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Evaluation of the Pupil Deprivation Grant

2nd Interim report

December 2015

Evaluation of the Pupil Deprivation Grant: Interim Report (December 2015)

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Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government

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1. Introduction

1.1 Ipsos MORI and WISERD were commissioned by the Welsh Government in April 2013 to conduct a process and impact evaluation of the Pupil Deprivation Grant (PDG). The PDG was launched in 2012 and provides additional funding to schools based on the number of pupils on their roll eligible for Free School Meals (eFSM) or who are Looked After Children (LAC). Schools are provided with funding per eFSM or LAC pupil, and are directed to spend the additional funds on evidence-based interventions to help close the attainment gap[1]. The evaluation aims to understand how the grant is being used by schools and its impact.

1.2 This report is based on the second year of evaluation activity, and focuses on reporting on in-depth case studies with 22 schools conducted in 2013/14 and 2014/15. The report focuses in particular on 10 case studies completed in spring and summer 2015. The report also contains findings from an initial analysis of data from the National Pupil Database.

1.3 The qualitative findings reported here aim to give insight into how schools are making decisions about spending the PDG, the types of activities they are funding, and teachers' perceptions of the impact of the grant. The case study schools cover primary and secondary phases across Wales, and include schools with relatively high and low proportions of eFSM pupils, and schools based in both affluent and disadvantaged areas. The case study evidence does not allow us to quantify findings, but instead aims to capture the range of experiences and practices across different types of school.

1 The amount of PDG funding per eligible pupil was £450 in the 2013/14 academic year, £918 in the 2014/15 academic year, and £1,050 in 2015/16.

Summary of Key findings

Which pupils are supported via the PDG?

1.4 Case study schools were using sophisticated data systems to identify individual pupils to receive additional support via PDG-funded interventions. Schools recognised that eFSM pupils are the intended beneficiaries of PDG and, while their targeting is sometimes broader, eFSM was one of the key considerations for most case study schools in targeting PDG support. However, eFSM tends to be one of a range of variables that schools considered. Other factors schools considered when determining which pupils should receive additional support include Special Educational Needs (SEN), Looked After Children (LAC), English as an Additional Language (EAL), More Able and Talented (MAT), and – in some schools – attainment. Targeting decisions are typically made on a pupil-by-pupil basis, with the weighting given to eFSM status relative to other aspects of disadvantage varying widely between schools.

1.5 In most case study schools, eFSM pupils were not treated as a homogeneous group, and several schools identified key sub-sets of eFSM pupils for specific types of tailored support, such as male/female eFSM pupils, and eFSM pupils at different levels of attainment. In a few case study schools, however, low attainment rather than any other consideration was the primary criterion for targeting of PDG-funded support.

1.6 There are variations in the extent to which the PDG is conceived as a grant to close the attainment gap – and therefore concentrated on low attaining (eFSM) pupils – or a grant to help eFSM children fulfil their potential. In the latest wave of case studies a few schools took the latter view and provided support to More Able and Talented (MAT) eFSM pupils, although most continued to focus on low-attaining pupils.

PDG-funded activity

1.7 The way the PDG is spent by schools appears to have evolved over the grant's lifetime. Several case study schools explained they had initially invested in resources and establishing data monitoring systems to track pupils' progress using the funds, but that funds are now concentrated on the delivery of interventions, and specifically on funding staff time to deliver them.

1.8 Schools often conceptualise disadvantage primarily as a lack of parental support, rather than (exclusively) in terms of financial disadvantage. In line with this, several schools in the latest wave of case studies were investing in initiatives to engage parents in school life and/or their children's education. In some cases this is focused on building better relationships with parents. Other initiatives focused on enabling parents to support their children's learning, and/or supporting healthy family lifestyles.

1.9 There are indications that schools are becoming engaged with local programmes that complement PDG and play a key role in addressing disadvantage, including Families First and Communities First. For example, a few case study schools report being hubs for the delivery of Families First 'Team Around the Family' arrangements and referring families to this support, and a few are using Communities First funding streams to provide support to families.

1.10 Several of the 2015 case study schools reported working in consortia with other schools. This took several forms, from pooling PDG funds, to working on joint interventions (such as transitions programmes from feeder primaries to secondary schools), to joint funding of family support workers. A few schools talked about sharing best practice, and had looked to other schools for advice on how to tackle disadvantage.

The impact of PDG on schools

1.11 The impact of the PDG on schools' culture varies considerably across the case study schools. Many schools considered they already had a strong focus on disadvantage and the grant merely provides them with

extra funding. However, a few schools felt that the PDG has significantly raised the profile of disadvantage and how schools should cater for vulnerable pupils. In these cases, it appeared that an increased focus on data monitoring was as responsible for changes in attitudes as the PDG activities. A few schools acknowledged they now have a much greater focus on eFSM than they did earlier in the life of the grant, and put this down to clearer guidance from the Welsh Government and their regional consortia.

1.12 The PDG has helped to instigate improvements in the way some case study schools collect and use data. Schools have strong tracking systems to monitor attainment and attendance, with many using INCERTS or SIMS. All schools monitored pupil-level data against individual targets. A few schools explained that they had not previously monitored eFSM pupils separately, or that they had not previously monitored the impact of specific interventions. There are examples of schools making spending decisions, and changing the way in which interventions operate, on the basis of the data they have collected to improve effectiveness.

1.13 The case studies suggest that the biggest impact of the PDG on staffing has been to increase the number and the skills of Teaching Assistants (TAs) employed by schools. TAs are often trained on implementing and evaluating the impact of the interventions they deliver and as a result are becoming highly skilled members of the school staff. The PDG has led to an increase in the size of the school staff in virtually all case study schools.

1.14 There was less evidence that the PDG had affected classroom teachers' practice to the same degree as TAs in most schools, although this may be because schools have usually spent the Schools Effectiveness Grant (SEG) on developing teaching and learning, and because the case study discussions concentrated on the use of the PDG. A few schools were using the PDG to develop teaching: for example, one school used coaching trios so that teachers received

regular feedback on their teaching, as well as observing colleagues regularly.

The impact of the PDG on pupils' attendance and attainment

1.15 Case study schools note a range of impacts on the attainment of pupils receiving PDG funds, but stress that a lot of the most significant impacts are difficult to quantify. Staff in case study schools consistently report that pupils grow in confidence and self-esteem as a result of interventions; in some cases, pupils are more likely to participate in lessons afterwards. In addition, schools note that there are knock-on impacts for those pupils who remain in class (as they are not eligible for the PDG) when other pupils are withdrawn to take part in PDG interventions, as there are then fewer distractions for the remaining pupils and teachers.

1.16 Findings from analysis of the outcomes of eFSM and non-FSM pupils from the National Pupil Database are summarised below.

Table 1.1 Key findings from analysis of National Pupil Database

Area	Summary of findings
Absence	There has been an overall improvement in absence for all pupils in terms of a reduction over the four years in the proportion of half-day sessions missed. The rate of reduction is faster since the introduction of the PDG but this is also the case for non-FSM pupils. There has been a greater relative decline in persistent absence for non-FSM pupils than eFSM pupils.
Key Stage 2 achievement	In English/Welsh, science and maths the rate of improvement at KS2 amongst eFSM pupils was more than twice the rate of improvement amongst non-FSM pupils in the period 2011-14. However, the causal impact of the PDG is unclear: the 'gap' narrowed considerably prior to the introduction of the PDG and this rate of improvement among FSM pupils has not been sustained after its introduction.
Key Stage 4 achievement	Among pupils entered for GCSEs, the relative underachievement of eFSM pupils compared to non-FSM pupils is lower in 2014 than it was in 2011. This shows that the GCSE achievement gap is narrowing. There has been a particular improvement in GCSE science attainment in 2014 among eFSM pupils. However this may be associated with fewer eFSM pupils being entered for GCSE science over time as alternative qualifications such as BTEC have been made available. Further analysis is required to investigate this. The relative 'gap' between eFSM and non-FSM pupils in attaining grades C or above in all three core GCSE subjects has narrowed considerably from 53.2% to 40.7%. However, the impact of PDG is again unclear: the rate of improvement for English and maths was greater prior to the introduction of PDG. The percentage of eFSM pupils who achieved the L2 inclusive threshold has increased from 25.8% in 2012/13 to 27.8% in 2013/14. Further analysis of this measure will be undertaken in future work.
Value-added	eFSM pupils generally make relatively less progress in their levels of achievement between KS2 and KS4 than non-FSM pupils. Progress between KS2 and KS4 has improved over time for eFSM pupils, but only slightly and has not kept pace with the rate of progress for non-FSM pupils. The exception is in GCSE science, where the rate of progress for eFSM pupils appears to outstrip the rate of improvement among non-FSM pupils, but again this is associated with fewer eFSM pupils being entered for GCSE science over time. As with other measures, the potential impact of PDG is unclear.

2. Background and methodology

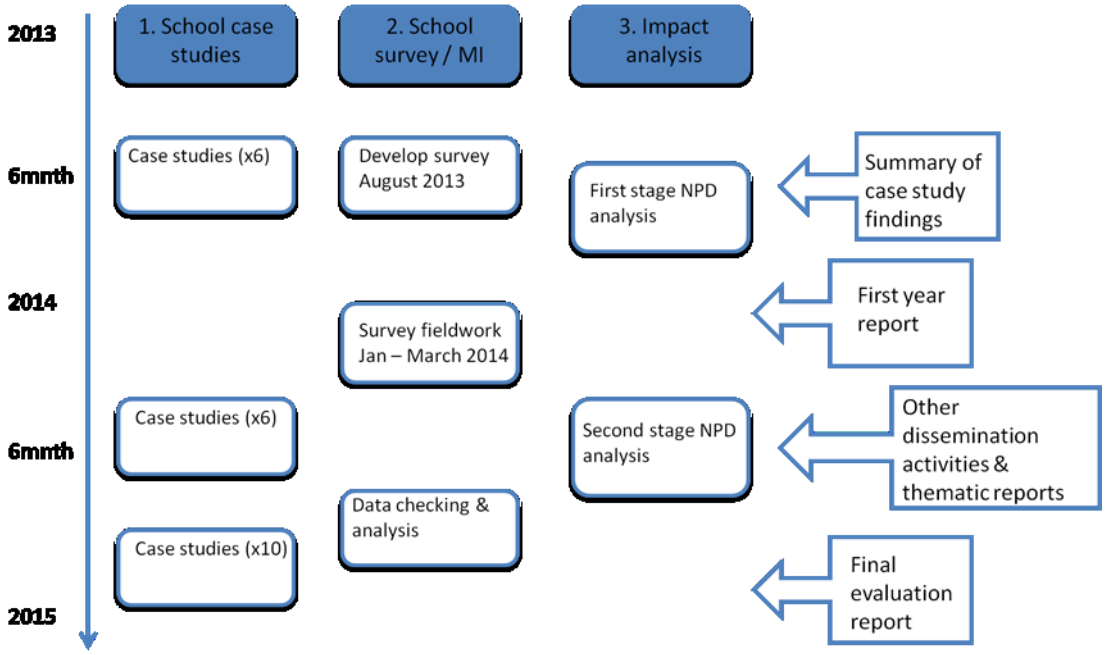
Introduction

2.1 The Welsh Government introduced the Pupil Deprivation Grant (PDG) with the aim of closing the attainment gap between pupils who are eligible free school meals (eFSM) and looked after children (LAC), and children who do not receive free school meals (non-FSM). The PDG was introduced in response to the evidence that eFSM pupils have relatively low attainment levels[2]. In 2013-2014 schools received £450 per eFSM pupil. Funding increased to £918 per pupil in 2014-2015, and to £1,050 in 2015-16. Schools are directed to spend the grant on evidence-based interventions to help close the attainment gap.

Background to the evaluation

2.2 This report is based on reporting of the school case studies which form a key component of the evaluation (see figure below)

Figure 2.1: Overview of the methodology for the evaluation of the Pupil Deprivation Grant



[2] http://www.jrf.org.uk/sites/files/jrf/wales-education-poverty-summary.pdf

2.3 The first year evaluation report published in October 2014 included reference to the 12 case studies completed in the 2013/14 academic year[3]. The current report, covering all 22 case study visits undertaken between May 2013 and June 2015 – and focusing in particular on the 10 case studies completed in 2015 and not previously reported – includes a greater focus on the (perceived) impact of the interventions funded through the PDG as reported by teachers, school staff, pupils and parents.

2.4 The specific aims of the evaluation are to:

- Assess the extent to which the overall aims and objectives of the PDG have been met
- Determine the impact of the PDG on improving the educational outcomes of pupils receiving support through PDG funded provisions
- Determine the impact of PDG on improving standards of education
- Determine the impact of PDG on long-term capacity building to help improve the attainment of socio-economically disadvantaged pupils
- Identify how effective LAs, regional consortia and clusters have been in ensuring the grant is used effectively
- Identify the key strength of the PDG and any constraints / issues that may have impeded its effectiveness
- Asses the value for money of the grant
- Provide recommendations as to how the Welsh Government, LAs and schools can best build upon the PDG in meeting the priority to reduce the impact of deprivation on academic attainment.

