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Effects of reforms to the school year and alternative school calendars: review of evidence

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Effects of changes to the school year and alternative school calendars: review of evidence

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Glossary

Acronym/Key word	Definition
API	Academic Performance Index
ALN	Additional learning needs ¹
AYP	Adequate Yearly Progress
BAME	Black, Asian and Minority Ethnic
BMI	Body Mass Index
CIW	Care Inspectorate Wales
CRF	Cardiorespiratory fitness
DfE	Department for Education
EACEA	Education, Audiovisual and Culture Executive Agency
EAL	English as an additional language ²
EEF	Education Endowment Foundation
ELL	English language learner
ELT	Expanded learning time
ESL	English as a second language
ESY	Extended school year
FSM	Free School Meals
HAF programme	Holiday Activities and Food programme
IEP	Individual Education Plan
JLARC	Joint Legislative and Audit Review Commission
KAS	Knowledge and Analytical Services
LEP	Limited English proficiency
Multi-track calendar	A school calendar which places students at the same school in different 'tracks'; different tracks attend school/have school holidays at different times
NPD	National Pupil Database
NMS	National Minimum Standards for Regulated Childcare for children up to the age of 12 years

¹ Studies evaluated in this review used different terminology, such as 'SEN', 'SEND', 'disabled' and 'learning disabled'. For the sake of clarity, the broader term 'ALN' is used throughout this review. For the specific terms used in each study, please see the individual studies themselves.

² The term 'EAL' is used to refer to evidence relating to EAL students specifically, and to summarise available findings from multiple studies, relating to EAL, ELL, ESL and LEP students.

Acronym/Key word	Definition
PACER	Progressive Aerobic Cardiovascular Endurance Run
PIRLS	Progress in International Reading Literacy Study
REA	Rapid Evidence Assessment
Traditional school calendar	The school calendar 'traditionally' used in a given education system; these often feature uneven distribution of school terms and holidays
SES	Socio-economic status
SHEP	School Holiday Enrichment Programme
Single-track calendar	A school calendar which places all students in one school upon the same 'track'; all students within the track (and therefore within the school) attend school/have school holidays at the same time
Summer holiday provision/programming	Programmes that offers educational or enriching provision during the summer holidays and/or other school holidays
TIMSS	Trends in International Mathematics and Science Study
VCSSO	Voluntary and Community Sector Organisation
WAC	Wraparound care
WLGA	Welsh Local Government Association
YRE	Year-round education ³

³ The term 'year-round education' is used to refer to alternative distributions of holidays across the school calendar; for further details, please see [3.8](#).

1. Key findings

Introduction

- 1.1 This Rapid Evidence Assessment (REA) aims to support the Welsh Government's information gathering regarding optimum school calendars and potential changes to the school calendar. Exploring reforms to the school year has been identified as a key aim by both the Welsh Government Programme for Government (2021, p. 6) and the Cooperation Agreement (2021, p. 8). This REA takes the form of a literature review, and was carried out by Knowledge and Analytical Services (KAS) as part of a PhD internship. The review aimed to explore and evaluate available evidence relating to the optimum school calendar for improving student learning, promoting children's health and wellbeing, facilitating the provision of wraparound care, and supporting families, with regard to modern and changing patterns of employment. Additionally, this review aimed to examine and assess existing evidence regarding the effects of changes to the school calendar upon the key outcomes outlined above. Studies that provided evidence of other societal impacts of alternative school calendars, or of changes to the school calendar, were also evaluated in this review. The review aimed to encompass all interventions to the school year. Studies included in this review examined three types of interventions to the school calendar: year-round education (YRE), summer holiday provision, and extending the school year.

Quality of evidence and applicability to Wales

- 1.2 The majority of studies examining the impacts of YRE and extended school years were rigorously conducted and used large samples, meaning that their findings have a high degree of validity. However, studies examining the impacts of YRE were all conducted in the USA; therefore, conclusions here are not necessarily generalisable to Wales. While some studies of the effects of extended school years were conducted in the USA, others utilised data from a range of different countries; the findings of these studies are more likely to be generalisable to Wales.
- 1.3 Studies examining the effects of summer holiday provision came from Wales, England and the USA. Findings from studies conducted in Wales are likely generalisable to Wales; however, these studies have small sample sizes, and do

not feature control and treatment groups. Therefore, their findings cannot be treated as reliably establishing effects of summer holiday provision in Wales. Some studies conducted in England have similar limitations, although their findings are more generalisable to Wales than those produced by US studies. Findings from US studies may not be generalisable to Wales, due to differences between the traditional school calendars in Wales and the USA (for further details, please see [3.10](#)).

- 1.4 No studies were found which examined the longer-term effects of changes to the school calendar; effects observed in these studies may be short-term.
- 1.5 For further information, please see the 'Background' and 'Limitations' sections.

Summary of findings

- 1.6 Evaluation of available literature has produced these key findings, in response to these research questions:
- 1.7 **(1) What evidence is there demonstrating effects and impacts of reforms to the school calendar, particularly in relation to learning, child mental health, physical health and wellbeing, wraparound care and family life?**
- 1.8 There is mixed evidence as to whether YRE or summer holiday provision have produced positive effects on student achievement.⁴ Overall, extended school years did not produce positive effects upon achievement.
- 1.9 There was limited evidence to indicate that YRE delivered small positive effects upon child health outcomes, although many of these effects were short-lived, lasting less than a year. There is mixed evidence as to the effects of summer holiday programmes, as several UK studies (two in Wales) reported associations between the examined programmes and positive child health and wellbeing outcomes, but two US studies found that a summer school programme did not produce positive impacts upon social-emotional outcomes for children, after one or two years of the intervention being delivered. The review did not find evidence regarding the impact of extended school years upon child health and wellbeing outcomes.

⁴ Unless otherwise stated, references to the effects of YRE (single-track or multi-track) describe the effects of a YRE calendar, compared to a traditional school calendar. Likewise, references to the effects of extended school years describe the effects of an extended school year, compared to a traditional-length school year.

- 1.10 There was limited evidence to indicate that families of children attending single-track⁵ YRE schools were generally satisfied with the calendar and the process of transition. Five UK studies (two from Wales) demonstrated summer holiday programmes were associated with improved wellbeing, reductions in stress and financial pressures for parents, and increased quality time for families. This review did not find any studies that examined the effects of extended school years upon family life. No studies were found that explored the impact of changes to the school calendar upon the provision of wraparound care.
- 1.11 **(2) Are specific impacts upon disadvantaged and/or other groups of learners examined or identified? What are they? How do alternative calendars impact provision for students with Additional Learning Needs (ALN), and the learning and wellbeing of those students?**
- 1.12 Evidence generally indicates that neither YRE nor summer holiday provision significantly narrowed the attainment gap between economically disadvantaged students and their non-economically disadvantaged peers. There was very limited evidence to indicate that disadvantaged students in particular experience improvements in their confidence, school readiness and socialisation, as a result of attending summer school. Evidence as to the impact of extending the school year upon students from economically disadvantaged backgrounds was very limited but positive, as one study found positive effects upon the achievement of students from economically disadvantaged backgrounds.
- 1.13 The evidence evaluated here indicated, overall, that single and multi-track YRE did not consistently affect the academic attainment of students from Black, Asian and Minority ethnic communities differently to the academic attainment of white students. This review found no studies that explored the impact of summer holiday provision or of extended school years upon students from Black, Asian and Minority ethnic communities.
- 1.14 There was very limited evidence to indicate an association between summer school programmes and improved school readiness among looked after students. The

⁵ Where findings relate to the effects of single-track or multi-track YRE specifically, this has been noted in the text. Where only the term 'YRE' is used, this relates to findings derived from studies which did not specify whether the YRE calendar(s) were single-track or multi-track, or to summarise the findings of several studies of YRE.

review found no studies that considered whether YRE or extended school years produced particular effects on looked after students.

- 1.15 There was very limited evidence to indicate that summer holiday provision did not assist students who are struggling academically in catching up. The review found no studies that explored whether YRE or extended school years impacted academically struggling students differently to other students.
- 1.16 The review found no studies which examined whether changes to the school calendar impacted students differently on the basis of students' sex.
- 1.17 Findings were mixed as to the effects of YRE upon students with additional learning needs (ALN). Evidence regarding the impact of summer holiday provision upon students with ALN was very limited. A study from Wales reported that provision had been associated with reduced stress in attending children with ALN. This review found no studies that explored the impact of extended school years upon students with ALN.
- 1.18 **(3) What evidence is there of alternative calendars being applied or considered in contexts where language immersion, or intensive language learning, is a feature of education provision? How have these considerations been approached in the planning and delivery of the alternative calendars? What are the effects of alternative calendars on this feature of provision?**
- 1.19 None of the studies reviewed here examined the impact of changes to the school calendar upon Welsh-medium provision in education, or upon education systems that feature language immersion or intensive language learning in existing provision. Parents in one study reported that their child's attendance of summer provision had assisted them in maintaining their Welsh language skills.
- 1.20 Studies reviewed here found that students who speak English as an additional language (EAL) did not experience greater impacts upon their academic attainment as a result of YRE or summer holiday provision, compared with their non-EAL peers.
- 1.21 **(4) What other effects have been demonstrated or suggested?**
- 1.22 There was limited evidence to indicate positive effects of YRE and summer holiday programmes upon teachers and other school/programme staff, such as increased

between-year teacher retention rates, and improved relationships between students and school staff, respectively. The review did not find any studies that examined the effects of extended school years upon teachers or other school staff.

- 1.23 Evidence as to the impact of YRE and summer holiday provision upon student behaviour was limited and mixed. There was limited evidence to indicate that extended school years produced negative impacts upon student behaviours among 13-14 year olds, but did not affect the behaviour of 9-10 year olds.
- 1.24 Although only two studies examined economic impacts, both concluded that YRE had small (but significant) negative economic impacts, specifically upon house prices and maternal employment rates. The review found no studies that examined the economic impacts of summer holiday provision or of extended school years.
- 1.25 **(5) What factors have led to these reforms? Have these reforms been accompanied by wider changes (e.g. changes to the number of teachers, or changes to the curriculum)? If so, what are these changes? Have these reforms been made specifically in response to the Covid-19 pandemic?**
- 1.26 Studies included in this review did not identify factors that had led specific schools or districts to reform their school calendars. However, a number of researchers commented that, while single-track YRE was generally adopted to improve academic achievement and reduce summer learning loss, multi-track YRE was more commonly adopted to combat the effects of overcrowding in schools.
- 1.27 Researchers examining summer holiday provision tended to identify the aims of these programmes, rather than factors involved in deciding to implement them. The majority of these programmes aimed to maintain or improve the health and wellbeing of children, particularly those from disadvantaged backgrounds.
- 1.28 In examining the effects of altering the length of the school year, researchers did not specify particular factors for these alterations in specific schools or districts. However, some researchers noted that extensions to the school year were often adopted with the aim of improving academic achievement.
- 1.29 The majority of studies in this review did not specify whether reforms to the school calendar were accompanied by broader changes to schooling.

- 1.30 This review found no evidence to indicate that the reforms to the school calendar examined in these studies were made in response to the Covid-19 pandemic. A reason for this is that the pandemic began relatively recently; most studies reviewed here were conducted prior to 2020.
- 1.31 **(6) How have reforms been implemented? In particular, what changes to funding arrangements, workforce volume and structure, incentives or statutory requirements have been deployed or considered?**
- 1.32 Although some of the studies included in this review did provide some details as to how alternative school calendars were implemented, the review found no studies that detailed changes to the volume or structure of the workforce, or of any incentives or statutory requirements being used or considered.
- 1.33 Some studies did provide details of certain aspects of implementation, particularly studies that examined summer holiday provision. These aspects included the costs of delivery, the structures and organisations involved in planning and delivering provision, and the duration of provision.
- 1.34 **(7) What barriers and facilitators have been encountered and what have been their effects?**
- 1.35 This review found little available evidence as to the barriers to and facilitators of implementing YRE. Teachers in one study recommended the use of smaller class sizes, ensuring that students were taught by their usual teacher, and ensuring that 'remedial' lessons delivered during intersession weeks are engaging and different to 'normal' lessons.
- 1.36 Many studies that examined summer holiday provision reported on the barriers to and facilitators of delivering effective programmes. Reported barriers included low attendance, difficulty identifying and targeting students from disadvantaged backgrounds, costs and insufficient staffing. Staff expertise and experience, early planning, and effective collaboration with schools and other organisations were identified as facilitators.
- 1.37 The review found little available evidence regarding barriers to and facilitators of implementing extended school years. Directors of special education in Texas reported difficulty finding qualified staff who would work over the summer period as

the most common barrier to providing extended school year (ESY) services to students with ALN. This appeared to be a greater problem in rural areas. Other barriers reported by directors were determining the eligibility of students for ESY services, gaining support from parents, and a lack of financial resources. Directors in rural areas reported significantly more barriers than directors in non-rural areas.

- 1.38 Another study examined the impact of challenges in determining the eligibility of students with ALN for ESY services. Analysis here suggested that the way in which eligibility was determined kept students with ALN from accessing appropriate ESY provision.
- 1.39 The effects of reported barriers and facilitators varied across studies; not all researchers explicitly detailed the effects of these barriers and/or facilitators.
- 1.40 **(8) What is the nature of the activities provided within alternative calendars, outside of class teaching? What is the balance between class teaching, learning support activities, individual tuition, physical activity and creative/cultural activity in alternative calendars, and what are the effects of these allocations of activities? Who delivers these activities?**
- 1.41 The majority of studies included in this review did not examine the content or nature of the activities provided by schools that had adopted YRE calendars, or who delivered these activities.
- 1.42 Some researchers discussed the content and the nature of the activities that students undertook when they attended summer holiday provision. Researchers from three studies reported that attending students received instruction in literacy (or language arts) and numeracy every day during provision, and spent between approximately 150 minutes and half a day studying these subjects. The researchers from these three studies reported that the programmes they studied also contained enrichment activities. Other studies that evaluated summer holiday programmes provided some detail as to the types of activities that were offered during provision.
- 1.43 Studies included in this review did not explicitly consider the effects of the balance between different types of content, and how content was allocated within summer holiday provision. However, some studies did consider the effects of particular types of content upon children attending provision. A report summarising available evidence on summer schools stated that in order for a summer school to positively

impact students' academic achievement (including students from disadvantaged backgrounds), it must feature an academic component. In addition, a study examining the effects of a summer programme in Wales found that several specific elements of the programme were perceived by programme staff, parents and/or children to have produced positive impacts on attending children.

