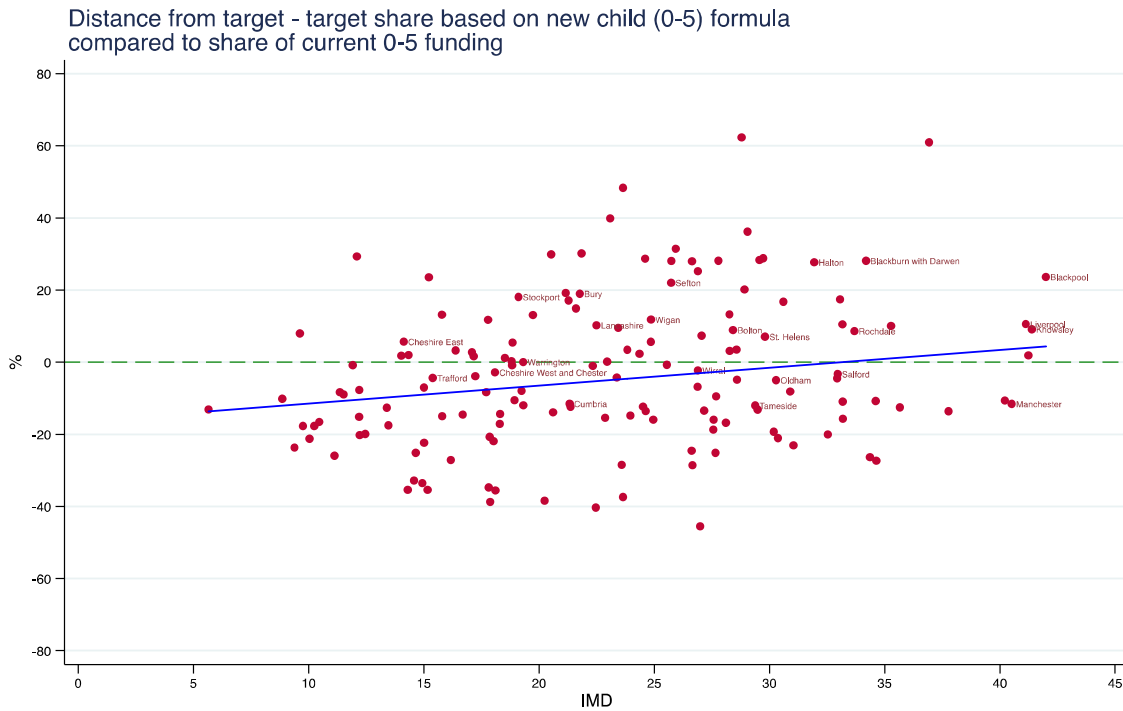
In view of the above it is essential that an age weight is introduced based on the age-cost curve for ages 0-1, 1-2, 2-3, 3-4, 4-5 and also possibly on the number of births. Manchester did suggest something along these lines in the previous engagement for the 0-5 formulae

Proposal Two

The deprivation element based on an arbitrary weighting of the percentage of children in poverty is the least distributive of all the deprivation formulae in the DH proposal. The measure of child poverty is least distributive because it is only one indicator of deprivation, derived from children living in poverty as indicated by tax credits and household income. The review of formula considered, but discounted using other measures such Children in Need data and low birth weight data. Using only one proxy indicator for deprivation has its limitations in capturing need which is acknowledged in the consultation document.

Therefore this doesn't make sense in view of the importance of early years' health in influencing health in later years, as emphasised by Marmot and others. Therefore we suggest that it be replaced either by the $SMR < 75$ weight or that the weighting ratio of 1:4 be increased significantly, certainly to 1:5 as a minimum.

The graph below, Produced by Ben Barr at Liverpool University shows the problem of the relatively weak proposed deprivation formula which moves resource away from more deprived areas to less deprived areas.



Acknowledgements;

Manchester City Council and Manchester Health and Wellbeing Board would like to acknowledge the contributions of John Hacking, Senior Research Officer (retired) and Benn Barr, Senior Clinical Lecturer in Applied Public Health Research at Liverpool University, to this consultation response.