2.5 The case studies identify a range of softer outcomes, such as pupil well-being and confidence, which are not only key aims in themselves, but are strongly associated with the attainment and attendance outcomes of primary importance to the Welsh Government. The case study visits outline in detail the impact of the PDG on these softer outcomes by

[3] http://gov.wales/statistics-and-research/evaluation-pupil-deprivation-grant/?lang=en

capturing teachers', pupils' and parents' perception of the impact of PDG-funded activities.

Case study sample

2.6 The evaluation team and Welsh Government officials agreed a set of attributes that the case study sample should cover. The rationale is given in the table below. The sample was selected by the evaluation team who reviewed Estyn inspection reports and school profiling data in order to select schools carrying the desired attributes. Some general characteristics are presented in the table below.

Table 2.1 Composition of case study sample

Attribute	Rationale	Sample profile	
Proportion of pupils eligible for free school meals	Investigate value and use of PDG among schools receiving relatively high and low amounts of funding	Below 26%	15
		26% or above	7
Phase	Investigate use of PDG in different phases	Primary schools	11
		Secondary schools	11
Welsh educational consortia region	Understand role of support/challenge provided by regional consortia in schools' approach to using PDG	South West and Mid Wales	7
		North Wales	6
		South East Wales	4
		Central South Wales	5
Community First (CF) area	Explore awareness and use of PDG Matched Funds. Investigate role of schools in local communities, and how Communities First and PDG has contributed to developing links with the local community.	Yes	13
		No	9

Case study visits

2.7 Case study visits were carried out by members of the PDG evaluation team from Ipsos MORI and WISERD at Cardiff University. Interviews for each of the visits were carried out face-to-face. Within each visit we aimed to speak to a range of staff, pupils and parents, as appropriate (and depending on the types of interventions run by the school: for example, parents will only be covered if schools are running parenting interventions). The members of staff selected for interview in each school are agreed with each school, based on their approach to managing PDG. This ensures that interviews are carried out with key staff involved in delivering, planning and receiving interventions in their school. In each school, researchers consulted with five to eight members of staff, and in five of the six visits researchers were able to consult with small groups of pupils about their experiences. The table below summarises the type of staff covered in the case studies and the rationale for interviewing each.

Table 2.2 Groups consulted as part of the case study visits

Role	Rationale
Head teacher	Based on the insights gathered in the scoping exercise, we know that head teachers have a good overview of the planning and spending of PDG, and it will be essential to speak with them during the visit.
Member(s) of the Senior Leadership Team	To understand the schools PDG spending patterns, evaluation and monitoring activities.
Data /finance officer (if relevant)	To gain insight into how PDG spending is recorded and monitored, as well as its perceived impacts.
Parents (if relevant)	To ask parents about the perceived impacts on their and their child's well-being and confidence.
Pupils (if relevant)	To understand the perceived impacts of the interventions on the target group.
Teachers/TAs	To understand the implementation and perceived impact of the initiatives 'on the ground' by those who are (typically) most closely involved in the delivery of interventions.

3. Key findings: the implementation of the PDG

Targeting of PDG funds

3.1 Several schools had a very strong focus on the outcomes of eFSM pupils and primarily targeted additional support at this group. A few schools interviewed as part of the 2015 case studies described how they had increasingly targeted eFSM pupils – rather than vulnerable pupils generally – over the life of the grant. However, many head teachers and deputy head teachers participating in the case studies had concerns about whether targeting PDG-funded interventions exclusively at eFSM pupils would be practical, feasible or indeed useful, as factors contributing to low attainment were perceived as being much broader than financial disadvantage[4]. In many cases, PDG-funded interventions benefitted pupils the school deemed as disadvantaged rather than exclusively eFSM pupils. It is worth noting that schools typically supplement the PDG with other funding streams, usually by significant amounts[5]. Typically, schools support the use of eFSM to allocate funding, but feel that eFSM is a blunt tool for identifying disadvantaged children. One headteacher explained: *'as a way of allocating money to schools I think it's effective and I can't think of anything else you could do which would be better. As a way of judging the performance of pupils who are suffering from deprivation, I think that could be an issue.'*

3.2 The majority of PDG funds are used to run interventions which typically involve withdrawing pupils from ordinary class groups for one-to-one or small group coaching. Schools typically made decisions about which pupils should receive this additional support on a case-by-case basis, using in-depth monitoring data to aid their decisions. A fairly typical example in one primary school involved tracking individual pupil outcomes against termly pupil targets that class teachers had set in conjunction with the school's Additional Learning Needs coordinator. This tracking system flagged pupil characteristics – such as eFSM, LAC,

[4] See year 1 evaluation report for more details: http://gov.wales/statistics-and-research/evaluation-pupil-deprivation-grant/?lang=en
[5] See year 1 evaluation report for more details: http://gov.wales/statistics-and-research/evaluation-pupil-deprivation-grant/?lang=en

SEN, EAL, MAT status – so that teachers could immediately review outcomes for those who may need extra support to reach their full potential. Decisions about targeting additional help were made during termly meetings of class teachers and the Additional Learning Needs coordinator, and support was tailored during the school year based on pupils' relative progress. The monitoring system took in behavioural outcomes – such as attendance and behaviour incidents – as well as academic progress in core subjects. Another school had developed its own 'vulnerability index' which incorporated a range of measures alongside eFSM, LAC, SEN, EAL such as teachers' observations of family interactions during home visits. This index was used as the basis for targeting additional help when children started in the infants' school and was reviewed termly against pupils' progress.

3.3 In contrast, several schools explained that children having lower academic attainment was the primary criterion for targeting additional help. These schools explained that the lowest-attaining group overlapped significantly with the eFSM group. A few case study schools with smaller pupil rolls said they targeted all low attaining pupils to avoid stigmatising eFSM pupils. In another case, a school explained that other pupils' achievement lagged behind eFSM pupils' and they therefore targeted support elsewhere.

3.4 In keeping with the individual-level assessments made in most schools to target additional support, schools were providing tailored help for some types of eFSM pupils. For example

- A few schools targeted eFSM boys with specific interventions: examples included a 'Premier League' reading scheme, a physical literacy class, an assertive mentoring group, and an ICT initiative which aimed to improve both ICT and literacy skills
- A few schools targeted eFSM girls: examples included a girls' club to encourage girls to do more physical activity, and teamwork initiatives to improve girls' cooperation with each other.

- A few schools targeted More Able and Talented eFSM pupils who were given tailored support. For example, one school ran competitions for 'young reporters' to write articles as well as organising cultural activities.
- Staff at one school explained that they identified tiers of attainment among their eFSM cohort: those who are MAT, those who are SEN, and those between these extremes. They ensured that the middling ability group still received interventions to ensure they fulfilled their potential.

3.5 In the latest wave of case studies, schools report their spending on PDG is audited at the LA and/or regional consortia levels. While there is scrutiny of spending, only a few schools reported that LA advisors played a role in challenging or endorsing spending and targeting decisions. Regional consortia staff had helped to introduce several schools to the Sutton Trust Toolkit, which influenced how a few schools used their PDG funds (see section 3.7 for more details).

Working with other schools

3.6 The 2015 case studies highlight that some schools are working with neighbouring schools to plan and spend PDG, work on joint initiatives, and to review what is working well.

3.7 One school talked about the importance of 'doing your research' when thinking about how to spend PDG: they had consulted a local network of school leaders to find a school in a similar position to theirs to discuss plans for closing the attainment gap. Another school spent some of its funds on releasing class teachers so they could observe teachers in neighbouring schools to identify and share good practice.

3.8 Another school in receipt of a relatively small amount of funding pooled funds with a network of nine local schools. The schools met twice per term to discuss the grants and agree a focus for the coming year: for example, in the current year the focus was on numeracy. Another case study school had trained its feeder primary schools about their literacy

and numeracy framework to help smooth the transition of pupils to secondary school.

3.9 However, the evaluation team observed that the extent of this type of collaboration varied widely between schools (and, it appears, regions); a more systematic approach to collaboration and sharing practice may be helpful in future.

Engaging parents

3.10 The Welsh Government's guidance encourages schools to engage parents and communities in order to improve pupil wellbeing, attendance and attainment.[6] When asked to define 'disadvantage' many case study schools explained it in terms of a lack of parental support for children. This was almost always seen as equally or more significant than measures of financial deprivation in terms of its impact on pupils' ability to achieve their potential.

3.11 In line with this, one of the key strands of activity among schools participating in the 2015 case studies is engaging with parents. Schools explain that, often, parents of the most disadvantaged pupils did not enjoy school themselves and are consequently reluctant to engage in school life. In some cases, schools work over long periods of time to build trust with parents to establish good relationships. Schools are working to help support family life and to enable parents to play an effective and active role in their children's learning.

[6] http://dera.ioe.ac.uk/19051/1/131216-pdg-short-guidance-for-practitioners-en.pdf

3.12 Examples of engaging with parents include:

- Initiatives to 'get parents through the door': activities include open lessons that parents can attend to observe lessons during school hours; a Family Support Officer providing transport to and from parents' evenings to help improve attendance; and asking parents to trial literacy programmes on school-provided iPads. A few primary schools also acknowledged that nursery provision was helpful in starting to engage parents at the earliest stage of schooling. These activities often have ancillary benefits: for example, the intention is that open lessons in nursery classes will allow teachers to model parenting behaviour, and therefore teach parents how to play and interact with their children. In turn, improved parenting skills should support children's development and behaviour and improve their readiness to learn.

- Understanding family circumstances: teachers in a few case study primary schools make home visits before children start school to understand their home lives; in one secondary school, teachers accompanied a Family Support Officer on home visits to get a better appreciation of pupils' home lives.
- Enabling parents to support their children's learning: a few case study primary schools have set up reading schemes led by a TA and involving a pupil and their parent(s). The TA teaches parents how they can read with their child(ren) effectively. A few case study schools were providing literacy and numeracy courses for parents, with the ultimate intention of enabling parents to support their children's learning.
- Organising family activities to encourage families to spend time together and to support the well-being of families. Examples include cookery courses run through schools, organising families to tend allotments, and visits to cultural sites. A few schools provided packs of materials for families to complete activities together, with children bringing completed activities into school; although this initiative covers the whole school in one case, the intention is to reach hard to reach families. The school reports that almost all families have brought something into school as a result of this initiative.
- Supporting families with particular difficulties. Several schools employ Family Support Officers to provide professional support to families. Other schools report referring families into services provided by Families First.

3.13 The box below provides an example of the work done by one case study school to build links with parents.

3.14 Schools report positive impacts as a result of engaging with families, although they stress that trust and relationships develop over long periods of time. For example, one school reports that parents' aspirations for their children have improved.

Engaging parents

School 20 provided activities such as 'maths for parents' and a reading café aimed at increasing the parents' ability to support their children, their confidence in providing support, and a greater appreciation of the importance of schooling. The school also aimed to increase attendance at parent evenings by having a family engagement officer to take parents there and back home. In addition to engaging parents, the intervention aimed at getting teachers to join the family engagement officer on family visits so that teachers could get an understanding of the circumstances and home environment of their pupils. This included addressing issues that might prevent pupils from attending school such as caring for a parent or sibling. A physical literacy programme was also aimed specifically at engaging boys and their parents in learning and interacting with each other.

Engaging communities

3.15 It was less common for schools to be in close engagement with the local community outside of the school than to engage with parents. One case study school engaged figures from the community to speak in school, with the intention of providing local role models. Under this scheme council representatives, police and the local rugby team spoke at the school about health, aspirations and building trust. The school staff considered this to have had a positive impact on pupils' aspirations for the future.

3.16 However, there was evidence in the latest wave of case studies of schools engaging with wider programmes operating in Wales to improve the support they offered for the most vulnerable families. For example, a few case study schools in Communities First areas mentioned running project Hero, which aims to smooth the transition from primary to secondary school. The project involves mentors coming into school one day per week to tell children what to expect from secondary school.

3.17 A few case study schools also referenced links with Families First. One school acted as a Hub for the local Families First 'Team Around the Family': the head teacher explained the transformative effect that Families First support had had on one family with particularly acute support needs.

The impact on staffing and teaching

3.18 The intended impacts of the PDG include raising awareness among school staff of the significance of eFSM on pupils' progression and attendance, and improving the effectiveness of teaching and learning for this group of pupils.

3.19 The case study evidence suggests that the biggest impact of the PDG in terms of staffing in schools has been on the number of TAs schools employ and in the level of specialisation and responsibility they hold. One headteacher stated that 'If I didn't have [the PDG funding] I wouldn't be able to have the level of TA support that I've currently got'. TAs are typically responsible for running interventions; in virtually all schools TAs are responsible for delivering literacy interventions, typically they do this by withdrawing small groups or individual pupils from ordinary lessons and working with these pupils on a specific literacy intervention. TAs were also responsible for delivering numeracy interventions, behavioural and pastoral initiatives, and a range of other interventions such as cookery courses for parents. TAs were also usually responsible for monitoring the impact of the interventions they ran on pupil progress and helping in the evaluation of

the success of interventions. In a telling example of how TA roles are becoming more skilled, one school explained that one of their PDG-funded interventions pre-dates the introduction of the grant, but that it is now delivered by a TA rather than a teacher. A few head teachers highlighted the additional responsibilities that TAs now take on, and the increased pressures they work under. One teacher explained the TA role is 'much more intense, much harder' than in the past. TAs are completing training to deliver interventions and are becoming highly specialised members of the school staff. One TA explained that she researched interventions and pedagogical approaches online and brought her findings to staff meetings. It was clear from speaking with other teaching staff that TAs are very highly regarded.