- 1.44 Some researchers discussed who was responsible for delivering summer holiday provision. However, most studies did not explicitly consider how the personnel responsible for delivering provision could influence the effectiveness of the summer holiday provision. One report, summarising existing evidence regarding summer schools, stated that where summer schools were delivered by teachers already familiar to the students, these schools produced approximately four months of additional learning gains on average, one month more than the average impact of summer schools upon learning generally.
- 1.45 Some studies also detailed the student-to-teacher ratio and/or class sizes of certain summer holiday programmes. However, very few studies detailed the effects of the student-to-teacher ratio or group sizes upon the effectiveness of provision. A report which summarised existing evidence regarding summer schools stated that summer schools which featured teaching in small groups or on a one-to-one basis tended to produce higher average impacts, and that in order for disadvantaged children to benefit from a summer school, the summer school would need to feature 'small group' or 'one-to-one' teaching.
- 1.46 This review found no studies that explored the content or the nature of activities delivered during extended school years, or who delivered content and/or activities during extended school years.

2. Recommendations

- 2.1 Due to the mixed and inconclusive nature of the evidence identified in this review, it is recommended that any proposed programme of school calendar change in Wales should incorporate high quality and thorough evidence gathering, at all stages, from planning and consultation stages, through to setting out a clear rationale, and to assessing implementation and impact.
- 2.2 Full and thorough engagement and consultation are recommended. This will allow the very broad range of groups affected by these changes to articulate what the potential impacts might be, will reveal effects not anticipated by policy makers, and will help ensure that robust monitoring and evaluation activity explores what matters to these groups. The views of groups who may not usually readily participate in this type of activity should be sought as a priority.
- 2.3 It is recommended that the reasoning and logic behind any proposed changes to the school year be clearly set out. This should include details of anticipated outcomes, including benefits to learner progress, attainment, health and wellbeing, practitioner health and wellbeing and workload and family life, and the economy. How and when these outcomes and benefits are expected to manifest themselves, and how they will be evaluated, should also be given explicit consideration and clearly described.
- 2.4 An evaluation programme which seeks to establish baselines in relation to the factors that changes will impact upon, and to include monitoring and evaluation of these factors to confidently understand their effects, is recommended. There was no reliable available evidence regarding the effects of changes to the school calendar upon key groups/areas of interest, such as childcare providers, the provision of wraparound care, Welsh-medium provision in education, and Welsh-speaking students. Additionally, there was limited evidence in relation to a number of outcomes, as outlined in the key findings. The effects of reforms upon these groups/areas should be of key concern.
- 2.5 Lastly, as this review found that many published articles do not contain specific details of implementation, it is recommended that policy-makers explore whether officials who have implemented reforms in this area would be willing to provide more information.

3. Background

- 3.1 This REA aims to explore and evaluate existing evidence regarding the optimum school calendar for facilitating academic achievement, improving and maintaining student health and wellbeing, providing a positive professional environment for teachers, promoting positive family life, and improving student conduct and behaviour. The REA also aims to explore evidence of the impacts of alternative school calendars upon Welsh-medium provision in education and upon specific groups of students, such as those from economically disadvantaged backgrounds. Additionally, evidence of other effects (for instance, economic effects) of changes to the school calendar is also considered.
- 3.2 By assessing the available evidence on this topic, this REA addresses an immediate policy priority, identified by the Welsh Government Programme for Government (2021, p. 6) and the Cooperation Agreement (2021, p. 8). The REA aims to inform policy decisions regarding the school calendar, and future changes to the current school calendar in Welsh public schools.
- 3.3 Under section 32A of the Education Act 2002, local authorities are responsible for setting school term dates (or governing bodies in the case of voluntary aided schools). Local authorities are under a duty to ensure that term dates are as similar as possible across maintained schools, by cooperating with local governing bodies and other local authorities in Wales. Following appropriate consultation, Welsh Ministers can direct local authorities or governing bodies in Wales to set particular term dates for a maintained school (section 32B, Education Act 2002).
- 3.4 In Wales, schools are required to provide a minimum of 380 sessions over the course of a year (Education (School Day and School Year) (Wales) Regulations 2003, regulation 4). The term 'sessions' refers to either a 'morning session' or 'afternoon session', therefore this requirement amounts to a total of 190 full school days per year. Teachers employed on a full-time basis are required to work for 194 days (of which 5 are inset days) over the year (School Teachers Pay and Conditions (Wales) Document 2021, paragraph 50.2).
- 3.5 Schools in Wales traditionally divide their school years into three terms, each of which are broken up by a one-week half term holiday. Summer holidays last six

weeks, and start between the middle and the end of July, finishing at the end of August for pupils to return to school during the first week of September. The traditional school calendar in Wales also features a two-week break for Christmas/New Year, and a two-week break for Spring/Easter (Eurydice 2020, p. 61).

- 3.6 In some ways, the school year in Wales is similar to the school years of other European countries.⁶ School years in most European countries begin at the start of September, and feature two-week breaks over the Christmas period. However, in Europe, the number of school days per year generally ranges between 170 days and 190 days. Therefore, the Welsh school year is relatively long, when compared to school years of other European countries. Additionally, the school year in Wales features a shorter summer holiday than most other European countries. England, Denmark, the Netherlands, Lichtenstein, and some German Länder use school years that feature six-week summer breaks; all other European countries give pupils longer summer breaks (Eurydice 2020, pp. 1-6).
- 3.7 For some time, academics, policy makers and practitioners in the field of education have debated the effects of different school calendars and changes to the traditional calendar. In considering and implementing alternative school calendars, policy makers generally seek to fulfil similar key aims. Generally, they aim to prevent 'holiday learning loss' (defined below), to close attainment gaps by assisting disadvantaged students, to provide children with access to a greater range of experiences, and to support families by facilitating parental employment (through the provision of 'childcare' outside of traditional school terms). Although debates regarding school calendars are being had in a large number of countries, US schools have presented researchers with considerable opportunities to investigate these effects, as a significant number of schools in the USA have adopted alternative calendars, and large-scale holiday provision is not uncommon.
- 3.8 Many of the US schools that adopt alternative school calendars adopt 'year-round education'. The term 'year-round education' (or YRE) refers to school calendars

⁶ Comparisons made between the school year in Wales and school years of other European countries are derived from 'The organisation of school time in Europe: Primary and general secondary education – 2020/21' by Eurydice (2020). This report presents data on the school years of the 38 countries that participated in the EU's Erasmus+ programme during 2020/2021. References to 'European countries' refer to these countries, and data on these countries provided by this report.

which distribute school holidays more evenly across the calendar year than traditional school calendars, with the aim of achieving ‘year-round’ education. Usually, YRE does not involve any increases in instructional time over the course of the year. Most studies included this review which investigated the effects of YRE examined calendars that redistributed school holidays, but retained the same number of school days per year as a ‘traditional’ school calendar in that area. Therefore, these studies examine the effects of redistribution of school holidays, and not the effects of increases in yearly learning time. One study (Isom 2020) examines the effects of a YRE calendar which also features increases in learning time; further detail on the nature of these interventions can be found in the ‘Findings’ chapter of this report.

- 3.9 Throughout this review, the terms ‘single-track’ and ‘multi-track’ are used to describe different types of year-round education. The term ‘single-track’ refers to year-round calendars that apply to all students in the same way at all times; all students are on holiday at the same time, and all students are in school at the same time. In contrast, ‘multi-track’ calendars stagger holidays and school terms across different groups of students. Under a multi-track year-round calendar, some students will be in school while others are on holiday, and vice versa (Fitzpatrick 2018, p. 2). Some studies consider the effects of single-track and multi-track YRE calendars separately, or only examine the impact of one of these categories of YRE. Where evidence refers to the impact of single-track or multi-track YRE specifically, this has been noted in the text.⁷
- 3.10 A key reason behind the adoption of YRE and summer holiday provision is concern about ‘summer learning loss.’ This term refers to the belief that students experience a decline in academic performance during the summer months, due to spending an extended period away from school. The phenomenon has been extensively researched in the USA; however, there is currently no evidence of this phenomenon in Wales, and ‘...no conclusive evidence on the extent of... holiday learning loss in England’ (Evans 2020, p. 4). One study indicated that pupils in England did experience a decline in their spelling performance over the course of one summer;

⁷ Studies which do not clearly state whether their findings apply to single-track YRE, multi-track YRE, or both, are Pedersen (2011), Pfeiffer (2011), Huffman (2013), Poppink, Ma and Shen (2019), Isom (2020), and Weaver et al (2020).

however, the sample size was too small for findings to be conclusive (n=77) (Evans 2020, pp. 14-15, citing Shinwell and Defeyter 2017). In addition, it is worth noting that US school calendars traditionally feature 13-week summer breaks, significantly longer than the 6-week breaks currently in use in England and in Wales (Evans 2020, p. 12). US school calendars are also traditionally 180 days long, 10 days fewer than Welsh school calendars. Therefore, we cannot assume that US reports of summer learning loss are applicable to Wales, or that changes to the school calendar (whether through the adoption of YRE, extended school years, or summer holiday provision) would have similar effects on key outcomes in Wales as those that have been recorded in the USA.

- 3.11 A number of studies included in this review examine the impacts of alternative school calendars or summer holiday provision upon students from economically disadvantaged backgrounds. Researchers use different indicators of economic disadvantage to investigate these effects. Studies from the UK use eligibility for free school meals (FSM) to indicate economic disadvantage for individual students.⁸ Similarly, some US studies use eligibility for free or reduced price meals under the National School Lunch Program⁹ as an indicator of economic disadvantage among individual pupils.¹⁰ Others use low socio-economic status as an indicator of economic disadvantage for individual students.¹¹

Structure of the REA

- 3.12 This review aimed to examine available evidence regarding the optimum school calendar, and the impacts of changes to school calendars. A wide range of search terms were used, relating both to types of interventions and to outcomes of interest (for a full list of search terms, please see Appendix A). In reviewing the available literature, three types of intervention were identified: redistribution of holidays over

⁸ The EEF (2021) report on summer schools is an exception here, as the majority of studies included in the report were undertaken in the USA, and span from 1965 to 2014. As such, references to 'disadvantage' in this report are based on studies which most likely use a variety of indicators to identify 'disadvantage'.

⁹ The National School Lunch Program provides free and reduced price meals to eligible children across the United States. Children may be eligible due to household income and family size, or they may be considered 'categorically eligible' due to their status as a migrant, runaway, homeless or foster child, or due to their participation in certain federally or state funded programmes (United States Department of Agriculture, 2017).

¹⁰ See Smith (2011, pp. 51-52), McCombs et al (2014, p. 59), Augustine et al (2016, p. 59), and Fitzpatrick and Burns (2019, p. 12). Jez and Wassmer refer to children categorised as 'socio-economically disadvantaged' by the California Department of Education; this department uses eligibility for free or reduced price meals and/or both parents lacking a high school degree to identify socio-economic disadvantage in students (p. 14).

¹¹ See Graves (2011, p. 1292) and Pedersen (2011, p. 40).

the year, the provision of summer holiday programming, and changes to the length of the school year. Where studies examined changes to the distribution of holidays throughout the year, this was exclusively in the context of YRE. Additionally, where researchers investigated the effects of changes to the length of the school year, this was always in the context of lengthening the school year. Therefore, findings for each key outcome are divided into subsections for each intervention:

- year-round education
- summer holiday provision¹²
- extended school years.

3.13 The review initially attempted to find evidence of the impacts of alternative calendars/changes to the calendar upon Welsh-medium provision in education, and upon students who attend Welsh-medium provision but speak another language at home (and vice versa). However, little to no evidence was available here. Therefore, a research question was constructed (Question 3) to explore the effects of alternative calendars upon education systems which feature language immersion and/or intensive language learning. Unfortunately, no relevant evidence was found to answer this question. Therefore, this review presents the minimal evidence available regarding effects upon Welsh-medium provision and multi-lingual Welsh-speaking pupils. Alongside this, the review considers evidence of the effects of alternative calendars in English-speaking countries upon pupils whose first language is not English. Although this evidence is less relevant to the question of how alternative calendars would impact upon Welsh-medium provision and multi-lingual Welsh speaking pupils, it is still important to consider the impact of these changes upon pupils whose first language is not English, or are not confident English speakers.

3.14 Originally, this review was intended to answer further questions regarding the implementation of alternative calendars, their educational and enrichment content, the personnel responsible for delivering summer holiday provision, and the reasons that schools/governing bodies chose to adopt alternative calendars. However, it was

¹² The term 'summer holiday provision' is used to refer to provision of care to school-aged children during the summer break. Geary, Awoyemi and Gracey (2020) and Lowndes and Dennison (2012) both examined provision that was offered during the summer break, but also outside of it. For the sake of clarity, the term 'summer holiday provision' is also used to refer to these studies.

not feasible to answer these questions in the time available, so evidence relating to these questions is not presented here. Consequently, the review seeks to answer the following questions:

- (1) What evidence is there demonstrating effects and impacts of reforms to the school calendar, particularly in relation to learning, child mental health, physical health and wellbeing, wraparound care and family life?**
- (2) Are specific impacts upon disadvantaged and/or other groups of learners examined or identified? What are they? How do alternative calendars impact provision for students with ALN, and the learning and wellbeing of those students?**
- (3) What evidence is there of alternative calendars being applied or considered in contexts where language immersion, or intensive language learning, is a feature of education provision? How have these considerations been approached in the planning and delivery of the alternative calendars? What are the effects of alternative calendars on this feature of provision?**
- (4) What other effects have been demonstrated or suggested?**
- (5) What factors have led to these reforms? Have these reforms been accompanied by wider changes (e.g. changes to the number of teachers, or changes to the curriculum)? If so, what are these changes? Have these reforms been made specifically in response to the Covid-19 pandemic?**
- (6) How have reforms been implemented? In particular, what changes to funding arrangements, workforce volume and structure, incentives or statutory requirements have been deployed or considered?**
- (7) What barriers and facilitators have been encountered and what have been their effects?**

- (8) What is the nature of the activities provided within alternative calendars, outside of class teaching? What is the balance between class teaching, learning support activities, individual tuition, physical activity and creative/cultural activity in alternative calendars, and what are the effects of these allocations of activities? Who delivers these activities?**

4. Methodology

- 4.1 This review is a Rapid Evidence Assessment; as such, the evidence presented and evaluated here does not represent an exhaustive list of available research on school calendars, and the report was not constructed using a full systematic review process.
- 4.2 The Welsh Government Library Service conducted two literature searches for the purposes of this review. Both literature searches used terms relating not only to alternative school calendars and changes to the school calendar, but also to various other interventions to the school timetable (such as extended school days and asymmetric school weeks). Lists of key search terms and databases for both searches can be found in Appendix A.
- 4.3 The first search was conducted between 2 June and 16 June 2021. Studies were only included if they had been published in the last 10 years, and published in English. Journal articles, government reports and grey literature were included in the results, and the search produced 294 results. Although the first search produced a significant amount of evidence relating to several outcomes, it produces no (or very little) evidence relating to a number of key areas of interest. These related to the impact of alternative school calendars/changes to the school calendar upon:
- education systems where language immersion and/or intensive language learning is a key feature of provision
 - bilingual Welsh language speaking students
 - pupils with ALN, and upon provision for these pupils
 - wraparound care
 - childcare providers.
- 4.4 The second search was designed to find evidence relating to these outcomes, and was conducted between 14 July and 4 August 2021. Studies were only included if they had been published in the last 10 years, and both English and Welsh language studies were included. The search included journal articles, government reports and grey literature, and produced 65 results.

