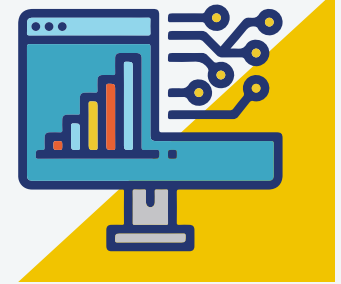


SUMMARY

This paper describes the work undertaken by Dr. David Shepherd and colleagues at Leicester, Leicestershire and Rutland (LLR) Integrated Care System (ICS) to create a new funding model for primary care that more closely aligns with population need. The new funding model was introduced in the summer of 2021 and since then, it has helped address many of the issues related to inequity in health outcomes that existed using the old funding formula. Three examples of these improvements are described below.



THE CHALLENGE

The funding formula for primary care family doctor services in England—the Carr-Hill formula¹—has remained unchanged since 2004. Since its inception, it has been widely acknowledged that the Carr-Hill formula has certain limitations, particularly in relation to measuring workload in the form of patient need. The only reliable way of measuring patient need is to analyse patient-level data, something that was not available when the Carr-Hill formula was introduced.

However, patient-level data is now widely available in the form of electronic medical records and data sets that integrate data from both primary care and secondary care.




THE SOLUTION



LLR has a diverse population of over one million people, ranging from very deprived inner-city communities to more affluent populations in rural areas. The size of each primary care practice also varies considerably. For several years, LLR has had access to patient-level data for its whole population and has used this to design and manage its approach to population health. It also uses the Johns Hopkins ACG System to assist with activities such as population profiling, high-risk case identification and casemix-adjusted outcomes assessment. This patient-level data and the use of the ACG System is the basis for the creation of the new funding model. The new funding model maintains a core element of funding

that is linked to the basic level of support needed to run essential functions common to all practices, but unlike the old formula, it includes a significant element of funding based on the needs of the patients managed by each practice.

It was also recognised that—for the new funding model to be accepted and adopted by all primary care practices—the practices would need to be consulted and involved in its design. The ICS engaged in the widest consultation exercise it had ever undertaken, including all affected service providers. Any new funding model would be delivered with the understanding that no service provider would drop below its current level of funding under the existing Carr-Hill formula.

The main factors considered and adopted in the development of the new funding model in LLR included:

-  The use of local data
-  Making an adjustment for variation in data quality: as a result, poor data quality did not adversely impact on the amount of funding received
-  A weighting based on casemix (need): the key element of the funding model that accounts for the overall level of need for the patients managed by each primary care practice

-  Considering patient turnover on the basis that new patients generate more demand in the first year after registration
-  Recognising communication issues: acknowledging that patients who do not speak English or have other communication barriers require additional support

After extensive consultation with key stakeholders, the weighting associated with each component of the new funding model was agreed as follows:

Component of Model	Description	% of Total
Core funding component	<ul style="list-style-type: none"> • A fixed sum based on essential functions and fixed costs, common to all practices. 	41.2%
Needs-based funding component	<ul style="list-style-type: none"> • A variable sum based on patients' needs using a casemix-adjusted methodology (driven by the ACG System). This element is the largest part of this component of the funding model. • A further adjustment for patient turnover. • A further adjustment for communication issues. 	52.9%
Deprivation component	<ul style="list-style-type: none"> • Based on practice level Index of Multiple Deprivation² (IMD) derived from postal code areas or registered patients. 	5.9%

This blended approach captures the granularity in need which is seen at the primary care practice level and reflects the variation that exists between different practices. It is a more precise method of assessing need than can be obtained from an age/sex-based adjustment or from the Carr-Hill formula. It also creates a responsiveness to changes in those services' populations over time.

THE OUTCOME

The new funding model was formally approved and adopted by LLR in July 2021. From that date, primary care practices with higher levels of need have received proportionately more resources to address those needs. Practices that had long been recognised as being underserved by the old formula have seen an increase in funding. This includes not only practices in deprived areas, but also those with impactful morbidity patterns previously unrecognised by the old formula.

The new funding model has provided many benefits to patients and clinicians alike, including:

Identifying and adjusting for variation in clinical need, which the old formula was unable to do.



Data from the two practices in the ICS with the most similar age/sex structure of all possible pairings of the 130 ICS practices was analysed. Both are in low deprivation areas in rural towns with primarily white populations and, as expected for a formula heavily dependent on age/sex, their per capita funding under Carr-Hill was similar. Under the new model, the second practice's needs' adjustment was 14.7% higher due to more prevalent complex morbidity that the old formula could not identify. This translated to an 8.5% higher funding overall under the new formula.

Addressing the 'cream-skimming' that occurs under the old formula.



Two other practices, A and B, that serve the same high-deprivation geographical area have premises that are only seconds apart from each other. The Carr-Hill formula funds practice B 1.9% higher than practice A. The ICS has known that practice B has, for example, three to four times as much depressive illness amongst its population and that patients regularly transfer to them from practice A as practice B 'listens better'.

Under the new funding model's needs assessment, practice B's need is assessed as 17% higher than practice A, consistent with the known clinical differences in the populations served. This has translated into 10.7% higher funding for practice B under the new formula than practice A, over five times the previous differential.

Adjusting for variation in deprivation that the old one cannot.



In two Leicester City practices that experience very different levels of socio-economic deprivation, both had high levels of casemix-adjusted need but one—despite having an IMD score three times lower—was funded 4.8% more generously. Under the new formula, both practices saw relative funding increases related to need, as in the first example, but this was enhanced by the deprivation adjustment so that the less deprived practice ended up being funded 0.5% less generously.

CONCLUSION

The development and successful deployment of the new casemix-based funding model for primary care was made possible by using the combination of patient-level data, the ACG System and the political and financial will of key stakeholders across LLR. The funding model is providing a vehicle for tackling health inequalities in a way that has not been possible in primary care in England until now.

This work has generated significant interest from NHS England and other Integrated Care Systems. LLR is currently working with another ICS to implement a local primary care funding model suited to their population, using the experience, principles and tools developed in LLR.



The way the system [LLR ICS] pulled resources together creatively to address these needs and narrow health inequalities is a great example of local initiative, collaboration and system working.”

Dr. Bola Owolabi – Director of Health Inequalities at NHS

ABOUT THE JOHNS HOPKINS ACG SYSTEM

The ACG System is a flexible, transparent set of tools developed and validated by scientists and clinicians at the Johns Hopkins Bloomberg School of Public Health. Customers use the ACG System to segment their patient populations and to process their organization’s existing medical, pharmacy and lab data to generate clinical risk markers and predictive

models at the population and patient level. The ACG System provides health care analytics teams with the insights they need to inform rapid decisions about patient care, resource planning and service design.



To learn more about the ACG System, please visit www.hopkinsacg.org or email acginfo@jh.edu.

¹ The Carr-Hill formula is applied to calculate the Global Sum payments for essential and some additional services. Global Sum payments are based on an estimate of a practice’s patient workload and certain unavoidable costs (e.g., the additional costs of serving a rural or remote area or the effect of geography on staff markets and pay), not on the actual recorded delivery of services.

² Indices of multiple deprivation (IMD) are widely-used datasets within the UK to classify the relative deprivation (essentially a measure of poverty) of small areas. Multiple components of deprivation are weighted with different strengths and compiled into a single score of deprivation.