3.20 There was more limited evidence from the case study research that the PDG affected classroom teachers' practice to the same degree. This may be because head teachers have typically used the School Effectiveness Grant[7] to work on teaching effectiveness, and the PDG on specific targeted interventions.

3.21 There were some examples of whole-school initiatives to improve behaviour, attendance or family engagement that all teachers are involved in (and which are primarily intended to benefit disadvantaged pupils). There were also a few examples of schools using the grant to improve teaching and learning practice: for example, one school used the PDG to release teachers to visit other schools to share good practice; another school used trios of teachers to observe each other's lessons and provide feedback; this school also tasked the literacy and numeracy coordinators with delivering training on the school's literacy and numeracy framework to all teachers and TAs. However, the PDG was more often used to employ TAs to deliver specific interventions rather than change class teachers' practice.

3.22 One of the greatest impacts on class teachers evident from the case studies was their involvement in monitoring the progress of pupils in

[7] From April 2015 superseded by the new Education Improvement Grant for Schools (EIGS)

their classes. We discuss elsewhere in this report the impact of the PDG on schools' monitoring practices (see section 3.7). Class teachers are usually responsible for monitoring (along with a member of the senior leadership team with oversight for the PDG and progress of disadvantaged group) pupils' progress on a regular basis. In a few schools class teachers had access to reserve PDG funds which they could deploy to help pupils who were identified as needing additional support during the course of the school year.

The impact on pupils

3.23 Schools reported many examples of where they had observed improved outcomes among pupils, not exclusively in literacy and numeracy, but also in behaviour and other psycho-social indicators. It was evident that head teachers perceived the PDG to have had a positive impact overall, and that many (and in some cases all) interventions would not have occurred without the PDG. It was clear that the PDG is vital to funding salaries, typically for TAs, and interventions in many schools. However, it is part of a set of funding streams and initiatives that are changing schools' practices. For example, many initiatives run by schools were funded in conjunction with other grants. In some circumstances head teachers were able to differentiate between outcomes due to PDG funding and outcomes due to SEG funding as the interventions funded by each were highly focused. This, however, was not the norm.

3.24 For one head teacher the PDG funding has been transformational with regard to the improvements at the school. Across this particular school, eFSM pupils' achievements against the school's expectations in mathematics and English had doubled in one year, and the school noted significant improvements in their expectations for Key Stage 4 results this year.

3.25 This experience echoes the perceptions and findings of other case study schools, that also reported significant impacts on English and mathematics grades, and a narrowing of the gap between eFSM and

non FSM pupils. However, many case study schools stressed the length of time necessary to make a real impact on attainment, and highlighted that many of the most significant outcomes for pupils were improvements in confidence and self-esteem that are more difficult to quantify.

3.26 Examples of these non-academic improvements observed across a number of case study schools include:

- Improved attendance – overall and in specific lessons (such as mathematics),
- Pupils growing in confidence, and pleased about their achievements having improved,
- Children actively participating in lessons who would not have done so before,
- Greater levels of concentration by pupils,
- Increased homework compliance,
- Improved relationships with families (and opportunity to focus on families more),
- More confident teaching staff,
- Increased teacher/student ratio benefitting outcomes.

3.27 Several case study schools felt there was a benefit to non-targeted pupils as well as the direct beneficiaries of PDG-funded activities. Because lower attaining (and in some cases disruptive) pupils were withdrawn from class groups for additional support, the rest of the class would be taught at the general level of ability and without disruption. One head teacher stated that additional support for deprived children 'has a knock-on effect on the whole school'.

3.28 A few head teachers expressed concerns about the focus on closing the attainment gap, or the way targets have been introduced to monitor it. One, for example, stated that: 'I 100% back [the idea] that every child must reach their full potential, but not every child can reach the attainment of everyone else, and there is incredible pressure at the

moment that with this money you can make a child achieve'. A few other head teachers were concerned about the potential for new Key Stage 4 targets to offer perverse incentives for schools to narrow their focus on eFSM pupils on the threshold of attainment rather than the whole cohort of eFSM pupils.

The impact on school practice and culture

3.29 The case studies suggest the PDG has affected school culture to varying degrees. Many schools report they already had a strong emphasis on supporting disadvantaged pupils, and that the PDG merely provides them with the scope to reduce the teacher: pupil ratio to improve teaching effectiveness, and to invest in resources. However, some case study schools acknowledge that the impact has been significant: the PDG has raised the profile of disadvantage as an issue and of schools' responsibilities towards disadvantaged pupils.

> 'The principle has changed… if you went back five years ago, to other grants such as RAISE and PREVENT, the idea that we would monitor and track eFSM performance as a separate group, that wouldn't happen… We would touch on it but we wouldn't necessarily focus on it. I think we all underestimated the impact of eFSM on performance… It's the moral purpose as much as the money, understanding the impact of poverty and what we can do about it'
> *(Headteacher, School 21)*

3.30 In this case, it appeared to be the monitoring and use of data that had driven up the profile of eFSM, as much as (or more than) the existence of the PDG itself.

3.31 A few schools acknowledged that their focus when planning and spending PDG was much more narrowly on eFSM pupils than it had been earlier in the life of the grant. Schools put this down to clearer guidance from the Welsh Government and regional consortia. New guidance for schools has been made available: 'Pupil Deprivation

Grant: short guidance for Practitioners' was made available in December 2013, and 'Pupil Deprivation Grant: Essential guidance' was issued in March 2015.[8]

3.32 Several schools highlighted that the PDG had instigated changes in the way they collected and used monitoring data, and in a few schools there were differences in the way data was used to plan interventions. For example, one school explained they had always monitored individual pupils, but had not previously monitored the impact of specific interventions. Another school explained their previous data monitoring systems did not flag eFSM pupils, so they had not monitored the progress of this group specifically until the introduction of the PDG. The closer analysis of data clearly has an impact: schools were able to pinpoint specific examples of successes, and a few explained that interventions had been adapted or dropped as a result of reviewing monitoring data. For example, in one school data on pupil behaviour highlighted that behaviour incidents occurred most frequently in the period immediately after lunch and so an intervention for eFSM pupils that had not proved effective was moved to run earlier in the school day and subsequently achieved much greater success.

3.33 Schools are using sophisticated data systems to track individual pupil progress against agreed targets. Systems typically pre-date the introduction of the PDG but are now being used to track vulnerable pupils' progress more closely. These systems flagged potential indicators associated with the risk of pupils not achieving their full potential, such as FSM, LAC, EAL, SEN and so on. Data was monitored for attainment against targets across a range of subjects, attendance, and in some cases behaviour. These data were reviewed regularly, usually termly or every half term. The monitoring often involved meetings of class teachers and a member of the SLT or a member of staff responsible for additional learning needs or special educational needs to review progress for each pupil and determine

[8] http://dera.ioe.ac.uk/19051/1/131216-pdg-short-guidance-for-practitioners-en.pdf
http://gov.wales/docs/dcells/publications/150323-pdg-essential-guidance-en.pdf

appropriate additional support for each. Most schools reported collecting measures of pupil well-being and self-esteem in addition to attendance and attainment measures. For example, many reported using Boxall Assessments, or the Pupil Attitudes to School and Self (PASS) survey.

3.34 Some schools acknowledge they make greater use of data and evidence in planning PDG spending than in the past. Schools involved in the 2015 case studies were usually aware of the Sutton Trust Toolkit, often through their regional consortia. While some schools still do not use the Toolkit – for example, one school said it was unnecessary because 'it was obvious' what they should focus on – a few found it useful 'as a guide', or to drive up the quality of teaching practice. One head teacher described their school as 'an action research school' with a great emphasis on monitoring the impact of their activities, learning from other schools; learning from observations of each other's lessons, and using external data from published research. Another school employed an external consultant to better understand how the school could help to move children on, and then trained teachers in specific practices that should help.

> [We] had consulted the Sutton Trust Toolkit for ideas, especially those which deliver more for smaller investment to fit within or around their main intervention.
> *(School 13, Secondary)*

> The toolkit does not focus on the small interventions, but rather on the bigger picture. It focuses on having good schemes in place to make an overall positive impact on deprived students. The school has not really used the Sutton Trust Toolkit in planning spending of the PDG grant, because the PDG is hard to use on Sutton Trust Toolkit interventions.
> *(School 7, secondary)*

4. Key findings: the impact of the PDG on pupils' attendance and attainment

Introduction

4.1 In this section of the report we examine the potential impact of the Pupil Deprivation Grant (PDG) on educational outcomes. Specifically we are concerned with differences in the educational outcomes of pupils eligible for free school meals (eFSM) versus pupils not eligible for free school meals (non-FSM) before the PDG was introduced and after the PDG was introduced. However, throughout the analysis we are also minded to report changes in overall educational outcomes, since it is necessary to see whether any narrowing in outcomes between eFSM and non-FSM pupils is the result of relatively greater improvements in outcomes for eFSM pupils or a relative decline in educational outcomes of non-FSM pupils.

4.2 In assessing the potential impact of the Pupil Deprivation Grant we use a wide range of different educational outcomes (Table 4.1). The analysis begins with the potential impact of the PDG on school attendance/absence. This includes measures of attainment at the end of Key Stage 2 (age 11 years) and GCSE attainment at the end of Key Stage 4 (age 15 years). Lastly it also considers the relative progress made in pupil assessment between Key Stage 2 and Key Stage 4.

Table 4.1. Measures of educational outcomes

Attendance			
	% of ½ day sessions absent	% of ½ day sessions with unauthorised absence	
	Persistent absence (i.e. pupils who miss more than 20% of ½ day sessions during year)		
Key Stage 2 Attainment			
Achieving Level 4	Maths	Science	
	English/Welsh	Core Subject Indicator*	
Key Stage 4 Attainment			
A/A grades*	GCSE maths	*C grades or above*	GCSE maths
	GCSE English/Welsh		GCSE English/Welsh
	GCSE science		GCSE science
	A+ in GCSE maths, science *and* English/Welsh		C+ in GCSE maths, science *and* English/Welsh
GCSE points	Capped to best eight GCSE grades		
Progress KS2-KS4			
	Maths	Science	
	Language (i.e. English or Cymraeg)		

* Core Subject Indicator includes maths, English/Welsh and science.

4.3 In order to try and identify the possible impact of the Pupil Deprivation Grant we are primarily concerned with the educational outcomes of eFSM pupils before and after it was introduced. The Pupil Deprivation Grant was introduced during the 2012-13 financial year (April to March). This means that the Grant was available to schools for four months during the 2011/12 academic year, and then for the full academic year from 2012/13 onwards. As a result we compare four years of academic results from 2010/11 (the year before the PDG was introduced, 2011/12 (the academic year in

which it was first introduced – but just for four months), 2012/13 (the first full academic year with the PDG) and 2013/14 (the latest year for which educational outcomes are currently available). Since every school with a pupil eligible for free school meals receives the grant, and since the size of the grant is the same for every eFSM pupil, there is no 'control' group of schools (and hence pupils) who have eFSM pupils but did not receive the grant. Instead our main analytical approach is to compare the relative achievement of eFSM pupils versus non-FSM pupils – many of which could be in the same schools as eFSM pupils. This assumes that the Pupil Deprivation Grant only has an impact on eFSM pupils in each school, which according to our analysis on the different ways that the grant is applied as detailed above is not always the case. Nevertheless, the main aim of the Pupil Deprivation Grant is to reduce the 'gap' between the educational outcomes of eFSM pupils and non-FSM pupils – so that is what this analysis presents. However, it is still possible that any reduction in the 'gap' in outcomes (we prefer to use the term percentage (%) differential) over these two years could be due to the impact of other interventions or general improvements in the educational system.

4.4 In the first report of this evaluation (Pye et al. 2014) we reported changes in the % differential in educational outcomes between FSM and non-FSM pupils before the Pupil Deprivation Grant was 'fully'[9] introduced, i.e. between 2010/11 and 2011/12. We found that, in the main, the % differential in educational outcomes between eFSM and non-FSM pupils was already improving (i.e. the 'gap' was narrowing) just prior to the introduction of the Pupil Deprivation Grant. Some of this improvement could be due to the first four months of the PDG (during 2011/12). But it could suggest that any improvement in the educational outcomes of eFSM pupils compared to non-FSM pupils after 2011/12 may have occurred without the full introduction of the Pupil Deprivation Grant (i.e. there was already a trajectory of

[9] I.e. before the PDG was available throughout the full academic year.

improvement in schools). Therefore, in the subsequent analysis we are interested in two things. First, the relative difference in educational outcomes before and after the introduction of the Pupil Deprivation Grant and second, the rate of improvement (or otherwise) after the introduction of the Pupil Deprivation Grant compared to the rate of improvement prior to its introduction.