4.5 Results from these searches were subjected to a two-stage screening process. Initially, abstracts were screened for relevance to any of the research questions, and whether they provided any evidence backed by empirical research. At this stage, research questions related to optimum school timetables as well as calendars, and the effects of changes to the school year, the school week, and the school day. Additionally, research questions regarding the implementation, educational/enrichment content and delivery of alternative school calendars/weeks/years were used in the screening process. Screening abstracts for relevance to the research questions and empirical research could not reduce the number of results to a manageable number (i.e. around 100 results), in order to screen the full texts of each result. Therefore, results were then screened for relevance to the following key outcomes of interest:

- effects upon student learning
- effects upon children's physical health, mental health and wellbeing
- effects upon students from specific groups
- effects upon teachers and staff
- effects upon student behaviour and attendance
- any other societal effects.

4.6 As a number of results provided evidence regarding multiple key outcomes, some studies that addressed only one outcome were excluded. In the second stage of the screening process, the full texts of results were screened for direct relevance to the research questions. Results were excluded if they contained no evidence published in the last 10 years, relating to the impact of particular school calendars/changes to the school calendar on children aged 3-18, or upon teachers and other school staff, or wider society. One study was unavailable for evaluation in its full text format.¹³

4.7 Methodological strength was not a criterion in either stage of the screening process (although studies were excluded if they did not report sample sizes for all methods of data collection used). Given the existing time constraints, it was not possible to evaluate the methodologies used in each study during the screening process. In

¹³ This article was Yeşil Dağlı, Ü. (2019). [Effect of increased instructional time on student achievement](#). *Educational Review*, 71(4), pp. 501-517.

addition, the quality of evidence varies considerably across outcomes. For instance, findings regarding effects upon academic outcomes are supported by large-scale studies using quasi-experimental research designs, whereas most studies relating to effects upon student health and wellbeing did not utilise control/comparison groups. As such, this review contains both quantitative and qualitative studies, and sample sizes vary widely. The strengths and limitations of studies included in this review is available in the 'Limitations' section.

- 4.8 Following the two-stage screening process, it was decided that this review would focus exclusively upon the optimum school calendar, and the impacts of changes to the school calendar. Results were then screened for evidence relating to the research questions included in this review at [3.14](#). Following these screening processes, 33 resources were retained, and evidence from these resources is presented in the 'Findings' section of this review.

5. Findings

Effects upon student learning

Year-round education

- 5.1 Jez and Wassmer investigated the impact of multi-track YRE upon the Academic Performance Index (API) scores of elementary schools in California (2011, pp. 16, 19-20). Schools were chosen in a quasi-random selection process (n=298), and their API scores from 2005/2006 were analysed (p. 11, 14, 16, 18). After comparing scores from 2005/2006 to those achieved in the previous year, they found that multi-track YRE produced a positive, significant¹⁴ impact upon schools' growth in API.¹⁵ Multi-track YRE was found to produce an increase in API growth scores of 11.1 points (pp. 11, 19-20).¹⁶
- 5.2 A recent meta-analysis, conducted by Fitzpatrick and Burns, examined the academic attainment of students attending single-track YRE schools in the USA. Studies included (30 studies) were published between 2001 and 2016, and provide evidence of the impacts of single-track YRE upon the academic performance of students from Kindergarten (year 1) to the 12th grade (17-18 years) (2019, pp. 1-2). Several studies included here compared schools that utilised single-track YRE with traditional-calendar schools that were similar to one another, or nearby to one another. Alternatively, studies compared data the performance of cohorts at the same school, where at least one cohort had been taught under a traditional calendar, and at least one cohort had been taught under single-track YRE (p. 5). Fitzpatrick and Burns found that, on average, students attending single-track YRE schools experienced higher mean scores in reading and maths, equivalent to just over one month's learning in reading, and just under one month's learning in maths. Gains in reading were significant and nearly equivalent for elementary and middle

¹⁴ Effects and impacts described as 'significant' are statistically significant at the 5 per cent level. Augustine et al (2016), Sandoval-Hernandez et al (2013), and Weaver et al (2020) describe effects as being 'statistically significant', but do not specify at what level.

¹⁵ The majority of studies included in this review utilised control variables, to minimise distortion of findings by confounding factors. Due to the length of this review, it was not feasible to include exhaustive lists of all control variables for each study. Further details regarding these studies and their establishment of causation are available in the 'Limitations' section. For a full list of control variables for each study, please see individual studies (linked in the 'References' section).

¹⁶ API scores are based on performance in standardised tests, and in California, school scores range from 200 to 1,000 (Jez and Wassmer 2011, p. 11).

school students, while achievement in maths increased significantly for middle school students, but not elementary school students (pp. 2, 13). Schools that reduced the summer break to the fewest weeks demonstrated the largest effects upon performance in maths and reading (p. 1). However, the authors also found that single-track YRE made no significant impact upon the percentage of students classified as 'proficient' in maths or in reading.¹⁷

- 5.3 Fitzpatrick also conducted a meta-analysis, examining the impact of single-track YRE upon student achievement in science and social studies (n=7 studies – 2018, p. 1). The studies included provided data on the performance of students from grades three to eight (ages 8-9 and 13-14 years) in science and in social studies, and were all undertaken in Texas or the south-eastern USA. All but two of the studies included were published before 2011; the majority of included studies were published during the early to mid-2000s (p. 4). Synthesising data from these seven studies, Fitzpatrick concluded that although single-track YRE had no significant impact upon performance in social studies, there was a significant and positive impact upon performance in science, when compared with performance in schools operating under a traditional US school calendar (pp. 4-5).
- 5.4 Smith examined the effects of multi-track YRE calendars upon the academic achievement of students in Wake County, North Carolina. Using the transition of 23 schools in the county to multi-track YRE in 2007 as a natural experiment,¹⁸ she examined student test scores from the school years 2004/2005 to 2008/2009, comparing scores from before and after the transition (2011, pp. 45, 49). In addition, she compared the scores of students attending multi-track YRE schools in Wake County to those of students attending similar, traditional calendar schools (n=>200,000) (pp. 49, 61). During the transition to multi-track YRE, no other changes were made to leadership, staff, or the curriculum (p. 46). Smith found that multi-track YRE produced no significant effects upon achievement in reading or in maths (pp. 82, 84). Smith's conclusion as to the effects of multi-track YRE in Wake

¹⁷ This refers to the percentage of children in a given cohort or school that were classed as 'proficient' in either maths or reading, through the use of testing. Fitzpatrick and Burns (2019) did not specify how each study assessed proficiency in these subjects, and it is likely that there was variation among the studies included in the meta-analysis as to how proficiency was assessed.

¹⁸ Depro and Rouse, in examining this transition to multi-track YRE, state that these alternative calendars provide 45-day blocks of instruction, followed by 15-day breaks (2015, p. 159).

County has been supported by research undertaken by McMullen and Rouse (2012). The authors examined the achievement of students from the school years 2004/2005 to 2008/2009 (n=69,353) (p. 815). They found no significant relationship between attending a multi-track YRE school and performance in maths or in reading. However, their analysis indicated that multi-track YRE mitigated against the negative impact of severe school crowding upon achievement in reading (but not in maths) (p. 820).

- 5.5 Graves analysed test scores of all public school students in California from 1998 to 2007 (n=247,198 observations), to investigate the impact of both single-track and multi-track YRE on attainment in reading and maths (2011, pp. 1284, 1287). Graves found that, overall, neither multi-track YRE nor single-track YRE consistently produced significant effects upon student performance in reading, maths or language (pp. 1290-1291). However, when examining the effects of YRE after it had been implemented for a particular number of years (e.g. two years), Graves found that multi-track YRE had significant and negative effects upon student performance in maths, reading and language across multiple years of implementation. These results were not uniform; sometimes, multi-track YRE produced no significant effects on student performance in certain subjects for particular years of implementation, and estimates of impact varied across specifications. Single-track YRE did not consistently produce significant positive or negative effects upon student achievement, after specific years of implementation (pp. 1290-1291).
- 5.6 Pedersen examined the impact of YRE upon student performance in California, Illinois, and Texas (2011, p. 37). The study compared the mean scores in standardised state tests of YRE high schools with those of similar, traditional calendar high schools in the same state (n=52 schools in total – p. 1). Pedersen examined test scores from the academic years 2007/2008, 2008/2009, and 2009/2010 (p. 1). In California, Illinois and Texas, there were no significant differences in standardised state test scores in literacy between YRE schools and traditional schools, in any of the three academic years examined (pp. 39-40, 53-54, 63-64). In California and in Texas, there were no significant differences in standardised state test scores in maths between YRE schools and traditional schools, in any of the three academic years examined (pp. 47, 69-70). In Illinois, traditional schools achieved significantly higher standardised state test scores in

maths than YRE schools during the academic year 2007/2008. However, there were no significant differences between the scores of traditional and YRE schools in maths for the academic years 2008/2009 and 2009/2010. Therefore, there was no consistent evidence to show that YRE made a significant impact upon performance in maths in any of the three states (p. 58).

- 5.7 Pfeiffer investigated the impact of YRE upon graduation rates in a single high school in California (2011, p. 84). The high school switched to a YRE calendar in 2003, and in order to successfully graduate, students have to pass a standardised test (pp. 8, 67). Pfeiffer examined graduation rates from 2003/2004 to 2009/2010 (n=201-298 students, depending upon academic year). Pfeiffer found that YRE appeared to have no significant impact upon graduation rates over four years of implementation (pp. 84-85). YRE did appear to have a significant and positive impact upon graduation rates during the last two examined academic years, as the graduation rate improved by nearly 9 per cent and 11 per cent respectively.¹⁹ However, the author notes that simultaneous educational interventions were made at the school during this time, and therefore it is likely that at least some of the increase in the graduation rate during these years is attributable to this intervention, and not to YRE (p. 85). In any case, this does not provide consistent evidence of positive impacts upon academic attainment driven by YRE.
- 5.8 Poppink, Ma and Shen considered the effects of YRE upon whether schools made 'Adequate Yearly Progress' (AYP)²⁰ (2019, pp. 1-2). They utilised data generated by the 2007/2008 Schools and Staffing Survey (SASS), which randomly selected and sampled US schools. The authors examined data on elementary, middle and high schools (n=7,460 schools) (p. 9). In addition, they considered whether rural, suburban, and urban schools were impacted differently by YRE (p. 8). The authors found that YRE had no significant effect upon whether schools made AYP or stayed off the mandatory improvement list, whether they were urban, suburban, or rural (pp. 11, 14-15, 17-18).

¹⁹ For confidence intervals, please see individual studies (a full list of links is provided in the 'References' section).

²⁰ 'Adequate Yearly Progress' refers to progress made throughout the year towards state academic standards (Poppink, Ma and Shen 2019, p. 28).

Summer holiday provision

- 5.9 The Education Endowment Foundation (2021) summarised the findings of 59 studies examining the impact of summer schools upon academic achievement. The studies were published between 1965 and 2014. The majority of studies were conducted in the USA, although three studies from the UK were also included. The summarised evidence indicated that summer schools provide, on average, three months of additional progress to students, with similar effects experienced by primary and secondary school pupils. Summer school appeared to have a greater positive effect upon performance in literacy, delivering an average of three months' additional progress, while performance in maths saw an average of two months' additional progress. There was also limited evidence indicating that summer school positively affected performance in science. However, the EEF described the security of existing evidence here as 'low,' owing to a lack of available randomised control trials. Additionally, the EEF reported that the capacity of a summer schools to produce positive effects upon academic achievement depended heavily on the content and delivery of the summer schools programmes (see [5.129](#)). The EEF also noted that summer schools had significant cost and staffing implications (see [5.107](#) and [5.114](#)).
- 5.10 Beach and Traga Philippakos investigated the impact of a summer reading programme upon 'rising' second and third grade (ages seven to nine years) students (2021, p. 173). The programme lasted 23 days, and provided 42 hours of literacy instruction in total (on average, this amounted to two hours per day – p. 175). To be eligible to participate, students had to attend a school in which over 98 per cent of pupils participated in the National School Lunch Programme, and be underperforming in reading. Participants were selected from schools situated within a single urban school district in the south-east of the USA (n=128) (pp. 173-174). The authors found that students who received the summer intervention experienced significant improvements in oral reading fluency. Additionally, at the end of the programme, students who received the intervention achieved higher scores in oral reading fluency (rising second grade students) or in reading accuracy (rising third grade students) than students who did not receive the intervention (pp. 169, 181, 183).

- 5.11 Siddiqui, Gorard and See evaluated the effects of a summer school in north-east London upon the achievement of pupils (2014, p. 127). Data was collected in 2012, and the programme lasted for four weeks (pp. 125, 127). Pupils participating in the summer school were about to enter either year six or year seven, and the total sample size ranged between 47 and 110 for different outcomes (due to missing data for certain year groups and subject scores – pp. 125, 132). The summer school provided both academic content and enrichment activities (p. 127). Siddiqui, Gorard and See examined the test scores of participating students before and after they attended the summer school, and compared the post-summer school test scores of students to the scores of students who hadn't participated in the summer school (p. 127). They found that, over the summer, reading and numeracy achievement increased for students entering year seven over the summer, regardless of whether they had attended the summer school. Furthermore, Siddiqui, Gorard and See found that the 'size' of these increases were very similar (p. 131). Similarly, they found that students entering year six experienced decreases in their reading, writing and maths scores over the summer, regardless of whether or not they had attended the summer school. For students entering year six, those who had attended the summer school experienced greater decreases in their scores (p. 132). This indicates that participating children did not experience academic benefits as a result of attending the summer school.
- 5.12 Gorard, Siddiqui and See also evaluated the effects of a four-week summer school in England upon academic achievement for pupils about to enter years six and seven (2015, p. 1). This summer school was delivered in 2013, and provided both academic instruction and enrichment activities. Three sites were chosen to deliver the summer school, and these were situated in Brighton, Enfield and Islington (p. 2). The summer school was targeted specifically towards disadvantaged pupils (n=303) (pp. 1, 4). Gorard, Siddiqui and See used pre and post-summer school test scores, and assigned students to a treatment or a control group, in order to evaluate the impact of the summer school upon academic performance (p. 4). Their initial findings indicated that the summer school had a positive impact upon students' progress in maths and in English, as students who had attended the summer school gained higher test scores after the programme had ended. However, when the pre-summer school test scores of both the treatment and the control group were

considered, the authors found that summer school appeared to have had a minor detrimental effect upon the achievement of attending students in maths. As the study provided inconsistent findings regarding the impact of the summer school upon academic achievement, and the programme struggled with a high drop-out rate, Gorard, Siddiqui and See cautioned that this study does not offer ‘...particularly secure evidence of a benefit for attainment from attending a summer school’ (pp. 5-6).

- 5.13 Researchers have conducted larger-scale studies examining the impact of summer schools upon academic attainment in the USA. McCombs et al evaluated the impact of summer school programmes across five urban districts in the USA (2014, pp. 4-5). Programmes offered between 23 and 30 days of provision (p. 26). Parents applied for their child to attend a summer school, and a lottery was then used to randomly assign places to children (p. 20). McCombs et al examined the achievement of students who had participated in the lottery from 2013 to 2014 (those who were assigned a place received two years of summer school – pp. xi-xii). The performance of students was tracked as they moved from the third grade (8-9 years) to the fifth grade (10-11 years) (p. iii). The sample size was 5,127 for performance in maths and 5,099 for performance in reading (p. 15). They found that attending summer school for one year had a significant positive impact upon attainment in maths. However, they also found that the summer schools had no significant impact upon performance in reading (p. xiii). Later, Augustine et al evaluated the effects of two years of summer school provision (in 2013 and 2014) upon the academic attainment of the participating students, up to spring 2015 (2016, p. xiv). Programmes offered between 24 and 30 days of provision (pp. 5-6). They found no evidence to indicate that two consecutive years of summer schooling had any additional, significant impacts upon student performance, other than the positive impact to performance in maths after one year of summer school provision, noted by McCombs et al (2014) (p. 60). Additionally, they found no evidence to indicate that this initial improvement to achievement in maths lasted beyond the first autumn immediately following summer school attendance (p. 60).

Extended school years

- 5.14 Jez and Wassmer (2011) examined the impact of learning time across an academic year upon the academic performance of schools (API) in California (2011, p. 11). Schools were asked to provide information as to how much time in the school year was allocated to teaching (n=298) (pp. 13-14, 18). The authors found that increased annual teaching time produced a significant and positive impact on schools' API scores. An increase in annual teaching time of one minute produced an increase of 0.0016 points, and adding around one week of additional lessons over the course of the school year produced, on average, a 1 per cent increase in overall academic achievement (pp. 2, 20).
- 5.15 Sandoval-Hernandez et al (2013) et al used data from the *Progress in International Reading Literacy Study* (PIRLS) to examine the relationship between hours per school year spent in the classroom and the average reading comprehension of fourth grade (9-10 years) students. The authors used data collected in 2006 and 2011, from 45 and 60 countries and 'benchmarking entities'²¹ respectively (2013, p. 3). They found that, for the majority of examined countries, increases in the number of hours spent in the classroom over the year did not produce comparable gain in reading scores. Correlation coefficients varied widely, and none were statistically significant (p. 4). The authors also evaluated data, provided by teachers, reporting what proportion of classroom time was dedicated to '...effective teaching time' (i.e., instructing the whole class, or assisting small groups or individual students, rather than dealing with administrative tasks or disruptions – p. 5). In examining data provided by PIRLS 2006, they found that increases in effective teaching time and increases in reading scores were only positively and significantly correlated in a third of the examined countries. However, the relationship between increased effective teaching time and increased reading scores was considerably stronger than the relationship between increased hours in the classroom per year and increased reading scores (p. 6).
- 5.16 Although the majority of studies here focus on the impact of either YRE or summer holiday programmes, some studies also examine the effects of the length of the

²¹ The term 'bench-marking entities' refers to geographical areas that are not countries, such as US states and Canadian provinces (2013, p. 3).

school year upon academic achievement. Poppink, Ma and Shen (2019) evaluated the impact of the number of school days per year upon whether schools made ‘...Adequate Yearly Progress (AYP)...’ (2019, pp. 1-2). The authors found that the number of school days per year did not significantly affect whether schools made AYP or stayed off the mandatory improvement list, whether they were urban, suburban, or rural (pp. 11, 14-15, 17-18).

- 5.17 Additionally, Wu examined data derived from TIMSS assessments²² to compare the separate impacts of lengthening the school year and lengthening the school day (2020, p. 105). He examined the test scores of eighth grade (13-14 years) students from 1995 to 2007 (n=80 countries) (p. 106). Wu found that effects upon academic attainment produced by increasing instructional time were chiefly related to the length of the school day, rather than the length of the school year (p. 107).

Effects upon children’s mental health, physical health and wellbeing

Year-round education

- 5.18 Weaver et al examined the impact of YRE on the weight and fitness of children aged 5 to 12 years (n=990) (2020, p. 18). Participating students each attended one of three schools within a single school district in the south-east of the USA, and data was collected from summer 2017 to summer 2018 (pp. 18, 25). One of the schools used a YRE calendar, and the other two schools utilised traditional US school calendars (p. 18). The schools using traditional calendars were ‘matched’ to the YRE school, on the basis of similar demographic characteristics across the student body (p. 19). At the outset, the researchers measured the height, weight and cardiorespiratory fitness (CRF) of participating students. They measured changes to several health outcomes – these were: ‘...body mass index (BMI), age and sex-specific [standardised] BMI ...scores..., BMI percentile, per cent of overweight or obese children, and CRF (Progressive Aerobic Cardiovascular Endurance Runs laps completed)...’ (PACER laps – p. 18). The authors found that, from summer 2017 to summer 2018, students attending the YRE school gained fewer BMI units than students attending traditional calendar schools. The difference was significant

²² The Trends in International Mathematics and Science Study examines the performance of pupils in maths and science across countries, and takes place every four years (Pearson (no date)).

but small (difference of -0.44 – p. 22). However, the authors also found, from summer 2017 to summer 2018, that students attending the YRE school gained less in CRF than students attending the traditional calendar schools. Again, the difference was significant, but small (difference of -1.92 – p. 23). The authors cautioned that this finding can be more safely interpreted as indicating that YRE calendars do not produce positive impacts upon students' development of cardiorespiratory fitness, rather than having negative impacts (pp. 24-25). Additionally, from summer 2017 to summer 2018, YRE had no significant impacts upon standardised BMI scores, BMI percentile, or on the percentage of overweight or obese children (pp. 22-23). There were some indications that YRE had small but significant positive effects upon health outcomes during the summer. During both summer 2017 and summer 2018, students attending the YRE school gained fewer BMI units per month than students attending the traditional calendar schools (differences of -0.15 and -0.16 respectively – p. 23). Children attending the YRE school lost standardised BMI score units per month during summer 2017 and summer 2018, whereas children attending the traditional calendar schools gained standardised BMI score units per month during summer 2017 and summer 2018 (differences of -0.03 and -0.03 respectively – p. 23). Furthermore, during summer 2017, children attending the YRE school made a greater increase in the number of PACER laps they completed per month than children attending the traditional calendar schools (difference of 0.40 – p. 24). However, any positive impacts of YRE upon the measured health outcomes did not last throughout the school year. Throughout the school year 2017-2018, YRE students gained significantly more BMI units per month than traditional calendar students (difference of 0.05), and lost 0.02 PACER laps per month, while traditional calendar students gained 0.41 PACER laps per month. In addition, in the YRE school, the percentage of overweight or obese students rose by 0.34 per cent per month during the school year, while this percentage remained stable for traditional calendar schools (pp. 23-24). Therefore, it appears that although YRE appears to have produced a small reduction in BMI over the course of one calendar year, and some positive impacts on health outcomes over the summer, it did not produce positive impacts upon the development of cardiorespiratory fitness, and positive impacts upon summer health outcomes did not persist over the course of the school year.

- 5.19 Pfeiffer (2011) conducted interviews with teachers and other school staff (n=11), regarding the impact of YRE upon students in a California high school (pp. 7, 66). All staff reported that the YRE calendar reduced stress among students (p. 79).

Summer holiday provision

- 5.20 There is some evidence as to the impact of summer holiday programmes in Wales upon health outcomes. Data Cymru, on behalf of the Welsh Local Government Association (WLGA), produced a report examining the effects of the 'Food and Fun' School Holiday Enrichment Programme (Data Cymru, 2020). The programme aims to deliver long-term positive impacts upon the health and wellbeing of children living in deprived areas in Wales. In 2019, the programme was implemented by 76 schemes across Wales, in 21 local authorities. The programme stipulates that schemes must last at least twelve days, and be delivered over the course of at least three consecutive weeks (p. 1). On average, children attend the scheme on 7.9 days (p. 6). Although the programme targets children between the ages of 7 and 11, provision also exists for children outside of this age range (p. 1). Schemes deliver enrichment activities, structured physical activity, educational content focused upon nutrition, breakfasts and lunches, and one family meal per week (p. 2). Data Cymru used five case studies to examine the implementation and effects of SHEP in different settings and upon different groups of students. The case studies focused upon a rural Welsh medium primary scheme, an ALN scheme, a scheme delivered in a town in West Wales, an urban primary scheme, and a scheme targeting pupils transitioning from primary to secondary school (p. 4). Data was collected from 'stakeholder interviews' with two members of staff from each case study scheme (n=10), parents' focus groups (sample size varied from two to eight participants for each case study), and children's workshops (sample size varied from six to eight participants for each case study). Additionally, questionnaires were given to children (and their parents) attending SHEP schemes across Wales (sample sizes of responses to questionnaires were not provided) (pp. 4-5). Information regarding impacts upon nutrition education was also provided by staff who attended 'Nutrition Skills for Life' training (sample size not provided – p. 5).
- 5.21 Data Cymru reported that there had been '...an evidenced reduction...' in the stress levels of children in the 'ALN' case study, and in the anxiety of children in the

'transition' case study about entering secondary school (p. 11). 81 per cent of children surveyed agreed with the statement 'I am looking forward to going to school in September' (p. 21). Parents from all five case studies referred to improvements in their child's mental health and emotional wellbeing; children from three of the case studies reported these improvements themselves (p. 11). In addition, parents and stakeholders from all five case studies noted that attending SHEP had improved the children's social skills development. This link was also reported by children from two of the case studies, and supported by the survey responses of parents and children (p. 13). 86 per cent of children reported that, following their attendance of SHEP, they had more confidence in their ability to learn new things (p. 23). Furthermore, in four of the five case studies, parents and stakeholders reported improvements in children's enjoyment of sports and physical activities. This was supported by answers provided by surveyed children (p. 29). In all five case studies, children, parents and stakeholders reported an increase in intentions to take part in sports after the holidays. This was supported by questionnaire responses from children and parents, with 87 per cent of children reporting that they would '[b]e more physically active or do more exercise', and 84 per cent reporting that they would '[t]ry more new sports or activities' after SHEP finished (p. 27). However, parents and stakeholders from two case studies ('urban' and 'ALN') reported that the actual continued participation of children in sports after the end of the holidays was modest or short-lived (p. 28). After attending SHEP, 93 per cent of children reported that they '...[understood] more about looking after [themselves] with healthy food and exercise', and 81 per cent reported that they would '[m]ake healthier food choices' after SHEP. In all five case studies, stakeholders reported '...short-term improvement in dietary attitudes' (p. 33). However, there was no evidence to indicate that SHEP provision had any long-term impacts upon take-up of school meals among participating children (p. 41).

- 5.22 Geary, Awoyemi and Gracey (2020) evaluated the impact of a pilot scheme, designed to tackle holiday hunger through play settings in Wales. The pilot was intended to complement SHEP, as SHEP's principal aim is to reduce summer learning loss among deprived children, rather than addressing holiday hunger. Although SHEP schemes do provide food during the holidays, such provision is not a key aim of the programme (2020, p. 10). The project ran over the summer holiday

and October half-term holiday in 2019, and took place in a range of play settings across Wales (p. 6). In total, the pilot reached 3,650 (summer) and 450 (October) children. Settings offered up to five days of provision per week over the summer holidays (pp. 18-19). 16 per cent of children participating were under 4 years of age, 29 per cent were aged 4-7 years, 37 per cent were aged 8-11 years, and 18 per cent were aged 12 and over (pp. 20, 22). Geary, Awoyemi and Gracey utilised monitoring information and questionnaire responses provided by settings (n=38 settings), children's and young people's responses to surveys (n=753), survey responses from adults responsible for taking children and young people to delivery sites (n=346), and votes from children, young people, and adults who accompanied them to delivery sites (no sample size provided – p. 13). 43 per cent of children and young people reported feeling less hungry on the days that they attended provision than on the days they did not; 35 per cent reported that they did not feel less hungry on days that they attended provision (p. 25). 46 per cent of parents stated that their child had benefitted from being happier, due to attending provision (p. 28). In addition, 65 per cent of parents reported that the provision had provided their child with the opportunity to socialise (p. 29). Both parents and children/young people indicated that on the days when they attended provision, they were more active. 73 per cent of parents stated that due to attending provision, their children had experienced benefits from increased physical activity (p. 29). In addition, all settings indicated that they felt their delivery of provision had helped to reduce holiday hunger (p. 30). 45 per cent of settings stated that they had observed children eating more healthily during provision, or that they had heard children make comments about eating more fruits and vegetables (p. 31).