4.5 The following analysis is, therefore, based on four years of education outcomes in 2011 (academic year 2010/11), 2012 (2011/12), 2013 (2012/13) and 2014 (2013/14). Table 4.2 summarises the data provided to the evaluation by the Welsh Government from the National Pupil Database (NPD) for individual pupils who were assessed at the end of Key Stage 2 and Key Stage 4 in those four years. Typically this includes the educational achievements of over 30,000 pupils at the end of each Key Stage and in each year. Table 4.2 also summarises the attendance data of individual pupils made available to the evaluation. In contrast to assessment data this is available for all pupils in all year groups (1,442,117 pupils over the four years) (see Table 4.3 for a detailed breakdown of these numbers by Year Group).

Table 4.2 Number of pupils available for analyses of educational attainment by year

Year	End of stage attainment data		Progress	Attendance data
	KS2	KS4	KS2-KS4	
2010/11	32,227	34,138	31,973	362,515
2011/12	31,675	33,510	31,593	360,547
2012/13	30,764	34,932	33,216	359,606
2013/14	31,593	33,490	31,920	359,449
TOTAL	126,259	136,070	96,782	1,442,117

Source: National Pupil Database (provided by Welsh Government)

4.6 The analysis of educational outcomes is structured in the following way. First we look at the overall levels of educational outcomes and the % differential between eFSM and non-FSM pupils for absenteeism, Key Stage 2 attainment and Key Stage 4 attainment. Finally we examine the estimated influence of being eFSM on all these educational outcomes after controlling for other characteristics also associated with differences in educational outcomes.

4.7 In examining a range of educational outcomes and in numerous ways we are keen to develop an overall ‘picture’ of the possible impact of the Pupil Deprivation Grant, rather than focus on individual measures of educational achievement.

Table 4.3. Number of pupils used in the analysis of attendance by Year Group

Year of Study	Stage	2010/11	2011/12	2012/13	2013/14	TOTAL
N1	FP	1	0	0	1	2
N2	FP	1	0	2	1	4
Reception	KS1/FP	82	52	33	45	212
Year 1	KS1/FP	32,783	33,202	34,014	35,492	135,491
Year 2	KS1/FP	32,099	32,863	33,228	34,025	132,215
Year 3	KS2	31,512	32,055	32,854	33,265	129,686
Year 4	KS2	30,813	31,527	32,013	32,925	127,278
Year 5	KS2	31,766	30,858	31,496	32,038	126,158
Year 6	KS2	32,318	31,773	30,782	31,590	126,463
Year 7	KS3	33,111	31,988	31,427	30,475	127,001
Year 8	KS3	34,123	33,096	31,981	31,413	130,613
Year 9	KS3	35,430	34,078	32,962	31,910	134,380
Year 10	KS4	34,290	35,451	34,024	32,913	136,678
Year 11	KS4	34,163	33,555	34,763	33,337	135,818
KS4+1	KS4	19	42	27	19	107
KS4+2	KS4	3	4	0	0	7
KS4+3	KS4	1	3	0	0	4
TOTAL		362,515	360,547	359,606	359,449	1,442,117

Source: National Pupil Database (provided by Welsh Government)

Attendance

4.8 In this section we consider three measures of attendance: the proportion of half-day sessions with a reported absence, unauthorised absence, and persistent absence.

4.9 There has been an overall improvement in the proportion of half-day sessions with a reported absence over the four years (Table 4.4). The percentage of sessions with an absence has fallen from 7.6% in 2011 to 5.7% in 2014. This improvement has occurred for both eFSM and non-FSM pupils. The 'gap' between eFSM and non-FSM pupils has narrowed over time. The relative difference between the two groups (i.e. the % differential) fluctuates year on year but overall has remained fairly constant over the four years. In fact, although the relative 'gap' in attendance between eFSM and non-FSM pupils narrowed between 2012 and 2013 it widened again in 2014.

4.10 The improvement in attendance is affirmed in Table 4.5, which shows the progress in attendance of eFSM and non-FSM pupils over time. This shows that between 2011 and 2014 the rate of decline in the proportion of sessions with absence was greater amongst non-FSM pupils (25.5% decline) than eFSM pupils (21.6% decline). The rate of decline in absence from school was greater at the end of the time period (between 2013 and 2014) than it was at the beginning of the time period (between 2011 and 2012) for both groups of pupils. This might suggest that the introduction of the PDG might be associated with an acceleration in improvement of overall attendance.

Table 4.4. Absence by year (all ages)

Year	% of sessions with absence			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential[10]
2011	*7.6*	6.8	11.2	4.4	65.6%
2012	*7.0*	6.1	10.4	4.2	69.0%
2013	*6.8*	6.0	10.1	4.1	67.2%
2014	*5.7*	5.0	8.8	3.8	74.4%

Source: National Pupil Database (provided by Welsh Government)

Table 4.5. Change in the proportion of sessions with absence (all ages)

	2011 to 2014	2011 to 2012	2013 to 2014
All	*-24.7%*	*-8.8%*	*-15.7%*
Non-FSM	-25.5%	-9.1%	-16.5%
FSM	-21.6%	-7.2%	-12.9%

Source: National Pupil Database (provided by Welsh Government)

4.11 In terms of unauthorised absence relatively fewer sessions are being missed for eFSM pupils in 2014 than there were in 2011. Although the 'gap' in unauthorised absence between eFSM and non-FSM pupils remains very large (in 2014 eFSM pupils missed 187% more sessions without authorisation than non-FSM pupils) this has fallen significantly over the four year period. It is not clear whether this is associated with the introduction of the PDG for two reasons. First, as Table 4.7 demonstrates, the rate of improvement in unauthorised absence for eFSM pupils was greater between 2011 and 2012 than it was after the introduction of the PDG between 2013 and 2014. And second, the closing 'gap' in authorised absence appears to be due, in a large part, by a 14.3% increase in the proportion of sessions that non-FSM pupils have missed without authorisation

[10] % Differential is calculated as ((y-x)/x)*100 (e.g. ((FSM – non-FSM)/non-FSM))*100)

(possibly reflecting recent directives to head teachers on what constitutes unauthorised absence).

Table 4.6. Unauthorised absence by year (all ages)

Year	% of sessions with unauthorised absence			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*1.2*	0.8	2.8	2.0	249.3%
2012	*1.0*	0.7	2.5	1.8	250.2%
2013	*1.1*	0.7	2.5	1.7	239.5%
2014	*1.1*	0.8	2.4	1.5	187.2%

Source: National Pupil Database (provided by Welsh Government)

Table 4. 7. Change in the proportion of sessions with unauthorised absence (all ages)

	2011 to 2014	2011 to 2012	2013 to 2014
All	-4.6%	-10.6%	5.8%
Non-FSM	4.6%	-10.1%	14.3%
eFSM	-14.0%	-9.8%	-3.3%

Source: National Pupil Database (provided by Welsh Government)

4.12 The third measure of attendance considered here is persistent absence. This is slightly different to the other two measures since we are now interested in the number (and proportion) of pupils who were absent for at least 20% of half-day sessions during the academic year[11]. Again the difference in the proportion of pupils with persistent absence is very large between eFSM and non-FSM pupils (in 2014 eFSM pupils were four times more likely to be persistent absentees than non-FSM pupils).

[11] "For 2013-14 this means that persistent absentees in secondary schools missed at least 62 half-day sessions" (Welsh Government 2014:16).

4.13 Table 4.8 also shows that the proportion of eFSM pupils who were persistent absentees has fallen between 2011 and 2014 from 15.6% to 10.5%. The 'gap' in the proportion of persistent absentees has fallen from 10.9 percentage points to 7.9 percentage points over the four year period (Table 4.8). However, Table 4.9 shows that the proportion of persistent absentees amongst non-FSM pupils has fallen at a greater rate than eFSM pupils (declines of 44.0% and 32.8% respectively). Consequently the relative 'gap' in the proportion of persistent absentees between eFSM and non-FSM pupils has increased over the four year period (Table 4.8) from 232.8% to 299.5%.

4.14 This would suggest that whilst the PDG might have contributed to an overall decline in persistent absentees over time – indeed, the rate of improvement was greater after the PDG was introduced – it does not seem to be associated with a decline in eFSM pupils with the worst attendance records.

Table 4.8. Persistent absence by year (all ages)

Year	% of pupils with persistent absence			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*6.8*	4.7	15.6	10.9	232.8%
2012	*5.9*	4.0	13.8	9.8	247.7%
2013	*5.2*	3.4	12.8	9.4	277.2%
2014	*4.1*	2.6	10.5	7.9	299.5%

Source: National Pupil Database (provided by Welsh Government)

Table 4.9. Change in the proportion of pupils with persistent absence

	2011 to 2014	2011to 2012	2013 to 2014
All	*-39.6%*	*-14.2%*	*-21.2%*
Non-FSM	-44.0%	-15.4%	-22.8%
eFSM	-32.8%	-11.6%	-18.2%

Source: National Pupil Database (provided by Welsh Government)

Key Stage 2 Achievement

4.15 Tables 4.10 to 4.13 present the proportion of eFSM and non-FSM pupils achieving expected levels (Level 4 or above) at Key Stage 2 in maths, English or Welsh, science and all three core subjects respectively. In all three subjects the relative 'gap' in attainment between eFSM and non-FSM pupils is smaller after the 'full' introduction of the PDG (2013 and 2014) than it was before it was introduced (2011 and 2012). This is summarised in Figure 4.1.

4.16 It should also be noted that the greater relative improvement in KS2 attainment of pupils eligible for free school meals has also occurred alongside an improvement in the KS2 attainment of non-FSM pupils. This greater rate of improvement in KS2 attainment amongst FSM pupils is illustrated in Table 4.14. For example, whilst the proportion of non-FSM pupils achieving Level 4 or above in KS2 maths increased by 3.8% between 2011 and 2014, the proportion of eFSM pupils achieving Level 4 or above increased by 9.1%. In all three core subjects the rate of improvement in KS2 attainment amongst eFSM pupils was more than twice the rate of improvement amongst non-FSM pupils over this four year period.

4.17 This is an impressive rate of improvement in the attainment of eFSM pupils. So it is perhaps not that surprising that the rate of improvement in KS2 attainment for eFSM pupils began to slow down towards the end of the four year period. However, the rate of improvement for non-FSM pupils also slowed in the latter years meaning that eFSM pupils continued to close the attainment 'gap' in

English/Welsh and maths between 2013 and 2014. This can be seen in changes to the relative 'gap' between eFSM and non-FSM pupils over time in Figure 4.1. As this shows, although the KS2 attainment gap in all three subjects has narrowed every year since 2011 there is a noticeable (a) 'jump' in improvement between 2012 and 2013 immediately after the 'full' introduction of the PDG, particularly in English/Welsh and science, and (b) 'slow down' in improvement between 2013 and 2014. But as Table 4.14 demonstrates, the rate of improvement in KS2 attainment in maths and English/Welsh was still greater between 2013 and 2014 for eFSM pupils than it was for non-FSM pupils. Only in KS2 science has the rate of improvement for eFSM pupils slowed to the same rate of improvement for non-FSM pupils.

Table 4.10. Achieving Level 4 or above in Key Stage 2 maths

Year	% of pupils achieving Level 4 or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*85.7*	89.1	71.9	-17.2	-19.3%
2012	*87.6*	90.7	74.7	-16.0	-17.7%
2013	*88.4*	91.3	76.6	-14.7	-16.1%
2014	*89.8*	92.5	78.4	-14.1	-15.3%

Source: National Pupil Database (provided by Welsh Government)

Table 4.11. Achieving Level 4 or above in Key Stage 2 English or Welsh

Year	% of pupils achieving Level 4 or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*84.5*	88.2	69.6	-18.6	-21.1%
2012	*86.4*	89.9	72.0	-17.8	-19.9%
2013	*88.3*	91.4	75.8	-15.5	-17.0%
2014	*89.6*	92.5	77.0	-15.5	-16.7%

Source: National Pupil Database (provided by Welsh Government)

Table 4.12. Achieving Level 4 or above in Key Stage 2 science

Year	% of pupils achieving Level 4 or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*88.0*	91.3	74.8	-16.4	-18.0%
2012	*89.5*	92.5	77.1	-15.3	-16.6%
2013	*90.7*	93.4	79.8	-13.6	-14.6%
2014	*91.3*	93.9	80.0	-13.9	-14.8%

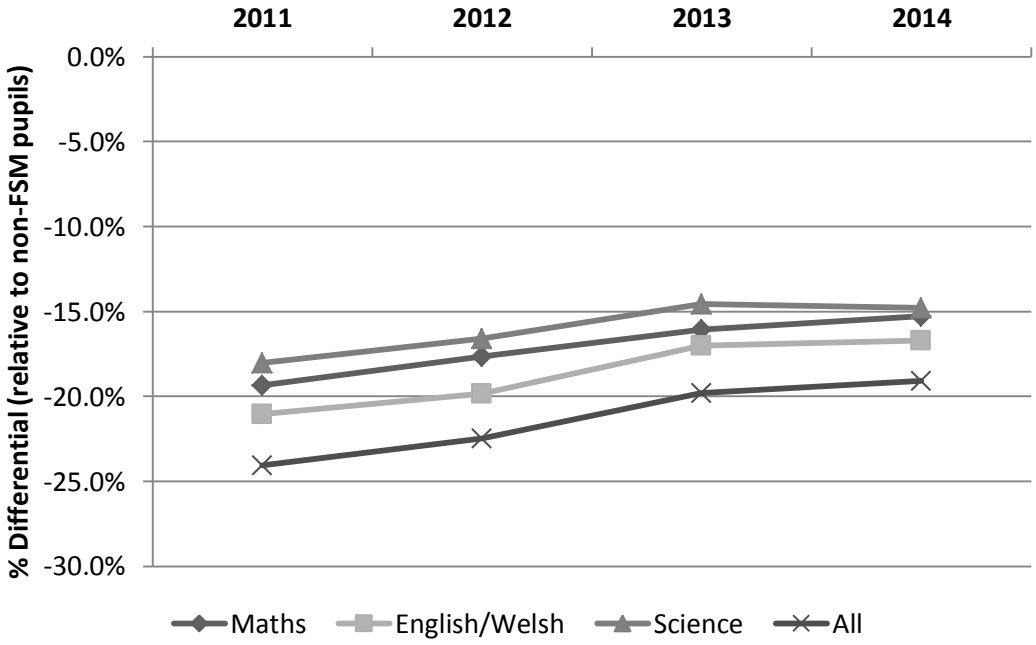
Source: National Pupil Database (provided by Welsh Government)