- 5.23 A number of researchers have also investigated the effects of summer holiday programmes upon health and wellbeing outcomes in England. Martin, Sharp and Mehta evaluate the effects of a summer schools programme, designed to prepare pupils, who are either eligible for Free School Meals (FSM) or who have been looked after by the local authority for more than six months continuously, to transition successfully from primary school to secondary school (2013, p. 1). These summer schools were implemented across England during summer 2012 (total number of summer schools: 1,776), and each ran provision for up to two weeks (pp. 1, 4). They aimed to familiarise pupils with their new schools (and vice versa), and

to increase academic performance among disadvantaged pupils, by reducing learning loss during the transition period (p. 6). Schools taking part in the programme were surveyed (n=877 schools), and case studies were undertaken in ten schools (p. 7). In addition, Martin, Sharp and Mehta surveyed children who did and did not attend the summer schools, to examine the effects of the programme (n=19,629 – p. 12). A random sample of pupils from the treatment group were surveyed, and their responses were compared to those of similar pupils attending matched comparison schools (pp. 10, 12). The authors used the National Pupil Database (NPD) to match students to specific demographic criteria (p. 13). Data from the pupil survey indicated that 91 per cent of pupils who attended one of the summer school programmes either agreed or strongly agreed that they had made new friends. In addition, 84 per cent of pupils who attended one of the summer school programmes either agreed or strongly agreed that they felt more confident about starting secondary school (p. 21). The authors found that pupils who attended one of the summer school programmes were significantly more confident, had significantly higher levels of school readiness, and had significantly higher levels of socialisation. However, they also found that summer school attendance only explained a small amount of the variance in pupils' confidence, school readiness, and socialisation scores (pp. 26, 28, 30). Therefore, the authors advised that relationships between summer school attendance and these outcomes should be interpreted as associations, rather than directly causal relationships (p. 33).

- 5.24 The 'Holiday Activities and Food' programme (HAF) was piloted in England during summer 2019 (following a '...proof of concept...' undertaken in 2018) by the Department of Education (DfE). DfE made 11 grants to local coordinators across England, intended to fund the provision of healthy meals and enrichment activities by local holiday clubs. The programme was intended to serve disadvantaged children and their families in particular (Campbell-Jack et al 2020, pp. 9-10). Of the providers who delivered the programme in 2019 and an earlier version of the programme in 2018, 91 per cent delivered at least four hours of provision per day, for four days per week, for four weeks of the holiday period (p. 29). The authors undertook an extensive evaluation of the programme, and conducted surveys of attendees. Young people attending provision funded by the programme were split into two age groups (8-11 and over 12s), and provided with shorter or longer

surveys, depending on their age group (n=862 for 8-11 group; n=269 for 12 and over group – p. 102). Parents of attendees were also surveyed (n=370 – p. 103). 66 per cent of the '8-11 group', and 59 per cent of the '12 and over' group agreed '...a lot...' that attending provision had helped them in making new friends. In addition, both parents and young people commonly reported that the provision had had positive impacts on the wellbeing of the young people attending; however, the report does not provide any indication as to the proportion of parents/young people who reported this effect (p. 83).

5.25 In the north-east of England, the programme 'A Day Out, Not a Handout' supported and coordinated holiday club provision across 17 clubs, operating in four local authority areas in the north-east of England, throughout summer 2017 (Defeyter et al 2018, p. 1). The scheme aimed to tackle holiday hunger in children and social isolation, as well as improve the emotional wellbeing of children attending. 76 per cent of clubs offered provision for 16 days; the others offered provision for between 20 and 29 days (p. 29). All clubs within the programme provided meals for children, as well as activities for children and their families (p. 12). Defeyter et al undertook an evaluation of the impacts of the programme, surveying children attending the clubs (n=266) as well as parents of children attending the clubs (n=133) (pp. 17, 21). One of the questionnaires provided to children focused on children's nutrition during two 24-hour periods, one during which they attended a club, and one during which they did not attend a club (n=196 – p. 16). Additionally, the researchers conducted focus groups of children attending the clubs (sample sizes ranged from 3 to 38 participants per club; total number of focus group participants across the programme: 220). Participants in this group were aged between 4 and 12 years; the majority were aged between 7 and 9 years (pp. 17, 21). Lastly, parents of attendees (n=77) and staff (n=64) were interviewed (p. 19). Survey findings indicated that attending the clubs had a number of significant, positive impacts upon health outcomes for children, particularly with regard to their diets and levels of physical exercise. Children's consumption of fruit, vegetables and water was more frequent on a day during which they attended one of the clubs, when compared to their consumption on a day during which they did not attend one of the clubs. Additionally, on a day during which children attended one of the clubs, their consumption of unhealthy foods (e.g., sugary drinks, energy drinks, fast food, etc.)

was less frequent than it was on a day during which they did not attend one of the clubs. On days during which children attended one of the clubs, their engagement in physical activity was more frequent than on days during which they did not attend. Children reported feeling happier on days during which they attended one of the clubs, and reported that their physical health, confidence, friendships and self-esteem had improved over the summer (pp. 41-42). 93 per cent of parents reported that the clubs had given their children a structured routine over the holidays (p.150). During focus groups, children reported engaging in physical activities, eating healthy foods and making new friends. Additionally, children said that they had learned about nutrition, tried new foods, learned to shop for food, and gained confidence in making food (p. 74). During interviews, parents noted positive impacts upon their child's confidence, self-esteem and energy. They also reported that their children ate more healthily, tried new foods, and volunteered to help prepare food. They also reported that the clubs provided culturally appropriate foods to their children (pp. 98-99). Finally, during interviews, staff reported that, as the summer went on, children ate more healthily and gained in confidence. They stated that children were active, became engaged in preparing and cooking food, tried new foods, and learned to shop for food (pp. 128-129).

- 5.26 In addition, Defeyter, Graham and Prince examined the impacts of holiday clubs in the north-west of England and Northern Ireland, which provided free breakfasts during the summer holidays (2015, p. 1). Some of the clubs also provided activities to attendees. Clubs ran between two and five days per week (p. 3). The authors undertook interviews with children attending the clubs (n=17), adult attendees (n=18), and staff at the clubs (n=15) (p. 1). The children interviewed were all between the ages of 4 and 15 years of age (p. 3). Both staff and adult attendees consistently identified a need for the provision of free breakfasts during the school holidays, in order to ensure that the nutritional needs of children from low-income or economically disadvantaged backgrounds were met (pp. 5, 9). Additionally, both staff and adult attendees referred to the capacity of the breakfast clubs to provide an opportunity (for both adults and children) to socialise (pp. 6, 10). Children also noted that the breakfast clubs allowed them to socialise with friends (p. 12). Adult attendees also reported that the clubs provided a sense of routine to children that was often missing during school holidays (p. 11).

5.27 Finally, it is worth noting that, in their examination of the impact of summer school programmes across in the USA in 2013, McCombs et al found that the summer schools no significant effects upon ‘...social-emotional outcomes...’ (2014, pp. xiii, 37).²³ Augustine et al found that this remained unchanged after two years of summer school provision (2016, pp. 59-60).

Effects upon family life and wraparound care

Year-round education

5.28 Ramos (2012) investigated the perspectives of families and teachers regarding the transition of an elementary school to a single-track YRE calendar in a suburban, midwestern community in the USA. Initially, the school implemented a two-year pilot programme, operating a ‘...school-within-a-school...’ which offered single-track year-round education. This calendar split instructional time into four nine-week blocks, followed by three-week breaks, and provided a six-week summer holiday. During 2007/2008, the school transitioned to offering only the YRE calendar (p. 3). Ramos used survey responses provided by families and teachers to examine the satisfaction of families and teachers with this transition (p. 2). Families and teachers were surveyed in 2004/2005 (no sample sizes provided) and again in 2010/2011 (n=151 survey responses from families) (pp. 3-6).²⁴ Overall, families provided positive feedback regarding the transition to single-track YRE only, with 88 per cent of families reporting that they were ‘satisfied’ or ‘very satisfied’ at all points during the transition. However, nearly half (48.1 per cent) of families reported that they had been ‘dissatisfied’ or ‘very dissatisfied’ upon first hearing about the transition, indicating that families’ perspectives had changed greatly over the course of the transition (p. 8). Families were more likely to express dissatisfaction with the current (single-track, YRE calendar) if their children had been attending school on the traditional calendar until the school had transitioned to a single YRE calendar. 30.7 per cent of ‘traditional calendar’ families expressed dissatisfaction with the transition

²³ Social and emotional competence was measured using a survey based on the ‘...Devereux Student Strengths Assessment (DESSA)...’ which was given to teachers to complete (McCombs et al 2014, p. 17).

²⁴ Although the study also includes feedback from focus groups conducted with families, only families whose children were already attending on the YRE calendar at the time of the transition attended the group; there were no attendees whose children had been attending on the traditional calendar and moved to YRE as a result of the transition (Ramos 2012, p. 9). Therefore, results from this focus group have not been included in this report.

in the 2010/2011 survey (pp. 8-9). In addition, 14.8 per cent of traditional calendar families were dissatisfied with the current (single-track YRE) calendar. Consistency regarding calendar type was an important consideration for families in selecting a calendar type, with staying at that particular school (43 percent), operating the same calendar over the years (36.4 percent), and having all their children attend school on the same calendar (28.5 percent) all being cited by families as key factors in choosing a calendar type (p. 9).

Summer holiday provision

- 5.29 There is some evidence to support associations between the provision of summer holiday programming and improved outcomes for families within the UK. Data Cymru (2020) examined the impact of the School Holiday Enrichment Programme upon families in Wales. Parents in three of the five case studies reported ‘...a reduction in financial and family stress...’ due to their child’s attendance of SHEP. This finding was supported by reports from stakeholders in two of the five case studies. A survey of parents of children attending SHEP provision found that 78 per cent of parents were better able to manage the costs of the holidays, and 74 per cent had more time to complete other tasks or relax, as a result of SHEP provision (p. 12). Additionally, parents in three of the five case studies reported a reduction in ‘...family and practical stress...’; this was supported by both responses from a survey of parents of children attending SHEP provision, and reports from stakeholders in the ‘ALN’ case study (p. 17). Furthermore, it was noted that provision of ‘...one weekly family meal’ was a key element of the programme (p. 2). Findings from the ‘West Wales’ and ‘Welsh medium’ case studies indicated that the provision of a weekly family meal was associated with improved mental health and emotional wellbeing, for both parents and children (p. 10).
- 5.30 Geary, Awoyemi and Gracey (2020), in evaluating the impact of a pilot ‘playwork’ scheme designed to address holiday hunger in Wales, reported that around ‘...40 [percent] of settings offered parent or family activities’, and some also ‘...included parents at mealtimes...’ (p. 23). The authors surveyed adults responsible for bringing children to programme sites, and found that 37 per cent reported that the provision had assisted them in meeting costs during the holidays. 54 per cent (of those who had taken part in family meals offered by the programme) reported

eating more healthily at the provision (p. 26). 47 per cent of all respondents reported that the provision had benefitted them by providing them with time to themselves (p. 27). In addition, 20 per cent of settings reported that they felt that their provision of food had eased financial burdens on parents (p. 30).

- 5.31 In evaluating the impact of the Holiday Activities and Food programme (HAF) in England, Campbell-Jack et al (2020) investigated the impact of the programme upon parents, using a survey and interviews undertaken at case study sites. 48 per cent of parents reported that they encouraged their children to attend HAF provision because of ‘...the opportunity to try or learn new things...’, while 42 per cent encouraged attendance because provision was free, or because ‘...children could make new friends...’ (p. 29). Only 7 per cent cited a reduced need for childcare as a reason for sending their child to the provision (p. 36). Additionally, most providers allowed parents and carers to attend provision with their child, but did not require parental/guardian attendance (p. 30). Being able to spend time with their children at provision was cited by parents and carers as a key benefit of the provision (p. 84). 18 per cent of surveyed children aged 12 or over stated that their parents/carers participated in HAF activities (p. 53). Additionally, some parents/carers reported that provision had helped to reduce stress and pressure upon them; this was particularly felt by parents/carers with existing mental health issues, parents/carers of children with ALN, and parents/carers with busy or chaotic home lives (p. 86).
- 5.32 Defeyter et al (2018) investigated the impact of a summer programme in north-east England upon parents of attending children (2018, pp. 17, 19). All the clubs in the programme provided activities for children and their families (p. 12). Parents were surveyed (n=133) and interviewed (n=77) (pp. 18-19). In completing surveys, parents were asked to report how they had felt during a summer holiday in which their child had not accessed summer provision, and how they felt during the summer that their child had attended the summer programme being evaluated (pp. 35, 38). The programme appeared to have had a significant and positive effect on overall parental wellbeing, as well as having significantly increased feelings of optimism, usefulness, relaxation, confidence and cheerfulness. Parents reported feeling significantly more loved, closer to other people, and more interested in others when their child attended the summer programme. In addition, parents reported significant increases in their spare energy, their interest in new things, and

their ability to solve problems effectively, to think clearly, and to make decisions (pp. 35-38). During interviews, parents cited a number of reasons for sending their child to the provision. Some of these related to benefits for the children, such as having a safe place to play and a degree of routine and structure, facilitating transition back into school following the end of the holidays, and preventing boredom during the holidays. However, parents also mentioned alleviating care burdens on older relatives as a reason for sending their child to the provision. Parents also reported that since their child had attended provision, there had been improvements in the household environments (i.e. a reduction in conflict), and they had experienced increased quality family time. Additionally, parents reported having more time to devote to other caregiving responsibilities, experiencing less financial pressure, and having opportunities to make new friends at provision (pp. 98-99). Some of these findings were supported by parents' responses to surveys; 93 per cent of parents reported that the clubs '...reduced financial and social pressures over the summer holidays...' (p. 149). During interviews (n=64), programme staff reported that the clubs had provided parents with time to devote to other issues within the household/family (pp. 19, 128-129).

- 5.33 Defeyter, Graham and Prince (2015) evaluated the effects of holiday breakfast clubs in north-west England and Northern Ireland (2015, p. 1). A key theme identified in interviews with programme staff was that the clubs provided opportunities to signpost families to other key points of support (p. 7).
- 5.34 These findings indicate an association between summer holiday provision in UK nations and positive outcomes for families; however, they do not demonstrate that such provision causes these outcomes, and many of these findings are based on very small samples sizes, so they must be interpreted with considerable caution.

Effects upon students from specific groups

Year-round education

Students from socioeconomically disadvantaged backgrounds

- 5.35 There is some evidence as to the impacts of YRE upon specific groups of students. In particular, researchers have examined the effects of YRE upon students from economically disadvantaged backgrounds and students from ethnic minority communities.
- 5.36 In examining the effects of multi-track YRE upon students in Wake County (North Carolina), Smith did not find evidence to indicate a causal link between multi-track YRE and student achievement (2011, p. 91). However, in comparing the growth rate of student achievement of multi-track YRE students and of traditional calendar students, Smith found that attending a multi-track YRE school produced significant and positive effects in reading achievement for pupils who were eligible to receive free or reduced price lunches (p. 87). This indicates that multi-track YRE could assist economically disadvantaged pupils in their reading performance, and thereby help to narrow the attainment gap in reading (as it relates to economically disadvantaged pupils).
- 5.37 Jez and Wassmer (2011) found that multi-track YRE significantly and positively impacted the academic performance of socio-economically disadvantaged elementary school students in California. Examining data from 2005/2006 (n=249 schools), they found that multi-track YRE produced an average increase of 13.4 points in the API scores of socio-economically disadvantaged students (2011, pp. 19-20).
- 5.38 However, analysis as to the effects of YRE in California undertaken by Graves (2011) appears to contradict this finding. Graves found that, although the main effect of multi-track YRE on students with low socio-economic status (SES) was not significant, there were significant negative impacts of multi-track YRE on the performance of low SES students in reading, language and maths, after two and three years of implementation of the modified calendar. Additionally, attending a school implementing a multi-track YRE calendar produced negative impacts upon performance in reading and language among low SES students, after four years of

implementation of the modified calendar; however, only two estimates here were significant (2011, p. 1293). Estimates of the impacts of multi-track YRE upon the performance of low SES students were larger than estimates as to the impacts upon the total sample. This indicates that low SES students suffered greater detrimental impacts from multi-track YRE than students do generally (p. 1292). Findings as to the impact of single-track YRE upon low SES students were less clear, but did not suggest that single-track YRE would positively impact the achievement of low SES students. There were significant and negative main effects of single-track YRE upon performance in maths and language for low SES students, indicating that single-track YRE detrimentally impacted the achievement of low SES students in these subjects. However, only two estimates across the specifications were significant here; estimates produced by other specifications did not indicate that single-track YRE had any significant impacts upon the achievement of low SES pupils. In addition, attending a school implementing a single-track YRE calendar had no significant impact upon the performance of low SES pupils in reading, maths or language, after two, three, four, or five-plus years of implementation (p. 1293).

- 5.39 Findings produced by Pedersen (2011) indicated that attending a school implementing a YRE calendar did not significantly affect the achievement of economically disadvantaged students. Examining test scores from three academic years in California, Illinois, and Texas, Pedersen found that there were no significant differences between the standardised state test scores in maths or literacy of economically disadvantaged students attending YRE schools, and the scores of economically disadvantaged students attending traditional calendar schools (pp. 45, 51-52, 56-57, 61-62, 67-68, 73-74). The sole outlier here was the year 2008/2009 in Illinois; here, there was a significant difference in the standardised state test scores in literacy of economically disadvantaged students attending YRE schools, as compared to scores of economically disadvantaged students attending traditional calendar schools (pp. 56-57). Given that no other estimates produced here indicated that YRE had a significant impact upon scores of economically disadvantaged students, Pedersen's analysis does not produce consistent evidence to indicate that YRE will significantly impact upon the attainment of economically disadvantaged students.

5.40 Fitzpatrick and Burns (2019), in conducting their meta-analysis, considered the impact of single-track YRE upon the academic performance of students from low-SES backgrounds. Having found positive impacts of single-track YRE upon student attainment overall, they reported that these benefits were not significantly greater for students from low-SES backgrounds, in maths or in reading (2019, p. 19). This indicates that although single-track YRE improved the performance of students generally, and of students from low-SES backgrounds, it did not assist in closing the attainment gap.

Black, Asian and Minority Ethnic students

5.41 Graves (2011) examined the impact of YRE in California upon the attainment of Hispanic/Latino students and African American students. There were no significant overall effects of either single-track or multi-track YRE for Hispanic/Latino students or for African American students (pp. 1294-1295). However, there were significant and negative effects of multi-track YRE upon performance in maths and language for Hispanic/Latino students, after two years of implementation of the modified calendar (p. 1294). Estimated impacts of multi-track YRE upon the attainment of Hispanic/Latino students are larger than estimates of impacts upon the total sample, indicating that Hispanic/Latino students suffer greater detrimental impacts from multi-track YRE than the wider student population (pp. 1295-1296). Attending a multi-track YRE school had no significant impact upon the performance of Hispanic/Latino students after three, four, or five-plus years of implementation of the modified calendar (p. 1294). Graves' analysis produced some estimates of positive impacts of multi-track YRE upon the performance of African American students in reading and in language, after five-plus years of implementation of the modified calendar. However, specifications here often also found no significant effects (pp. 1294-1295). Multi-track YRE had no significant impact upon the achievement of African American students after two, three, and four years of implementation of the modified calendar, with the exception of one specification that estimated a significant and negative impact upon performance in reading after three years of implementation (p. 1295). Evidence as to the impact of single-track YRE upon achievement among Hispanic/Latino and African American students was unreliable, due to considerable inconsistency of estimates across specifications (p. 1295).

5.42 Additionally, McMullen and Rouse (2012), in evaluating the impact of multi-track YRE in Wake County (North Carolina), considered whether the effects of the calendar differed across students on the basis of ethnicity. The authors stated that their analysis indicated that multi-track YRE had generally similar effects upon students, regardless of ethnicity (2012, p. 818). Fitzpatrick and Burns (2019) arrived at a similar conclusion regarding the effects of single-track YRE. They concluded that beneficial impacts of single-track YRE upon performance in reading and maths were not significantly greater for students from ethnic minority communities (2019, p. 19).

Summer holiday provision

5.43 Several researchers have examined the impact of summer holiday provision upon students belonging to particular groups. However, before examining evidence produced by these researchers, it is necessary to first consider the purpose of many existing summer holiday programmes, and what this can tell us about the impacts of these programmes upon economically disadvantaged children. Several studies examine summer holiday interventions which were targeted at children from economically deprived backgrounds, but do not separately consider the impact of the interventions upon children from such backgrounds. These studies were conducted by Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Campbell-Jack et al (2020), Defeyter et al (2018), Defeyter, Graham and Prince (2015), and Beach and Traga Philippakos (2021). For most of these studies, the reason that the authors do not present separate findings as to the impact of the intervention upon economically disadvantaged pupils is likely that the intervention was implemented in a way that targeted these pupils; therefore the samples in these studies are likely to be largely (if not entirely) comprised of economically disadvantaged students, and general findings from the studies are likely to apply to economically disadvantaged students. For instance, Data Cymru reported that schools are deemed to be eligible for SHEP provision if their local authority determines that over 16 per cent of students in the school are eligible for free school meals (2020, p. 1). Similarly, in order for settings to be eligible to take part in the 'playworks' pilot scheme, they needed to be situated in an area of high deprivation (Geary, Awoyemi and Gracey 2020, p. 17). For students to participate in the summer reading programme evaluated by Beach and Traga Philippakos, they needed to be underperforming in

reading, and attend a school where over 98 per cent of students participated in the National School Lunch Programme (2021, p. 173). Campbell-Jack et al state that 41 per cent of children attending the holiday provision they evaluated were eligible for FSM in 2019 (p. 40). Therefore, it seems likely that the overall findings of these studies, despite not referring specifically to children from economically disadvantaged backgrounds, would be applicable to these children, given that they represent a considerable portion of the samples used in these studies. However, Defeyter et al (2018) and Defeyter, Graham and Prince (2015) do not provide sufficient information as to the targeting of the interventions assessed, or the sample sizes used; therefore, it cannot be assumed that the findings produced by these studies will be applicable to children from economically disadvantaged backgrounds generally.

- 5.44 Having addressed these studies, the review will now consider evidence relating specifically to the effects of summer holiday provision upon particular groups of students.

Students from socioeconomically disadvantaged backgrounds

- 5.45 The EEF summarised existing evidence regarding the impact of summer schools upon students (2021). They concluded that while some evidence indicated that disadvantaged students experienced beneficial effects from attending of summer school, these effects were only produced by summer schools that featured an academic element and 'intensive teaching' (see [5.129](#) and [5.137](#)).
- 5.46 Martin, Sharp and Mehta (2013), in evaluating the impact of the summer schools programme upon year five and six pupils in England, considered impacts upon economically disadvantaged pupils. They found that pupils who lived in disadvantaged areas tended to rate their enjoyment of the summer school provision more highly (2013, p. 23). They also examined the impact of the summer schools programme upon the confidence, school readiness, and levels of socialisation of pupils who were eligible for FSM. FSM-eligible pupils who attended the summer schools programme were more confident, had higher levels of school readiness, and had higher levels of socialisation than FSM-eligible pupils who did not attend the summer schools programme. In addition, these positive impacts of the summer schools programme upon FSM-eligible pupils were significantly greater than the

impacts upon the wider sample of attending pupils. However, as the analysis indicated that summer school attendance could only account for a small amount of variation in pupils' confidence, school readiness and socialisation scores, the authors cautioned that the study should be interpreted as demonstrating associations between summer school participation and increases in pupil confidence, school readiness and levels of socialisation (pp. 26, 28, 30).

- 5.47 Siddiqui, Gorard and See (2014) found no evidence to indicate that a summer school programme in north-east London produced significant impacts upon attainment among attending year five and year six pupils. Examining impacts upon FSM-eligible pupils, they found that attending the summer school produced positive impacts upon performance in maths and reading among year six pupils (transitioning into year seven). However, they caution that the effect size here is very small, and the conclusion is based on a very small sample size (n=13-23 pupils assigned to the treatment group). By contrast, the authors found that among year five pupils (transitioning into year 6) who attended the provision, there were negative effects upon performance in maths and reading, and a positive effect upon performance in writing (n=11-15 pupils assigned to the treatment group). They stated that these effects vary in size from small to medium, and concluded that the study does not provide evidence to support the claim that summer schools positively impacted the attainment of FSM-eligible pupils (p. 133).
- 5.48 Gorard, Siddiqui and See (2015), in evaluating the impact of a summer school programme in England upon the attainment of pupils in years five and six, found similarly mixed evidence as to the impact of summer school upon FSM-eligible pupils. They found that although pupils who attended the provision made small gains in their English test scores, they also experienced a small decline in their maths test scores (2015, pp. 5-6). In examining the impacts of the programme upon FSM-eligible pupils only, they concluded that these pupils experienced similar effects to those experienced by pupils in the wider sample (p. 7).
- 5.49 Outside the UK, McCombs et al (2014) considered the impact of summer school programmes delivered across the USA upon pupil achievement. The authors examined how the programme had affected the achievement of pupils who were eligible for free or reduced price lunches, and found that these pupils experienced

similar effects to those experienced by the wider pupil sample (2014, pp. 37-38). That is to say, pupils who attended the provision experienced a significant positive effect upon achievement in maths, as compared to students who did not attend the provision. However, they experienced no impacts upon their achievement in reading, or upon social/emotional outcomes (p. xiii). Furthermore, analysis by Augustine et al (2016) found that there were no further effects produced by two years of summer programming, other than the short-term impact on performance in maths noted by McCombs et al (2014); the authors also found that participating students eligible free or reduced price lunches did not experience significantly different impacts to those experienced by participating students generally (p. 59).

Looked after children

- 5.50 In evaluating the impact of the summer schools programme in England upon pupils in years five and six, Martin, Sharp and Mehta (2013) examined the impact of the programme upon pupils who had been looked after by the local authority continuously for over six months (2013, p. 1). Looked after children who attended the provision experienced increases in their levels of school readiness, compared to looked after pupils who did not attend the summer schools programme. In addition, this increase in school readiness among looked after pupils was significantly greater than the increase experienced by the wider sample of attending pupils. However, as attendance of the summer schools programme could only explain a small amount of the variation in pupils' school readiness scores, the authors cautioned that this should be interpreted as an association, rather than a causal relationships. Furthermore, the authors noted that there were not many looked after pupils in the sample (n=68 in the treatment group) (p. 28).

Students who are academically struggling

- 5.51 McCombs et al (2014) found that summer school programmes delivered across the USA did not impact low-performing students (as assessed using pre-intervention test scores) differently; they experienced impacts similar to those experienced by participating students generally. Therefore, they experienced a significant and positive impact upon their achievement in maths, compared to low-performing students who did not receive the summer provision. However, they experienced no significant effects upon their achievement in reading or upon social and emotional

outcomes (p. xiii). Furthermore, Augustine et al (2016) evaluated the impact of the programme after two years of delivery. They found no further significant impacts (barring the initial improvement in maths achievement noted by McCombs et al), and found that low-performing students experienced a similar lack of significant impacts as a result of the provision (2016, p. 59).

Impacts and students' sex

- 5.52 There was a lack of evidence as to the relationship between the effects of summer holiday provision and students' sex. Martin, Sharp and Mehta (2013) noted that boys who participated in the summer schools programme in England, offered to pupils in years five and six, tended to provide lower ratings regarding their enjoyment of the programme than participating girls did (2013, p. 23).

Extended school year

Students from socioeconomically disadvantaged backgrounds

- 5.53 Jez and Wassmer (2011) found that a longer school year significantly and positively impacted the academic performance of socio-economically disadvantaged elementary school students in California. Using data from 2005/2006 (n=249), they found that one additional minute of annual teaching time produced an increase of 0.0015 points in the API growth score of a socio-economically disadvantaged student, and that increasing the school year by around one week of additional lessons produced, on average, a 1.5 per cent increase in academic achievement among disadvantaged students (pp. 2, 17-18).
- 5.54 Mahoney (2014) investigated the relationship between expanded learning time (ELT) and the prevalence of norm-breaking and anti-social behaviours among fourth (9-10 years) and eighth grade (13-14 years) students in the USA. Specifically, he examined the impact of the number of days in an academic year and the length of the school day upon these behaviours. Behaviours categorised as 'norm-breaking' behaviours were '...arriving late at school, absenteeism, skipping class, violating dress code, classroom disturbance, cheating, and profanity.' Behaviours categorised as 'anti-social' were '...vandalism, theft, intimidation or verbal abuse of other students, physical injury to other students, intimidation or verbal abuse of teachers or staff, [and] physical injury to teachers or staff.' Mahoney used data

derived from TIMSS 2007 to examine the prevalence of these behaviours in participating schools in the USA, serving fourth (9-10 years) and eighth (13-14 years) grade students (n=496 schools) (p. 68). He found that longer school years produced higher incidences of norm-breaking and anti-social behaviours during school hours among eighth grade (13-14 years) students (pp. 69-70). In addition, he also found that this effect was stronger in schools that had a lower proportion of students receiving reduced or free lunches (pp. 69-70). Therefore, students attending schools that implemented an extended school year, and had a greater proportion of students from economically deprived backgrounds were less likely to experience increases in anti-social and norm-breaking behaviours, compared to schools that implemented an extended school year and had lower proportions of students from economically disadvantaged backgrounds.