Table 4.13. Achieving Level 4 or above in Key Stage 2 maths, English/Welsh and science

Year	% of pupils achieving Level 4 or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*80.9*	85.0	64.5	-20.4	-24.0%
2012	*83.5*	87.4	67.7	-19.6	-22.5%
2013	*85.4*	88.8	71.2	-17.6	-19.8%
2014	*87.1*	90.4	73.2	-17.2	-19.1%

Source: National Pupil Database (provided by Welsh Government)

Figure 4.1. Relative achievement of eFSM pupils compared to non-FSM pupils by KS2 subject



Source: National Pupil Database (provided by Welsh Government)

Table 4.14. Change in the proportion of pupils achieving Level 4 or above at KS2

	2011-2014	2011-2012	2013-2014
Maths			
Non-FSM	3.8%	1.8%	1.3%
eFSM	9.1%	4.0%	2.3%
Relative rate of improvement for eFSM	2.4	2.2	1.8
English/Welsh			
Non-FSM	4.9%	1.9%	1.2%
eFSM	10.6%	3.4%	1.6%
Relative rate of improvement for eFSM	2.2	1.8	1.3
Science			
Non-FSM	2.9%	1.3%	0.6%
eFSM	6.9%	3.0%	0.4%
Relative rate of improvement for FSM	2.4	2.3	0.7
All three core subjects			
Non-FSM	6.4%	2.8%	1.8%
eFSM	13.4%	5.0%	2.7%
Relative rate of improvement for eFSM	2.1	1.8	1.5

Source: National Pupil Database (provided by Welsh Government)

4.18 Despite increasing numbers of eFSM pupils achieving expected Levels at the end of Key Stage 2 and a narrowing 'gap' between the achievements of eFSM and non-FSM pupils across all three subjects, the impact of the PDG is not clear. There is a notable

improvement in the relative achievement of eFSM pupils in KS2 English/Welsh and science in the year immediately following the 'full' introduction of the PDG. However, despite relatively greater improvements in KS2 maths attainment amongst eFSM pupils in each year there is no discernible 'jump' in this improvement after 2012. Indeed, the rate of improvement amongst eFSM pupils in KS2 maths has slowed over time (although the attainment 'gap' continues to narrow). There may be important fluctuations in levels of achievement year-on-year, particularly when looking at minority groups of pupils. Therefore, it should be noted that the rates of improvement in the proportion of pupils achieving Level 4 or above in all three core Key Stage 2 subjects were lower between 2013 and 2014 (with two 'full' years of PDG funding) than they were between 2011 and 2012 (prior to its introduction).

4.19 It should also be noted that the rate of improvement for non-FSM pupils also slowed over this time period. However, Table 4.14 also presents the relative rate of improvement for eFSM pupils (as compared to the rate of improvement for non-FSM pupils). This shows that the relative rate improvement of eFSM pupils was smaller between 2013 and 2014 than it was between 2011 and 2012 in all KS2 core subjects. This means that the rate of improvement amongst eFSM pupils slowed at a greater rate than it did for non-FSM pupils in the latter years.

Key Stage 4 Achievement

4.20 Tables 4.15 to 4.17 outline the percentage of pupils achieving GCSE grades C or above in maths, English (or Welsh) and science. Table 18 then provides the equivalent figures for pupils achieving grades C or above in all three core subjects. The GCSE achievement 'gap' between eFSM and non-FSM pupils is summarised in Figure 4.2. This shows the relative underachievement of eFSM pupils (compared to non-FSM pupils) from 2011 to 2014. This shows that the GCSE achievement 'gap' is narrowing. However progress is

more evident in some subjects than others and some progress was being made before the PDG was introduced.

4.21 In all three subjects the achievement 'gap' between eFSM pupils and non-FSM pupils was smaller in 2014 than it was in 2011. In GCSE maths this has reduced from 48.2% in 2011 to 45.5% in 2014 (Table 15). In GCSE English (or Welsh) this has reduced from 42.2% to 41.1% (Table 4.16). The largest improvement has been In GCSE science, which has reduced from 44.1% to 35.9% (Table 4.17). The cumulative benefit of progress in each of these subjects has meant that the achievement 'gap' between eFSM and non-FSM pupils in getting grades C or above in all three subjects has narrowed considerably from 53.2% to 40.7% (Table 4.18). It should also be noted that the relative improvement in the levels of achievement amongst eFSM pupils has been achieved whilst ensuring that the percentage of non-FSM pupils achieving these levels has also risen.

Table 4.15. Achieving GCSE maths Grade C or above

Year	% of pupils achieving Grade C or above			eFSM / Non-FSM Gap	
	All	**Non-FSM**	**eFSM**	**% point difference**	**% Differential**
2011	*60.2*	64.7	33.5	-31.2	-48.2%
2012	*61.5*	65.8	35.2	-30.7	-46.6%
2013	*62.8*	67.5	36.9	-30.6	-45.4%
2014	*64.3*	69.1	37.6	-31.4	-45.5%

Source: National Pupil Database (provided by Welsh Government)

Table 4.16. Achieving GCSE English or Welsh Grade C or above

Year	% of pupils achieving Grade C or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*68.1*	72.4	41.8	-30.6	-42.2%
2012	*67.3*	71.7	41.1	-30.6	-42.7%
2013	*67.4*	72.1	41.6	-30.5	-42.3%
2014	*70.4*	75.0	44.2	-30.8	-41.1%

Source: National Pupil Database (provided by Welsh Government)

Table 4.17. Achieving GCSE science Grade C or above

Year	% of pupils achieving Grade C or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*68.5*	72.9	40.8	-32.1	-44.1%
2012	*69.9*	73.9	43.1	-30.8	-41.7%
2013	*67.1*	70.9	40.3	-30.6	-43.2%
2014	*71.1*	74.1	47.5	-26.6	-35.9%

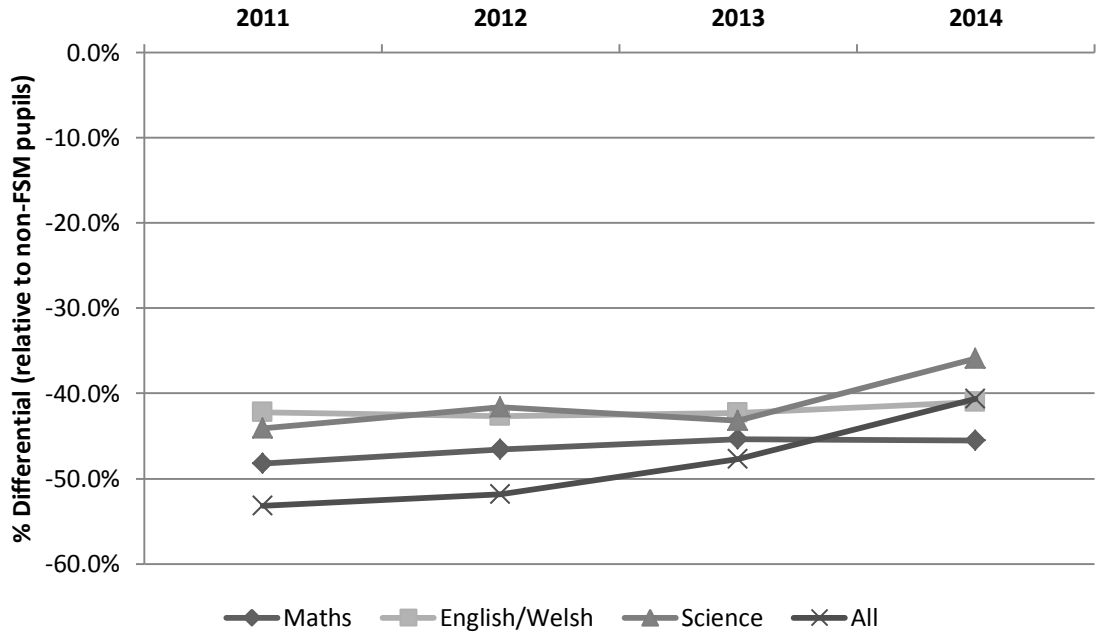
Source: National Pupil Database (provided by Welsh Government)

Table 4.18. Achieving Grade C or above in GCSE maths, English/Welsh *and* science

Year	% of pupils achieving Grade C or above			eFSM / Non-FSM Gap	
	All	Non-FSM	eFSM	% point difference	% Differential
2011	*56.2*	60.3	28.3	-32.1	-53.2%
2012	*57.5*	61.5	29.6	-31.9	-51.8%
2013	*59.9*	63.5	33.2	-30.3	-47.7%
2014	*65.1*	68.1	40.4	-27.7	-40.7%

Source: National Pupil Database (provided by Welsh Government)

Figure 4.2. Relative achievement of eFSM pupils compared to non-FSM pupils achieving grade C or above by GCSE subject



Source: National Pupil Database (provided by Welsh Government)

4.22 Table 4.19 shows the change in the proportion of eFSM and non-FSM pupils achieving grades C or above in these GCSE subjects over time. For example, the proportion of eFSM pupils achieving grades C or above in GCSE maths increased by 12.3% between

2011 and 2014, compared to an increase of just 6.8% amongst non-FSM pupils. In all three subjects (including the combined measure of all three core subjects) there has been relatively greater improvement in levels of achievement for eFSM pupils than non-FSM pupils between 2011 and 2014. This rate of improvement has been greater in maths and science than it has been in English (or Welsh).

4.23 An important explanation for the lower rate of improvement in GCSE English is because the overall proportion of pupils achieving a grade C or above was lower in 2012 than in 2011. At the time this led the then Minister for Education and Skills, Leighton Andrews, to call for an internal investigation into the performance in GCSE English Language of pupils in Wales. This investigation highlighted a number of issues relating to grades awarded in 2012, including the methodology for determining grade boundaries, the impact of controlled assessments, and grade boundaries for a small proportion of candidates who took their awards with AQA awarding organisation (Welsh Government 2012).

4.24 However, of critical importance to this evaluation is the difference in the levels of achievement between eFSM and non-FSM pupils, and Table 4.19 suggests that both groups experienced a similar decline in achievement ensuring that the relative 'gap' remained unchanged between 2011 and 2012 (see Table 4.16). However, it is not possible to say whether eFSM pupils were unfairly disadvantaged due to the broader structural changes to the grades awarded in GCSE English Language, and therefore whether the 'gap' between eFSM and non-FSM pupils would have declined if these issues had not arisen. Although there is no apparent reason why there might have been some differentiated impact of grading in 2012 on eFSM pupils it is important to note that the Welsh Government investigation did not consider this, nor the impact on other particular groups of learners. However, Table 4.19 shows that the proportion of eFSM pupils achieving grades C or above in GCSE English declined at a

relatively greater rate than it did for non-FSM pupils (a decline of 1.8% for FSM pupils compared to just 1.0% for non-FSM pupils). Given the overall progress made in the levels of achievement amongst eFSM pupils over other years and in other subjects this would suggest that eFSM pupils were disproportionately affected by structural changes in the GCSE English assessment. Indeed, if one of the contributing factors to the overall fall in levels of achievement was due to the determination of grade boundaries, the disproportionate effect on eFSM pupils might reflect that these students are more likely to be at the lower end of the grade boundary than non-FSM pupils.

4.25 Nevertheless, due to structural changes in GCSE English assessments in 2012, any comparison between progress in this GCSE subject and other GCSE subjects may not be meaningful. Instead it is more important to focus on comparing the relative progress of eFSM and non-FSM pupils over time. So, again, with the exception of GCSE English (or Welsh), it should be observed that there was already a greater rate of improvement amongst eFSM pupils compared to non-FSM pupils prior to the introduction of the PDG. This is illustrated by the proportionate change in the levels of achievement between 2011 and 2012 (Table 4.19). In both GCSE maths and science the proportion of eFSM pupils achieving grades C or above increased by approximately four times the rate of improvement amongst non-FSM pupils. This is an important consideration when looking at the progress made after the introduction of the PDG.

4.26 Indeed, Table 4.19 shows that the relative rate of improvement in levels of achievement (as measured here by the proportion of pupils achieving a grade C or above) by subject varied considerably after the PDG was introduced. So although the achievement ‘gap’ between eFSM and non-FSM pupils is lower in 2014 than it was in 2011 and 2012 (the two years prior to the introduction of the PDG) in all three subjects (and the combined measure of achievement) Table

4.19 shows that it is not straightforward to associate this improvement to the introduction of the PDG. If there is an association between the PDG and improvements in the relative achievement of eFSM pupils then it appears to have had a different level of impact on each subject. In GCSE maths there has been a steady improvement in the relative achievement of eFSM pupils over time but (a) there has been no noticeable increase in the relative achievement of eFSM pupils after the introduction of the PDG, and (b) the rate of improvement in levels of achievement between 2013 and 2014 for non-FSM pupils was actually greater than the rate of improvement for eFSM pupils (2.3% compared to 1.9% respectively). As Table 4.15 shows, this has actually led to a very small increase in the achievement 'gap' between eFSM and non-FSM pupils between 2013 and 2014. In GCSE English/Welsh the picture is very similar. Again, there has been a steady improvement in the relative achievement of eFSM pupils over time. But in contrast to GCSE maths this has been sustained every year, ensuring that the 'gap' in achievement between eFSM and non-FSM pupils has continued to gradually decline each year. However, there has not been a noticeable increase in this improvement since the introduction of the PDG.

4.27 Where the introduction of the PDG is associated with a significant improvement in the attainment levels of eFSM pupils is in GCSE science. Although there was some modest improvement in the relative achievement of FSM pupils before the introduction of the PDG this climbed significantly after its introduction. As Figure 4.2 illustrates, and Table 4.19 outlines, the levels of achievement amongst eFSM pupils increased by 17.8% between 2013 and 2014 compared to just 4.5% for non-FSM pupils.

4.28 This has also contributed, in a large way, to the significant improvement in levels of eFSM pupils achieving grades C or above in all three GCSE core subjects. As Table 4.19 demonstrates, over the four-year period the rate of improvement amongst eFSM pupils

has been 42.9% compared to just 12.9% for non-FSM pupils. Importantly, the greatest share of that improvement has come about after the introduction of the PDG. For example, between 2013 and 2014 the proportion of eFSM pupils achieving grades C or above in all three subjects increased by 21.5%; almost three times the rate of improvement compared to the 7.2% increase amongst non-FSM pupils. However, as noted above, Table 4.18 shows that the relative attainment 'gap' in this measure of educational achievement was the greatest in 2011 of all the other KS4 measures considered here, such that despite the significant improvements here for eFSM pupils the attainment 'gap' between eFSM and non-FSM pupils on this measure remains comparable to the other measures.

Table 4.19. Relative change in the proportion of pupils achieving Grades C or above in core GCSE subjects

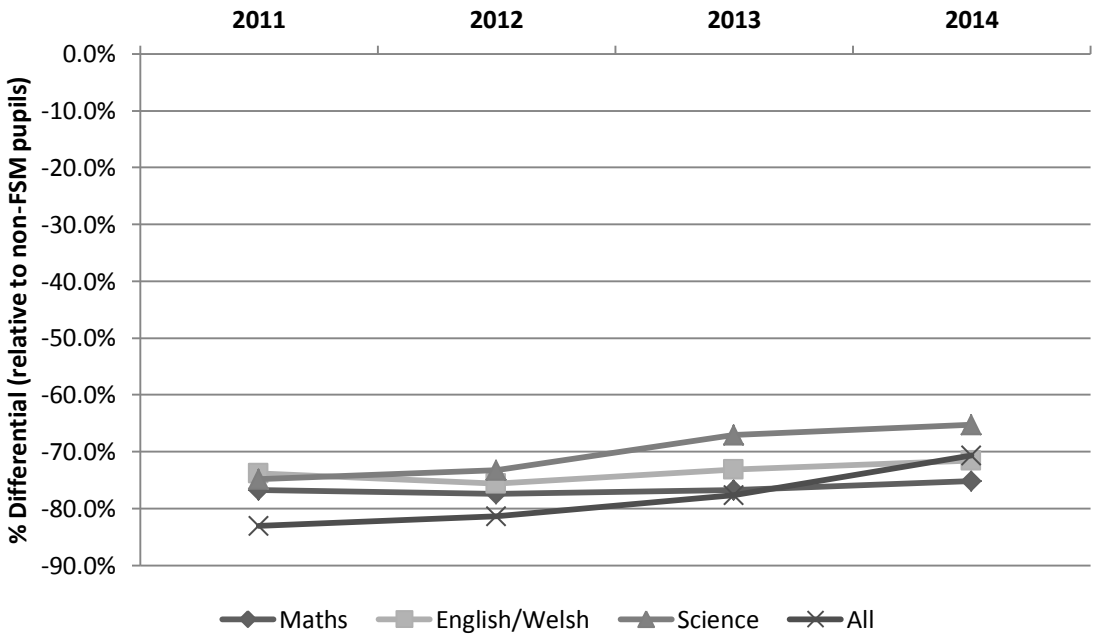
GCSE subject	2011-2014	2011-2012	2013-2014
Maths			
Non-FSM	6.8%	1.8%	2.3%
eFSM	12.3%	5.0%	1.9%
English/Welsh			
Non-FSM	3.5%	-1.0%	4.0%
eFSM	5.6%	-1.8%	6.2%
Science			
Non-FSM	1.6%	1.3%	4.5%
eFSM	16.5%	5.8%	17.8%
All three core subjects			
Non-FSM	12.9%	1.9%	7.2%
eFSM	42.9%	4.8%	21.5%

Source: National Pupil Database (provided by Welsh Government)

4.29 The proportion of eFSM pupils achieving grades A or A* in core GCSE subjects has increased between 2011 and 2014. In science the attainment 'gap' between high achieving eFSM and non-FSM pupils has closed from 74.8% in 2011 to 65.3% in 2014. As Figure 4.3 shows much of this improvement in the levels of attainment amongst eFSM pupils occurred between 2012 and 2013, just after the introduction of the PDG, though this rate of improvement was not sustained between 2013 and 2014. Nevertheless, the improvement in the proportion of eFSM pupils achieving grades A or A* in GCSE science between 2013 and 2014 was still, relatively, twice the level of improvement amongst non-FSM pupils (11.5% improvement for FSM pupils compared to 5.8% for non-FSM pupils.

4.30 In contrast, the achievement 'gap' in getting A/A* grades in GCSE maths and English/Welsh between eFSM and non-FSM pupils has barely changed over the four-year period (Figure 4.3). Indeed, the disparity in the proportion of pupils achieving a grade A or A* in GCSE English/Welsh has widened slightly over the four years, although there have been modest improvements year-on-year after 2012.

Figure 4.3. Relative achievement of eFSM pupils compared to non-FSM pupils achieving grade A/A* by GCSE subject



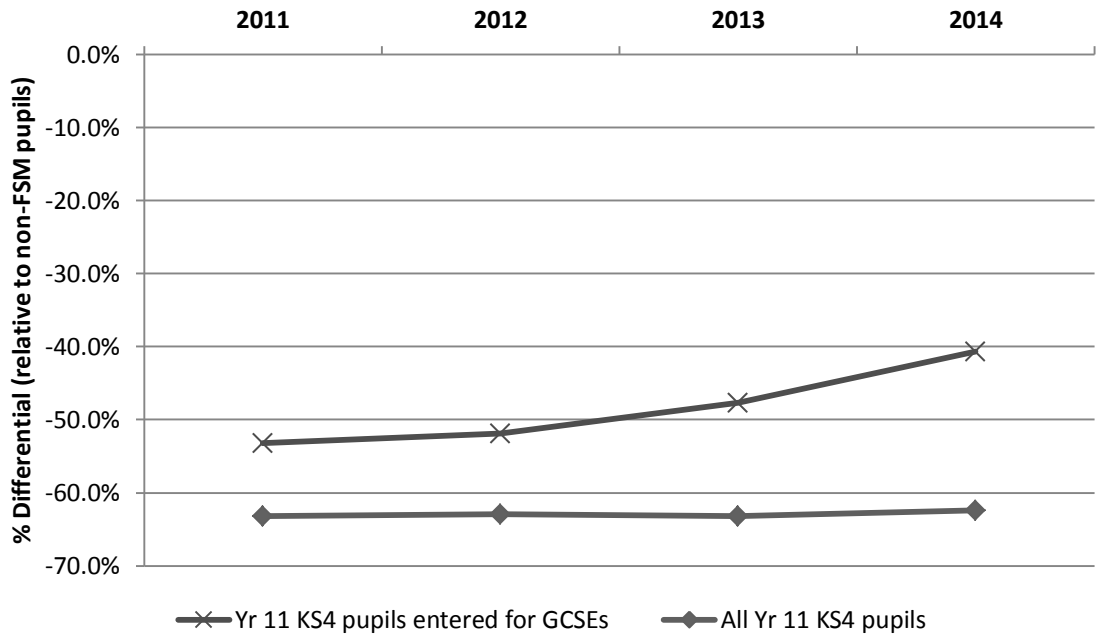
Source: National Pupil Database (provided by Welsh Government)

4.31 Despite this, the proportion of eFSM pupils achieving grades A or A* in all three subjects has improved at a relatively greater rate than non-FSM pupils over the time period and particularly after the introduction of the PDG. Nevertheless, the 'gap' between levels of achievement between eFSM and non-FSM pupils at the upper end of attainment (i.e. with grades A and A*) remains considerably greater than the 'gap' in achievement at the grade C borderline. In 2014 the proportion of eFSM pupils attaining a grade A or A* in all three core GCSE subjects was 70.7% lower than the proportion of non-FSM pupils achieving these grades. In contrast, the proportion of eFSM pupils attaining a grade C or above in all three subjects was 40.7% lower than the proportion of non-FSM pupils achieving these grades.

4.32 If we consider the Key Stage 4 results on the basis of all pupils reaching the end of Key Stage 4 (as opposed to just being entered for GCSEs) we see a very different pattern. Figure 4.4 shows the

differential achievement in attaining grade C or above in GCSE English/Welsh, maths and science between FSM and non-FSM pupils over time. One measure is based on all Year 11 KS4 pupils and the other measure is based on just those Year 11 pupils entered for these GCSE qualifications. As already illustrated in Figure 4.2, on the basis of those pupils entered the achievement 'gap' between eFSM and non-FSM pupils has clearly reduced over the four year period, and particularly from 2012-13 (when the PDG was introduced). However, Figure 4.4 also shows that on the basis of all Year 11 pupils the achievement 'gap' between eFSM and non-FSM pupils is (a) not only greater than that based on just those pupils entered, but (b) also does not change over time. In other words it would appear that (i) relatively greater numbers of eFSM pupils are not being entered for these three core GCSE qualifications (hence the greater differential based on all Year 11 pupils) and (ii) over time increasingly more eFSM pupils are not being entered for these GCSE qualifications which has the effect of increasing the proportion of eFSM pupils achieving GCSEs grades C or above (in these three core subjects) at a greater rate than the proportion of non-FSM pupils, thereby appearing to close the attainment 'gap' between the two groups.

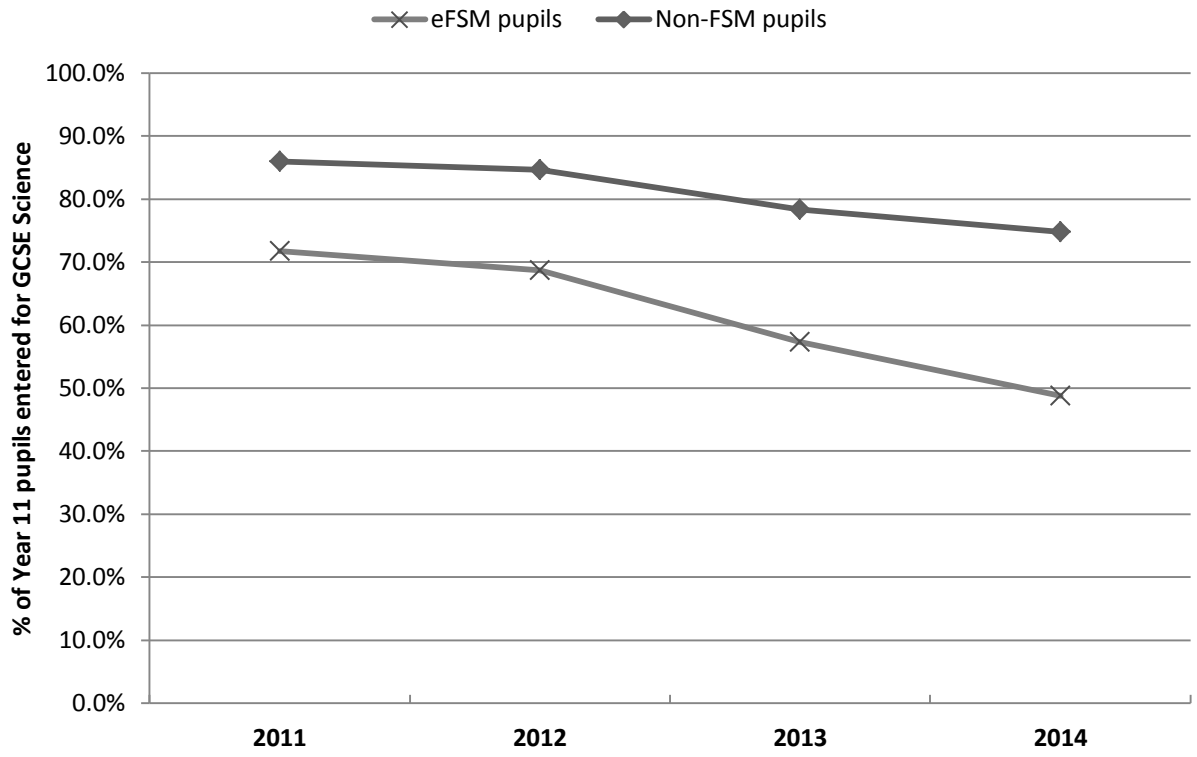
Figure 4.4. Differential achievement in GCSE grade C or above in English/Welsh, maths and science, 2011 to 2014



Source: National Pupil Database (provided by Welsh Government)

4.33 Perhaps of most importance, however, are changes in the proportion of pupils being entered for GCSE science subjects. Figure 4.5 illustrates that over time, increasing numbers (and proportions) of pupils are not being entered for GCSE science subjects. But of most relevance to this analysis is that eFSM pupils are significantly much less likely to be entered into GCSE science qualifications than non-FSM pupils. This shows that in 2010/11 72% of eFSM pupils were entered for GCSE science compared to 86% of non-FSM pupils. By 2013/14 this figure had fallen to just 49% for eFSM pupils compared to 75% of non-FSM pupils.