Effects upon students with Additional Learning Needs

Year-round education

- 5.55 Smith (2011) has considered the impact of multi-track YRE upon the achievement of students with ALN in Wake County (North Carolina). In comparing the growth rate of student achievement of multi-track YRE students and of traditional calendar students, Smith found that attending a multi-track YRE school produced significant and positive effects upon reading achievement among students with ALN (p. 87).
- 5.56 However, analysis of the impact of YRE calendars upon the achievement of students with ALN in California, Illinois and Texas found no evidence to indicate that YRE calendars had significantly impacted the performance of students with ALN in literacy or maths, over the course of three academic years (Pedersen 2011). In California, Illinois, and Texas, the standardised state test scores of students with ALN attending YRE schools did not significantly differ from the scores of students with ALN attending traditional calendar schools, in maths or in literacy, across three academic years (2011, pp. 41-42, 48-49, 54-55, 59-60, 64-65, 70-71).
- 5.57 These results are supported by research undertaken by Pfeiffer (2011). In examining the impacts of YRE upon students attending a California high school, Pfeiffer found that YRE had no significant impact upon graduation rates among students with ALN over the course of five years (n=34-51 – variation across academic years). During the last academic year examined by Pfeiffer (2009/2010),

YRE appeared to have had a significant and negative impact upon graduation rates among students with ALN (n=38). However, when considered alongside the results for other academic years, this does not amount to consistent evidence that YRE significantly impacts the graduation rates of students with ALN (pp. 86-87). Additionally, Pfeiffer found that YRE produced no significant impacts upon attendance rates among students with ALN (n= 44-68 – variation across academic years) (pp. 88-90). Furthermore, he found no evidence to indicate that YRE significantly affected behaviour among students with ALN from 2003/2004 to 2009/2010 (no sample size provided) (p. 107).

Summer holiday provision

- 5.58 There is little evidence as to the impact of summer holiday programmes on children with ALN. Data Cymru, in evaluating the impact of SHEP, reported that the programme had seen an ‘...evidenced reduction...’ of stress levels among ALN children, and that although there were many reports indicating that the provision of routine (through SHEP) had positively impacted the mental health and emotional wellbeing of attending children, these reports were especially prevalent among parents whose child/children attended the ‘ALN’ case study provision (2020, pp. 11-12).

Alternative calendars and language immersion/intensive language learning

Year-round education

- 5.59 Pedersen investigated the impact of YRE upon the performance of students with limited proficiency in English (LEP) in California, Illinois, and Texas (2011, p. 37). He compared the scores of students attending both YRE and traditional schools in standardised state tests from 2007 to 2010 (p. 1). Pedersen found that there were no significant differences between test scores of LEP students attending YRE schools and LEP students attending traditional schools, in literacy or in maths, across all three academic years examined, in California and in Texas (pp. 43, 50, 66-67, 72-73). There was insufficient data to assess the impact of YRE on the performance of LEP students in Illinois (pp. 56, 61).

5.60 Additionally, McMullen and Rouse (2012), in their evaluation of the impact of multi-track YRE upon student performance in Wake County, North Carolina, examined the effects of YRE upon the performance of students who spoke English as a second language (ESL students), and other students who were estimated to be non-native speakers of English. They found no evidence to indicate that these students were impacted in a significantly different way to the wider sample of students (p. 822). That is, there was no evidence to indicate that multi-track YRE significantly impacted the performance of non-native speaker pupils in English or in maths (p. 820). Furthermore, Smith's (2011) analysis of the impact of YRE upon student achievement in Wake County offers some evidence as to the effect of YRE on the performance of LEP students. Comparing changes in test scores of students attending YRE schools and traditional schools from 2005 to 2009, Smith found that YRE produced negative effects upon achievement in reading among students who were then classified as LEP, and among students who had previously been classified as LEP (pp. 87-88).

Summer holiday provision

- 5.61 There is some limited evidence to indicate that the School Holiday Enrichment Programme (SHEP) may have contributed to successful maintenance of Welsh language proficiency among some children attending provision. Data Cymru reported that parents in the 'Welsh medium' case study scheme (n=4-16 – exact sample size is unknown) reported that regular interactions between children and staff had helped to support their children's maintenance of Welsh language skills (2020, p. 23).
- 5.62 In evaluating the impact of a summer schools programme in England, Martin, Sharp and Mehta (2013) asked students who had attended the summer schools to provide feedback. Students from schools with higher proportions of EAL students gave their summer schools lower ratings. This was a significant difference between feedback provided by students from these schools and feedback provided by students generally (2013, p. 23).
- 5.63 In addition, McCombs et al (2014) considered the impact of summer school programmes in the USA on attainment among ELL students. They found that, after one summer of provision, impacts upon ELL students were largely the same as

impacts experienced by participating students generally (pp. 37-38). That is to say, there was a significant and positive impact upon achievement in maths, but not in achievement in reading (p. xiii). Furthermore, in investigating the impacts of this summer school programme after two summers of provision, Augustine et al found that ELL students experienced very similar effects to those experienced by participating students generally (2016, p. xiv). That is, ELL students experienced no further effects on academic performance as a result of attending summer school for two consecutive years, other than a short-term improvement in maths performance, noted previously by McCombs et al (2014) (2016, p. 60).

Other demonstrated or suggested effects

Effects upon teachers and staff

Year-round education

- 5.64 Smith, in examining the impacts of multi-track YRE in schools in Wake County, North Carolina, found that implementing a multi-track YRE calendar significantly increased between-year retention of teachers in the second year of implementation. However, multi-track YRE had no significant effect upon between-year teacher retention during the first year of implementation. Calendar type was not found to significantly affect either within-year teacher turnover (2011, p. 89).
- 5.65 Pfeiffer surveyed teachers and other school staff (n=14) in a single school in California which operated under a YRE calendar (2011, pp. 7, 75). Staff interviewed comprised a mix of general education teachers (8 respondents), special education teachers (4 respondents), and administrative staff (2 respondents) (p. 75). Staff provided overwhelmingly positive feedback regarding the impacts of the YRE calendar, with 12 members of staff reporting that they felt proud to teach at the school (p. 77).
- 5.66 Ramos (2012) surveyed teachers and families to examine their perspectives on the transition of a US elementary school to a single-track YRE calendar in 2007/2008. Families and teachers were surveyed in 2004/2005 (no sample sizes provided) and again in 2010/2011 (n=28 teachers), and were also invited to participate in focus groups (n=6 teachers) (pp. 3-4, 6). Feedback from teachers was largely positive; all surveyed teachers reported that the process of transition was 'positive' or 'very

positive'. In addition, all surveyed teachers said they were 'satisfied' or 'very satisfied' with the process of the transition, and with their current teaching positions. However, a small minority of teachers reported that they initially felt 'negative' about the school's transition to YRE only (4 teachers) (p. 23). This initial negative reaction to the transition to YRE only was driven entirely by responses from teachers who still taught according to the traditional calendar at the time that the transition was announced. A quarter of 'traditional' teachers reported that they had initially felt 'negative' about the school's transition to YRE only; three-quarters reported feeling 'positive' or 'very positive' (p. 24).. Teachers who still taught according to the traditional calendar at the time that the move to YRE-only was announced were significantly more likely to have a negative first reaction to the transition than teachers who already taught according to the YRE calendar (p. 25). Most commonly, teachers cited remaining on the same calendar in the future (17 teachers), remaining on the same calendar after the transition (i.e. continuing to teach according to a YRE calendar – 16 teachers), and continuing on the same teaching assignment following the transition (16 teachers) as major factors in selecting a calendar type (p. 7). The majority of teachers reported that having their own school-aged children on the same calendar as them (19 teachers), arranging childcare during school holidays (20 teachers), and opportunities for training and professional development (18 teachers) were not factors in the decision to adopt a particular calendar type (p. 26). However, three quarters of 'traditional' teachers reported that having their own school-aged children on the same calendar as them was a major factor in choosing a calendar (p. 27). Furthermore, teachers provided positive feedback regarding the transition during the focus groups, noting the importance of having the entire school follow the same calendar type (p. 8).

- 5.67 Isom examined teachers' perspectives regarding extended learning activities provided during intersession weeks, as part of a YRE calendar, adopted by a rural school system in Virginia (2020, p. 16). Under this calendar, the summer break is shortened by two weeks, and two intersession weeks are added to the calendar. These intersession weeks are designed to cater to students who are struggling academically, and provide enrichment activities for students who are not struggling. Additionally, the length of the school day was extended by 25 minutes (p. 17). Isom used interviews, focus groups and document analysis to explore the perspectives of

teachers on this YRE calendar (n=18) (pp. 76, 84). Participants were selected through purposeful sampling, and taught at elementary, middle and high schools operating under this calendar (pp. 76, 78). Teachers provided positive feedback regarding the effects of providing enrichment activities to pupils during the intersession weeks. They reported that these activities provided opportunities for relationship-building between teachers, between teachers and students, and among students themselves (pp. 142-145). Furthermore, all participating teachers indicated that they wanted to continue working under the current (YRE) calendar, and that they would recommend the balanced calendar to other schools (p. 157).

Summer holiday provision

- 5.68 Data Cymru, reporting on the effects of SHEP, found evidence suggesting that the programme had improved relationships between teachers/school staff, parents, and children. 62 per cent of parents reported that they had gotten to know teachers and/or school staff, and 81 per cent stated that their child now has a better relationship with teachers and/or school staff (pp. 19-20). Similarly, 77 per cent of children agreed that they knew their teachers and/or school staff better (p. 20). However, teachers and school staff were not surveyed. In addition, Defeyter et al interviewed 64 members of staff responsible for providing care for children attending summer clubs in England (2018, p. 19). Interviewees reported that they gained new skills while working, and were offered leadership opportunities (pp. 128-129).

Effects upon student behaviour and attendance

Year-round education

- 5.69 Pfeiffer (2011) examined the impact of YRE upon students attending a high school in California. Examining data from 2003/2004 to 2009/2010 (n=259-401 – sample sizes varied across academic years), he found YRE appeared to have a significant and positive effect upon student attendance for the academic years 2005/2006, 2006/2007, and 2009/2010. However, YRE appeared to produce no significant impact upon student attendance for the academic years 2004/2005, 2007/2008, and 2008/2009. As a result, the study could not produce conclusive evidence as to the impact of YRE upon student attendance (p. 88). Additionally, Pfeiffer found no evidence to indicate that YRE had any significant impacts upon student behaviour (no sample size provided) from 2003/2004 to 2009/2010 (p. 107).

5.70 Huffman surveyed teachers working in school districts in North Carolina (USA); these districts contained schools that operated 'traditional' calendars, and schools that operated YRE calendars (2013, p. 12). Participating teachers (n=106) taught in elementary and middle schools, and in a mix of YRE and non-YRE schools (pp. 58-59, 95). Huffman found that participating teachers '...moderately...' agreed that the type of calendar implemented by a school impacted upon student behaviour, and that a 180-day YRE calendar produced a positive effect upon student behaviour (pp. 99-100). Additionally, he found a significant and strongly positive relationship between positive perceptions of a YRE calendar among teachers and positive perceptions of improvements in student behaviour among teachers. There was no strong relationship between teachers' perceptions of the traditional school calendar and teachers' perceptions regarding student behaviour (p. 89). Additionally, Huffman found a significant and negative relationship between the grade level taught by teachers and their perceptions regarding the impact of calendar type upon student behaviour. As the grade level taught by a teacher increased, they were less likely to report that the type of school calendar used produced any effects on student behaviour (p. 90).

Summer holiday provision

5.71 There is limited evidence as to the impact of summer holiday programmes upon student behaviour in Wales. Data Cymru's evaluation of SHEP found limited evidence that provision delivered through the programme may have positively impacted students' behaviour. In response to the survey of children attending SHEP provision, 88 per cent of children reported that, following their attendance of SHEP, they '...[understood] more about [their] school's rules and expectations of good behaviour' (2020, p. 20). Additionally, stakeholders from the 'ALN' case study noted improvements in children's '...out of school behaviour' (p. 15). Furthermore, Geary, Awoyemi and Gracey, in examining the impacts of a pilot scheme designed to tackle holiday hunger through the use of play settings, found that 27 per cent of parents surveyed reported that their child's behaviour had improved as a result of attending provision provided by the scheme (2020, p. 28).

5.72 Defeyter et al (2018) provided some evidence regarding the impact of summer provision in the north-east of England upon student behaviour. Data collected

during the first and last week of provision indicated that children's self-reported behaviour had improved over the course of the programme, reflecting a significant change in children's behaviour, as assessed by themselves (2018, pp. 34-35). Children also reported behaving better during focus groups (p. 74). Additionally, 61 per cent of parents surveyed agreed either 'a little' or 'a lot' that their child's behaviour at home had improved as a result of attending provision; 34 per cent neither agreed nor disagreed (p. 40). During interviews, parents reported that children were better-behaved at home as a result of attending provision (p. 99).

- 5.73 Furthermore, Augustine et al, in evaluating the impacts of two years of summer programme provision in the USA upon third grade (eight to nine years) students, found no significant impacts upon behavioural outcomes throughout the school year (2016, p. 60). 'Behavioural outcomes' were defined as changes to the rate of suspension from school, and changes to the school attendance rate (p. xiv).

Extended school year

- 5.74 Mahoney (2014) investigated the impact of the number of days in an academic year upon the prevalence of norm-breaking and anti-social behaviours among fourth grade (9-10 years) and eighth grade (13-14 years) students in the USA. For schools serving fourth grade students, the length of the school year had no significant impact upon the incidence of norm-breaking or anti-social behaviours among fourth grade students. However, for schools serving eighth grade students, the length of the school year had a significant impact upon both norm-breaking and anti-social behaviours among eighth grade students. Specifically, the analysis indicated that a longer school year was significantly linked to increases in norm-breaking and anti-social behaviour in eighth grade students (pp. 70, 78).