Figure 4.5. Percentage of Year 11 pupils entered for GCSE science qualifications, 2011 to 2014



Source: National Pupil Database (provided by Welsh Government)

4.34 Changes in the number and proportion of pupils entered into GCSE qualifications, and particularly in science, possibly reflects a shift in WG policy which allows pupils the opportunity to choose from a wider choice of courses at KS4. The availability of choice also means that pupils are now studying for a wider range of qualifications including vocational qualifications such as BTEC rather than just the GCSE. Whether this shift has affected the number of eFSM entries into qualifications such as GCSE science and therefore resulted in a knock on effect on the overall GCSE core subject results is a hypothesis that will be examined further in future analysis. This would though suggest that any conclusions about the impact of the PDG based on just GCSE outcomes should be treated with caution.

4.35 The Welsh Government's own data shows that the total number of entries into GCSE qualifications fell from 257,982 in 2012/13 to

243,082 in 2013/14[12]. Over a comparable time period the number of pupils taking at least one BTEC qualification at Level 2 or above has increased from 13,014 in 2012 to 18,935 in 2014. For 2014 this translated to 53.8% of pupils aged 15.

4.36 Given the changing nature of the type of assessments that are included for assessment at KS4 and the increasing number of alternatives to GCSE available it is worth briefly considering the results that have been observed which include these alternatives as part of 'threshold equivalences'. For example the 'Level 2 inclusive' threshold is classed as a volume of qualifications at Level 2 on the National Qualification Framework (NQF) equivalent to the volume of 5 GCSEs at grade A* - C including a GCSE grade A*-C in English or Welsh first language and mathematics. These threshold indicators are now regarded as the headline indicators of performance in secondary schools.

4.37 The percentage of eFSM pupils who achieved the L2 inclusive threshold increased from 25.8% in 2012/13 to 27.8% in 2013/14. There was also an increase for non-FSM pupils over the same period from 58.5% to 61.6%. The most recent data from the Welsh Government for 2014/15[13] suggests the largest single year increase for eFSM pupils achieving this measure and further analysis will be undertaken on this in future.

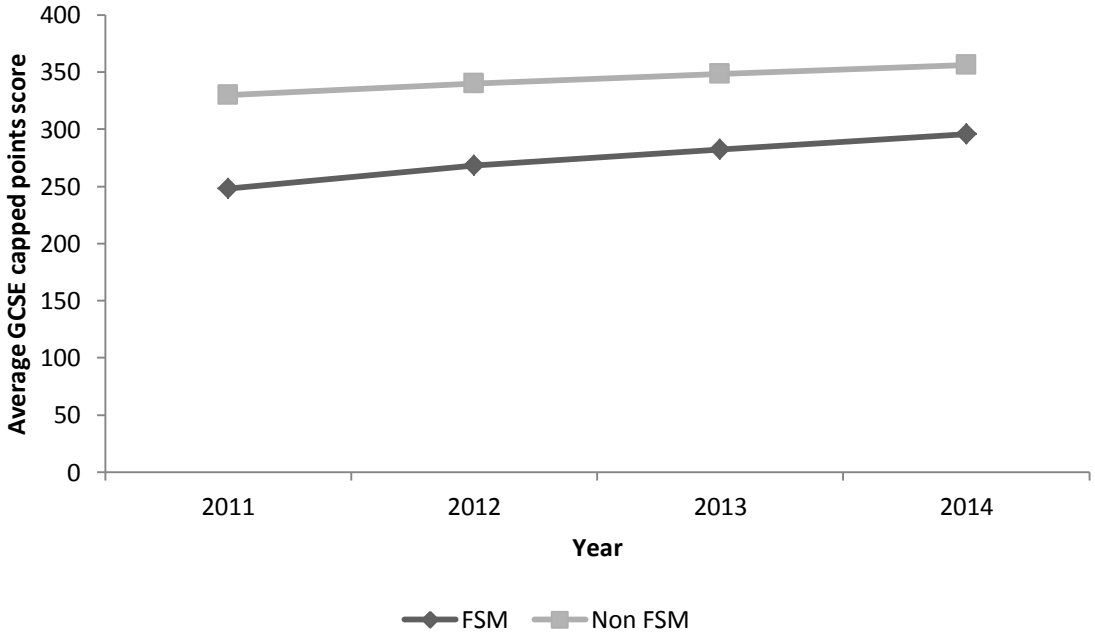
4.38 Given the changing nature of the qualification and examination system in Wales, and in discussion with Welsh Government officials agreement has been reached to depart from the original research design and to expand the analysis to allow for analysis of these different measures to be undertaken in future fieldwork to allow us to gain a more complete picture rather than solely considering GCSE results.

[12] These figures should be treated with caution however as it is possible for pupils to have entered more than one GCSE within a small number of subject groups.
[13] http://gov.wales/docs/statistics/2015/150924-examination-results-2014-15-provisional-en.pdf

4.39 An alternative measure of outcomes at the end of Key Stage 4 is to use pupils' best capped GCSE (or equivalent) points score. These are calculated on the basis of a pupil's best eight GCSE (or equivalent) qualifications. The average points score of eFSM and non-FSM pupils is summarised in Figure 4.6. This shows that, on average, eFSM and non-FSM pupil are achieving higher grades in at least eight GCSE or equivalent qualifications over time. Figure 4.6 also shows the narrowing 'gap' between the average points score between the two groups. For example, in 2011 eFSM pupils achieved on average 24.8% fewer points than non-FSM pupils. By 2014 this 'gap' had fallen to 17.0%.

4.40 However, in line with the conclusions about levels of achievement in the core GCSE subjects, this improvement was occurring prior to the introduction of the PDG and the rate of improvement has remained steady since its introduction.

Figure 4.6. Average GCSE capped points score



Source: National Pupil Database (provided by Welsh Government)

4.41 The last set of educational outcomes considered here is the relative progress eFSM and non-FSM pupils make between the end of Key Stage 2 and the end of Key Stage 4 in each of the three 'core' subject areas: maths (Table 4.20), English/Welsh (Table 4.21) and science (Table 4.22). In order to calculate a measure of a pupil's progress, or value-added, we compare their level of achievement at Key Stage 2[14] with their GCSE grade[15] in each subject.

4.42 Before looking at the results of eFSM pupils' relative progress between Key Stage 2 and Key Stage 4 it is important to note that this progress is the result of five years of education, and not just the impact of the year in which the Pupil Deprivation Grant had first been introduced. However, as will be shown, this analysis can be important in trying to identify whether improvements in GCSE achievement over time are the result of improvements in achievement earlier in a pupil's educational career (i.e. in their primary years) as opposed to improvements in their achievement within, for example, the last year of secondary school. This analysis is also important in terms of the potential cumulative 'benefits' of the PDG, since eFSM pupils at the end of Key Stage 4 in 2014 would have had two years of schooling with the PDG compared to those at the end of Key Stage 4 in 2013 who only would have had one year of schooling with the PDG. If the PDG does have a cumulative benefit then we would expect that the educational progress of those in 2014 would be greater than those in 2013, who in turn would have made greater educational progress than those in 2013 (although only having experienced one year of PDG funding).

4.43 The main limitation to this analysis is that we do not control for the number of years a pupil was eligible for free school meals (and therefore how long they have been an intended recipient of the

[14] Levels of achievement in Key Stage 2 are scored 0 to 5, according to which Level a pupil achieved. Given the small number of pupils who achieved Level 6 at Key Stage 2 these are recoded to 5.
[15] For the purpose of calculating the progress from Key Stage 2 to GCSE we recode GCSE grades from 0 to 10; 0=X, 1=U through to 10=A*. Although the scores for achievement at Key Stage 2 and in GCSEs are not commensurate with one another the arithmetic difference in the two scores does provide a measure for a pupil's relative progress.

additional support). Instead we only make comparisons between eFSM and non-FSM pupils based on their eligibility at the end of Key Stage 4.

4.44 The first observation to make from all three tables is that eFSM pupils generally make relatively less progress in their levels of achievement between Key Stage 2 and Key Stage 4 than non-FSM pupils, despite relatively more eFSM pupils not achieving expected levels at Key Stage 2 (see Tables 4.10 to 4.12). This is in line with previous research on the impact of deprivation on educational outcomes.

4.45 The second observation is that the measure of progress for eFSM pupils barely changes over time, perhaps reflecting the challenge of raising attainment amongst eFSM pupils based on one or two years of additional resourcing. Given this, it could then be very significant that the measures of progress for the 2014 cohort (with two years of PDG) in all three subjects are greater than the measure of progress for the 2013 cohort. But the main challenge of closing the attainment gap between eFSM and non-FSM pupils is very evident here too, since the 2014 non-FSM cohort have made greater educational progress than their 2013 counterparts. Whilst two years of the PDG may appear to be having an impact on the educational progress of eFSM pupils this has failed to improve at the same rate as improvements in the educational progress of non-FSM pupils.

4.46 The only exception to this is in science, where it does appear that the rate of improvement eFSM pupils are making in their progress from KS2 to KS4 has been greater than the rate of improvement for non-FSM pupils (Table 4.22). As a result, science is the only subject of the three where eFSM pupils appear to be closing the ‘gap’ in terms of their educational progress between KS2 and KS4. This also means that the improvements described above for levels of achievement in GCSE science amongst eFSM pupils at the end of Key Stage 4 are due to improvements made during their time in secondary school and

not simply the benefit of increased prior attainment in this subject at primary school.[16]

[16] Of course, this does not consider latent ability amongst FSM pupils in science that is not fully realised or observed in the end of Key Stage 2 teacher assessments.

Table 4.20. Relative progress in maths between Key Stage 2 and GCSE

Year	Measure of progress			eFSM / Non-FSM Gap
	All	Non-FSM	eFSM	% Differential
2011	*2.42*	2.57	1.47	-42.8%
2012	*2.49*	2.64	1.57	-40.6%
2013	*2.48*	2.65	1.53	-42.0%
2014	*2.51*	2.68	1.55	-42.2%

Source: National Pupil Database (provided by Welsh Government)

Table 4.21. Relative progress in English/Welsh between Key Stage 2 and GCSE

Year	Measure of progress			eFSM / Non-FSM Gap
	All	Non-FSM	eFSM	% Differential
2011	*2.94*	3.04	2.29	-24.7%
2012	*2.94*	3.05	2.27	-25.6%
2013	*2.93*	3.06	2.24	-26.8%
2014	*3.00*	3.12	2.31	-26.2%

Source: National Pupil Database (provided by Welsh Government)

Table 4.22. Relative progress in science between Key Stage 2 and GCSE

Year	Measure of progress			eFSM / Non-FSM Gap
	All	Non-FSM	eFSM	% Differential
2011	*2.71*	2.85	1.79	-37.5%
2012	*2.80*	2.94	1.87	-36.4%
2013	*2.61*	2.75	1.64	-40.4%
2014	*2.75*	2.86	1.85	-35.2%

Modelling the effect of being eligible for free school meals on educational attainment

4.47 An obvious limitation of the descriptive statistics presented above is that there may be other factors other than being eligible for free school meals that may account for some of these differences in the educational achievement of eFSM pupils compared to non-FSM pupils. For example, it is known that pupils with special educational needs are more likely to be eligible for free school meals than pupils without special educational needs.

4.48 To some extent a comparison in the achievement of eFSM pupils compared to non-FSM pupils over time does not need to be concerned with these other factors if any association between being eligible for free school meals and other important determinants of educational achievement remains unchanged over time. However, if the association between these factors did change over time, although very unlikely over such a short time period and for such a large number of pupils, then it is possible that any indication of relative improvement (or otherwise) may be the result of changes in these other circumstances and not necessarily the direct result of being eligible for Free School Meals, and hence less likely to be the result of the Pupil Deprivation Grant.

4.49 In order to control for these other characteristics we now present the results of a series of regression models. Each model controls for a variety of key characteristics that are known to be associated with educational outcomes. These are: gender, ethnicity17, special educational needs and season of birth. The regression models also include an indicator of whether pupils were eligible for free school meals, and it is the estimated 'effect' of this variable that is of primary interest, given the presence of other characteristics, in 2011, 2012, 2013 and 2014.

[17] English as an additional language is also considered to be associated with educational outcomes. However, because EAL and ethnicity are often highly correlated we only use ethnicity in these models.

4.50 The regression models also include a range of indicators that describe the composition of the schools' intakes. Again, the characteristics of other pupils in a school have often been found to be associated with an individual pupil's educational outcomes. Here we control for the proportion of pupils with special educational needs, the proportion of white British pupils, the gender composition of the school's cohort and the proportion of pupils eligible for free school meals.

4.51 Consequently, each regression model attempts to predict to what extent pupils eligible for free school meals are associated with 'good' or improved educational outcomes. The same predictor variables are used in 20 different models, each one testing the association with a different measure of educational outcome, including attendance, Key Stage 2 achievement, Key Stage 4 achievement and measures of educational progress between Key Stage 2 and Key Stage. In some cases we use logistic regression to estimate the likelihood of achieving a particular level in outcomes if a pupil is eligible for free school meals compared with non-FSM pupils (e.g. achieving Level 4 in maths). And in other cases we use linear regression to estimate how different the outcomes are for pupils eligible for free school meals compared to non-FSM pupils (e.g. capped GCSE (or equivalents) points). We also use Ordinary Least Squares (OLS) regression for the analyses of absenteeism. We then repeat these models for educational outcomes in 2011, 2012, 2013 and 2014 (80 regression models in total). We then use the findings from these models to compare the relative influence of being eligible for free school meals across the three years. In particular, we want to see whether the association found between eligibility for free school meals goes up, down or remains the same over time.

4.52 The results of these 80 statistical models are summarised in Table 4.23. This presents the odds ratio (for logistic regressions) or estimated coefficient (for linear and OLS regressions) for pupils being eligible for free school meals compared to non-FSM pupils. The

results of these statistical models summarised in Table 4.23 clearly demonstrate that eFSM pupils have, on average, poorer educational outcomes than non-FSM pupils after controlling for other known characteristics.

4.53 So, for example, this shows that eFSM pupils had an odds ratio of 0.352 for achieving grades C or above in maths, science and English at Key Stage 4 in 2011 – i.e. they were 65% less likely to achieve this educational outcome compared to non-FSM pupils with similar characteristics and attending schools with similar intake characteristics. In another example we see that the educational 'progress' between Key Stage 2 and Key Stage 4 of pupils reaching the end of Key Stage 4 in 2011 is significantly less if they are eligible for free school meals compared to similar pupils who are not eligible for free school meals.

4.54 To help interpret the findings from Table 4.23 the odds ratios or estimated coefficients are colour coded. They are green if they demonstrate an improvement from the previous year in the probability of eFSM pupils achieving certain educational outcomes compared to non-FSM pupils, and red if they demonstrate a decline from the previous year in the relative probability that eFSM pupils achieve these educational outcomes. In particular we are interested in the results for 2013 and 2014. We are also interested in year-on-year improvements (as opposed to, say, comparing 2014 with 2011) because it is assumed that the impact of the PDG should be cumulative over time (i.e. the 2014 cohort will have been potential recipients of two years of PDG support compared to just one year of PDG support for 2013).

4.55 Of the forty results summarised for 2013 and 2014 twenty-four demonstrated an improvement from the previous year (60% of all the results). But fourteen of the results demonstrate a relatively worse performance for eFSM pupils from the previous year compared to

non-FSM pupils (35% of all the results).18 Seven of these occurred in 2013 (when compared to 2012) and seven occurred in 2014 (when compared to 2013). This is in contrast to an improvement in fifteen (of 20) results in 2012 (when compared to 2011).

4.56 There are several trends to observe, most of which tend to corroborate findings presented above. The likelihood that eFSM pupils are absent from school compared to non-FSM pupils has declined (i.e. improved) almost every year since 2011. But in terms of persistent absence, despite some improvement between 2013 and 2014, eFSM pupils are more likely than their non-FSM counterparts to miss at least 20% of their formal education in 2014 than they were in 2011.

4.57 eFSM pupils were relatively more likely to achieve expected levels in core Key Stage 2 subjects in 2013 than they were in 2012. But this improvement was reversed in 2014 to the extent that only in KS2 maths are eFSM pupils relatively more likely to achieve expected levels in 2014 (compared to non-FSM pupils) than their relative achievement in 2011.

4.58 The estimated 'effects' of being eligible for free school meals on achieving a grade A or A* in maths, English/Welsh and science are all lower in 2013 and 2014 than they were in 2011 and 2012. For example, eFSM pupils were 65% less likely to achieve a grade A or A* in GCSE English/Welsh than equivalent non-FSM pupils in 2014, but in 2011 they were 69% less likely to achieve these grades. In GCSE science this has decreased from being 68% to 59% less likely to achieve a grade A or A*. In other words, after controlling for other factors any detrimental or negative association between being eligible for free school meals and achieving very high grades in GCSEs appears to be declining.

4.59 In contrast, changes in the probability that eFSM pupils achieve a grade C or above, compared to non-FSM pupils, vary by subject and

[18] The other two results show no change from the previous year.

by year. In GCSE maths eFSM pupils are less likely to achieve a grade C or above than their non-FSM counterparts, in both 2013 and 2014. The likelihood that an eFSM pupil will achieve a grade C or above in GCSE English/Welsh is very similar in 2014 than it was in 2011 – 65% less likely in 2014 compared to 64% less likely in 2011. Only in GCSE science are eFSM pupils more likely to achieve a grade C or above in 2014 than they were in 2011 (compared to non-FSM pupils), but as noted above, this could be due to relatively fewer eFSM pupils being entered into GCSE science subjects over time.

4.60 Despite these mixed results by subject eFSM pupils are more likely to achieve a grade C or above in all three subjects over time, and, on average, achieve a higher number of points in their best eight GCSE or equivalent qualifications.

4.61 Again the results of this analysis mirror those presented above for the relative progress made between the end of Key Stage 2 and Key Stage 4. There is some indication that for the 2014 cohort of pupils at the end of Key Stage 4 their educational progress has improved in English/Welsh and science.

4.62 These results demonstrate the need to consider a wide range of educational outcomes when attempting to evaluate the impact of the Pupil Deprivation Grant. But in comparison with the results of the descriptive changes in the attainment 'gap' presented and discussed above, this analysis also highlights the importance of the influence of other pupil characteristics. Hence some of the apparent improvements in the differential between eFSM and non-FSM pupils could, in some cases, be the result of differences in the characteristics of eFSM pupils over time (or relatedly, changes in the characteristics of non-FSM pupils over time).

Table 4.23. Summary of individual free school meal 'effects' on educational outcomes, 2011 to 2014

	Individual eFSM Effect			
Year	**2011**	**2012**	**2013**	**2014**
Absenteeism (OLS)				
Sessions Absent	0.038	0.036	0.034	0.031
Sessions Unauthorised Absence	0.015	0.014	0.014	0.012
Persistent Absence	1.123	1.147	1.209	1.193
Key Stage 2 Attainment				
Achieving Level 4 or above (logistic)				
KS2 maths Level 4+	0.526	0.557	0.574	0.538
KS2 English/Cymraeg Level 4+	0.513	0.536	0.551	0.498
KS2 science Level 4+	0.489	0.520	0.539	0.488
KS2 CSI[2] Level 4+	0.516	0.530	0.553	0.506
Key Stage 4 Attainment				
Achieving grade A/A* (logistic)				
GCSE maths A/A*	0.307	0.296	0.304	0.335
GCSE English/Cymraeg A/A*	0.312	0.293	0.316	0.348
GCSE science A/A*	0.316	0.322	0.389	0.412
A/A* in GCSE maths, science *and* English/Cymraeg	0.237	0.263	0.283	0.385
3 x Grade A/A*s in KS4 (any subject)	0.370	0.393	0.371	0.375
Achieving grade C or above (logistic)				
GCSE maths C+	0.382	0.387	0.382	0.379
GCSE English/Cymraeg C+	0.356	0.359	0.359	0.346
GCSE science C+	0.362	0.371	0.362	0.436
C+ in GCSE maths, science *and* English/Cymraeg	0.352	0.350	0.363	0.414
KS4 capped points (linear)	-49.87	-43.89	-40.58	-36.14
Progress KS2-KS4 (linear)				
Maths	-0.733	-0.703	-0.745	-0.734
English/Cymraeg	-0.513	-0.514	-0.553	-0.536
Science	-0.708	-0.694	-0.787	-0.671

1 – Literacy, Language and Communication (LLC).

2 – Core Subject Indicator (CSI) achieving required levels in English/Welsh, maths *and* science.

Source: National Pupil Database (provided by Welsh Government)

5. Conclusions and reflections on the findings

5.1 The findings highlight that the PDG is affecting schools' practices, most notably in increasing the numbers and specialisation of Teaching Assistants in delivering PDG interventions, and in some schools increasing the focus given to monitoring of eFSM pupils' outcomes. The results of the Evaluation Team's analysis of the National Pupil Database paint a mixed picture in terms of the impact on pupils' attainment and attendance. The data shows that eFSM pupils continue to make relatively greater progress over time compared to non-FSM pupils, though there was no sustained step change in the achievements of eFSM pupils after the PDG's introduction.

5.2 Based on the findings to date, there are a number of areas it may be useful to consider to ensure the implementation of the PDG is as smooth and effective as possible.

- Funding security and aligning funding with the academic year would help schools to plan their PDG spending more effectively. Schools typically invest PDG in staffing, and the variability of the grant, and schools' uncertainty about its value when they are making staffing decisions each year, can be problematic.
- Consider whether a measure such as 'Ever6' could be useful[19]. Pupils can move in and out of eFSM which has implications for both targeting of support and the validity of monitoring data. Interventions need to be planned as if eFSM pupils remain eFSM for the entire school year, and monitoring data can be distorted when pupils change eFSM status shortly before exam periods.
- A clearer message on whether the PDG is aimed to help close the attainment gap or to help all pupils fulfil their potential – and, as such, whether the PDG should be focused on the entire eFSM cohort, or just those whose attainment is poor – may be of value. Although new guidance issued in March 2015 appears to place the

[19] Relates to pupils who have been eligible for free school meals at any point in the last 6 years.

emphasis on fulfilling potential, a few schools expressed concerns that new Key Stage 4 targets could undermine this.

- Regional consortia appear to have played a role in changing schools' practices, in some regions at least. For example, regional consortia had introduced several schools to the Sutton Trust Toolkit. Closer work between schools and regional consortia has the potential to ensure fidelity to the aims of PDG in schools' delivery.
- There is evidence of joint working across a number of complementary programmes, with schools being used as the hub of delivery for Families First 'Team Around the Family' arrangements, and/or benefitting from Communities First initiatives. A few schools in particularly disadvantaged areas mentioned that the additional support they could access was a great benefit to schools with a high proportion of extremely disadvantaged pupils. In general, it appeared that head teachers who were well networked were more aware of the potential to tap into other programme funding in this way. It may be worth considering whether regional consortia could help in promoting the opportunities available to schools more systematically.

Annex to the National Pupil Database analysis

Annex 1. Example of Logistic Regression: Achieving Grade A/A* in GCSE maths (Year=2014)

Logistic regression	Number of obs	=	32688
	Wald chi2(18)	=	1217.43
	Prob > chi2	=	0.000
Log pseudolikelihood = -12549.1	Pseudo R2	=	0..0969

(Std. Err.adjusted for 226 clusters in schoolid)

KS1mat	Odds Ratio	Std Error	P>z		[95 Interval]
Individual level variables					
non fsm (ref)	-	-	-	-	-
efsm pupil	0.335	0.027	0.000	0.286	0.392
male (ref)	-	-	-	-	-
Female	0.894	0.034	0.003	0.831	0.963
white british (ref)	-	-	-	-	-
white other	1.153	0.140	0.239	0.909	1.463
Mixed	1.723	0.180	0.000	1.404	2.115
Asian	1.133	0.204	0.486	0.797	1.613
Black	0.961	0.241	0.873	0.588	1.570
Other	1.845	0.199	0.000	1.494	2.279
No special needs (ref)	-	-	-	-	-
Action	0.193	0.019	0.000	0.159	0.234
Action Plus	0.155	0.021	0.000	0.118	0.204
Statemented	0.208	0.040	0.000	0.142	0.304
Born Sept/Nov (ref)	-	-	-	-	-
Born Dec/Feb	0.947	0.044	0.242	0.864	1.038
Born March/May	0.963	0.049	0.457	0.870	1.064
Born June/Aug	0.833	0.040	0.000	0.758	0.916
School level variables					
Pct females	0.866	0.361	0.730	0.382	1.962
Pct white	0.366	0.134	0.006	0.179	0.752
Pct fsm	0.002	0.001	0.000	0.001	0.005
Pct SEN	2.810	1.166	0.013	1.246	6.337
Number of Pupils	1.000	0.000	0.001	1.000	1.000

Source: National Pupil Database (provided by Welsh Government)

References

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