Economic effects

Year-round education

- 5.75 A rapid review of existing evidence regarding the economic impacts of changes to the school calendar found only two studies. Both of these studies examine the impacts of YRE (no studies regarding the economic impacts of summer holiday provision were found). Firstly, Graves has investigated the impact of YRE upon maternal employment in California (2013, pp. 57-58). By comparing the employment

rates of women with school-aged children (between the ages of 6 and 17) to employment rates of women whose eldest child is pre-school aged (under the age of 6), she was able to examine the employment rate of women who would be affected by school calendar changes (pp. 58-59). Graves examined the relationship between the employment rates of these groups and the percentage of pupils enrolling in a YRE elementary school in each district, from 1998/1999 (n=783 districts) (pp. 60, 63). Her analysis indicated that a higher percentage of enrolment in YRE elementary schools in a district produced significant and negative impacts upon employment rates of women with school-aged children, as compared to women who only had pre-school aged or younger children (p. 65). The average percentage of enrolment in a YRE elementary school in a district was around 12 percent. Graves concluded that, where a district introduced YRE for the first time, and brought enrolment in YRE elementary schools up to the district average of around 12 percent, this would produce a decrease of around 0.42-0.75 per cent in employment rates for women with school-aged children (p. 58). However, it is worth noting that, when Graves isolated the impacts of multi-track and single-track YRE schools on the employment rates of women with school-aged children, only single-track YRE produced a significant impact. Therefore, single-track YRE in particular produced negative impacts upon maternal employment (pp. 67-68).

- 5.76 Secondly, Depro and Rouse investigated the impact of multi-track YRE upon property values in Wake County, North Carolina, following the transition of 22 schools to multi-track YRE in 2007 (2015, pp. 157-158). The authors used data on the assignment of particular county zones to different schools and on housing transactions within those zones from 2006 to 2010, to examine the impact of multi-track YRE upon property values (n=54,989 sales transactions) (pp. 161, 163). The authors found that assignment to a multi-track YRE school had a significant and negative impact upon property values, decreasing them by around 1.6 per cent (pp. 165-166). These results remained largely the same following a number of robustness tests (p. 169). Depro and Rouse concluded that houses within multi-track YRE school assignment zones were between 1.5 and 2 per cent lower in price than homes in traditional calendar school assignment zones (p. 158).

Factors leading to reforms and accompanying changes

Year-round education

- 5.77 Studies included in this review did not specify factors that informed decisions to adopt YRE calendars in specific schools, areas, or districts. However, most researchers did discuss the most common reasons for the adoption of a YRE calendar. A number of researchers stated that YRE calendars are often adopted in order to reduce summer learning loss.²⁵ More specifically, concerns about academic achievement tend to be factors in decisions to adopt single-track YRE calendars in particular. Fitzpatrick (2018, p. 2) and Isom (2020, p. 43, citing JLARC 2012) stated that single-track YRE calendars are usually adopted with the aim of improving academic achievement, and Fitzpatrick and Burns described single-track YRE as an intervention that targets summer learning loss (2019, p. 3). By contrast, many researchers stated that multi-track YRE calendars are usually adopted to reduce the detrimental effects of overcrowding in schools.²⁶ By only keeping one ‘track’ of students in school at a time, school buildings can accommodate a greater number of pupils over the course of the year (Graves 2011, p. 1283).
- 5.78 The majority of studies examining YRE did not specify whether the introduction of YRE was accompanied by wider changes. When multi-track YRE was adopted in Wake County (North Carolina), no changes were made to the curriculum, staff or leadership (Smith 2011, p. 46). Pfeiffer stated that the increased graduation rate at a YRE school was at least partially attributable to the introduction of online classes and an ‘Adult Education Program’ (2011, p. 85).

Summer holiday provision

- 5.79 Often, studies did not identify factors that informed decisions to implement provision during school holidays. However, some researchers did specify the aims of the programmes they evaluated. Most commonly, the aims of these programmes were centred on the health and wellbeing of children, particularly children from disadvantaged backgrounds. For instance, Data Cymru reported that SHEP aimed

²⁵ See Smith (2011, p. 3); Graves (2011, p. 1282); Pedersen (2011, p. 11); Poppink, Ma and Shen (2019, p. 4); and Fitzpatrick (2018, p. 2).

²⁶ See Smith (2011, p. 3); Graves (2011, p. 1283); Pfeiffer (2011, p. 13); Poppink, Ma and Shen (2019, p. 4); Fitzpatrick 2018 (p. 2); Fitzpatrick and Burns (2019, p. 3); Huffman (2013, p. 14); McMullen and Rouse (2012, p. 813); and Isom, citing JLARC 2012 (2020, p. 43).

to improve the long-term health and wellbeing of children living in deprived areas (2020, p. 1). Some holiday programmes were specifically designed to address food insecurity during the holidays. The 'playworks' pilot scheme in Wales was intended to combat holiday hunger, and to complement existing SHEP provision (Geary, Awoyemi and Gracey 2020, p. 10). Similarly, the HAF programme in England '...aimed to support disadvantaged families by providing healthy meals and enriching activities to young people during the summer holidays' (Campbell-Jack et al 2020, p. 9), and the 'A Day Out, Not a Handout' programme aimed to tackle holiday hunger and social isolation in children, and to improve their emotional wellbeing (Defeyter et al 2018, p. 12).

- 5.80 Other summer holiday programmes were designed to reduce summer learning loss. In their evaluation of the summer schools programme in England, Martin, Sharp and Mehta reported that the programme aimed to assist FSM-eligible and looked after students to successfully transition from primary school to secondary school (2013, p. 1). Specifically, the programme was designed to allow students to become familiar with their new schools (and vice versa), and to improve academic achievement among disadvantaged students by reducing their loss of learning over the summer period (p. 6). Siddiqui, Gorard and See stated that the summer school they examined aimed '...to reduce summer learning loss, develop children's skills and confidence and perhaps increase parental engagement in their children's learning as they prepare for school transition' (2014, p. 125).
- 5.81 Furthermore, research by Lowndes and Dennison investigated the prevalence of wraparound care in Northern Ireland, and the reasons for providing this care. Principals of primary schools in Northern Ireland were surveyed (n=342 responses) (2012, p. 18). Wraparound care (WAC) was defined by the authors as including '...breakfast clubs, 2-3pm clubs, afterschool clubs and summer schemes' (2012, p. ix). The survey was conducted in 2012, and only examined WAC provision where such provision was consistently offered (i.e. five days per week – p. 18). 49 per cent of schools stated that they offered some form of WAC provision (p. 22). However, holiday provision was the least commonly offered form of WAC provision; only 31 per cent of schools providing WAC offered holiday provision (p. 23). Principals of schools that offered WAC provision cited a number of benefits to offering this provision. The most commonly cited benefit was that WAC provision '[f]acilitates

working parents' (89 percent), followed by that the provision was '[c]onvenient for parents' (72 percent). Other commonly cited advantages included that it provided '[s]ocial and educational benefits for children' (66 percent), that it was affordable for parents (65 percent) and safe for children (64 percent), and that it promoted links between schools and homes and the wider community (59 percent) (p. 45). 56 per cent of principals reported that offering provision delivered by '[e]xperienced and qualified staff' was an advantage of offering WAC, while 53 per cent cited provision of education and care in a single setting,²⁷ and 52 per cent said that providing WAC was an effective marketing tool for their school. Fewer than half of surveyed principals cited health benefits for children (41 percent), a lack of pick-up costs (37 percent), and the ability to supervise children while doing their homework (34 percent) (p. 45).

- 5.82 Studies that examined summer holiday provision did not identify wider changes made to schooling before or during the delivery of said provision.

Extended school years

- 5.83 Factors that informed decisions to alter the length of the school year in specific schools, areas, or districts were not included in the studies examined in this review. However, some researchers described common motivations for extending or shortening the school year. Jez and Wassmer noted that budgetary constraints often inform proposals to shorten the school year (2011, p. 3). Sandoval-Hernandez et al (2013, p. 1), Mahoney (2014, pp. 64-65) and Wu (2020, p. 105) all stated that 'expanded learning time' (including extensions to the school year) is usually implemented with the aim of improving academic achievement. In particular, Mahoney stated that the aim of ELT is to give '...all students... additional opportunities for learning, recreation and enrichment' (2014, p. 63). Additionally, he referred to growing support for ELT in the USA and the aim of improving the performance of low-achieving schools as factors in the adoption of ELT in the USA (pp. 64-65).

²⁷ Similarly, 43 per cent cited 'Continuity of care' as an advantage of providing WAC (Lowndes and Dennison 2012, p. 45).

- 5.84 Studies that examined extended school years did not specify whether broader changes to schooling had taken place shortly before or during the implementation of changes to the length of the school year.

Implementation of calendar reforms

Year-round education

- 5.85 Most studies included in this review did not discuss how YRE calendars had been implemented in any detail. However, Depro and Rouse (2015) noted that the decision to transition to multi-track YRE in Wake County (North Carolina) in 2007 was taken by the county's school system. An opposition group was formed, and the group brought a legal challenge against the decision. The State Supreme Court upheld the school system's authority to order the transition (2015, p. 158, citing WRAL 2009). Additionally, Isom provided some detail as to how intersession weeks were implemented, as part of a YRE calendar adopted by a school system in Virginia (2020, p. 16). Isom reported that during intersession weeks, teachers would spend half of the day teaching, and the other half planning. Although teachers could express a preference to teach either enrichment activities or 'remedial' classes during intersession weeks, schools ultimately had discretion as to which group teachers would be assigned to (p. 17).

Summer holiday provision

- 5.86 Researchers often provided some detail as to how summer holiday programmes had been implemented. In particular, a number of studies discussed the organisations involved in the planning, management and delivery of these programmes. Data Cymru reported that '[t]he SHEP is managed by its national coordinator and research and administration officer, situated within the WLGA, and is advised by its National Steering Group. At local authority level, the programme is coordinated by Local Steering Groups, comprising representatives from local sports development, public health, and education catering organisations, as well as the Welsh Network of Healthy School Schemes and programme schools themselves' (2020, p. 1).
- 5.87 Funding was distributed to settings that participated in the 'playworks pilot' scheme by their Local Authorities (Geary, Awoyemi and Gracey 2020, p. 20). In order to

participate in the scheme, settings had to meet a number of requirements. For instance, only settings that were already established and operating as play providers were considered eligible. This required settings to fulfil the relevant legal requirements, including registration with Care Inspectorate Wales (CIW), unless they operated under exceptions stipulated by the National Minimum Standards for Regulated Childcare for children up to the age of 12 years (NMS) (Geary, Awoyemi and Gracey 2020, pp. 17-18).

- 5.88 Campbell-Jack et al, in evaluating the HAF programme, reported that VCOSOs and community interest organisations were more likely to be designated as HAF leads than Local Authorities were, and that VCOSOs and Local Authorities partnered to deliver at least some HAF provision in all HAF areas (2020, p. 15). HAF providers were most commonly VCOSOs (47 percent), schools (18 percent), or private organisations (17 percent). Local Authorities made up 6 per cent of providers, and religious groups (2 percent), housing associations (1 percent), and food banks (less than 1 percent) made up a very small minority of providers (p. 23).
- 5.89 In evaluating existing wraparound care offered by primary schools in Northern Ireland (including holiday wraparound care), Lowndes and Dennison found that most schools that offered wraparound care provided said care themselves, as opposed to using private contractors. This was the case for both rural and urban schools (2012, pp. 26, 28). However, of all the available forms of wraparound care, provision during the school holidays was the most likely form of wraparound care to be delivered by private contractors (p. 26).
- 5.90 Furthermore, Augustine et al reported that '[t]wo of the five districts [which operated summer schools evaluated by McCombs et al 2014 and Augustine et al 2016] operated their programs in partnership with local nonprofits' (2016, p. 4).
- 5.91 Additionally, a number of studies examining the impacts of summer holiday provision also provided information regarding the costs of these programmes. Geary, Awoyemi and Gracey reported that the 'playworks pilot' study was allocated £100,000 (2020, p. 6). Where funding was used to cover the cost of food or of the addition of extra days of provision in open access settings, the average cost per session was £5. Where funding was used to provide all-day out of school childcare, the average cost per (all-day) session was £36 (p. 20). Martin, Sharp and Mehta

reported that secondary schools participating in the summer schools programme were given £250 per week for each eligible child, to fund programme activities (2013, p. 4). Gorard, Siddiqui and See, in evaluating a summer schools programme delivered across three sites in England, found that provision for all 193 attending pupils was between £500,000 and £550,000. The cost per pupil was around £2,800 (2015, p. 8). The costs of implementing and delivering the 'A Day Out, Not a Handout' programme are unclear (Evans 2020, p. 28). In addition, some researchers indicated that funding was not uniform across provision sites. Martin, Sharp and Mehta noted that schools in the intervention group could supplement the programme funding with their own funds, if they chose to (2013, p. 7). Similarly, Data Cymru reported that some SHEP schemes received extra funding, to cover provision for students with ALN (2020, p. 6).

- 5.92 A number of studies also provided details of the cost of summer holiday provision to the families of children attending provision. Augustine et al, in evaluating a US summer schools programme, stated that provision was free across settings (2016, p. 3). Similarly, Evans reported that the majority of clubs operating under the 'A Day Out, Not a Handout' scheme were free for children to attend (2020, p. 28). In response to surveys, 77 per cent of providers operating under the HAF programme reported that provision was free for all children (n=527)²⁸ (Campbell-Jack et al 2020, p. 52). 15 per cent of surveyed principals of primary schools in Northern Ireland²⁹ reported that holiday wraparound care programmes provided by their primary schools (i.e. those that provided information regarding the cost of provision) was free (Lowndes and Dennison 2012, p. 40). 15 per cent of providers under the HAF programme provided free places for some students (specifically, disadvantaged students), while charging others for attendance (Campbell-Jack et al 2020, p. 52). In addition, 36 per cent of HAF providers charged between £12.00 and £23.99 per day, 34 per cent charged £24 or more per day, 17 per cent charged between £0.01 and £5.99 per day, and 13 per cent charged between £6.00 and £11.99 per day (Campbell-Jack et al 2020, p. 53). Lowndes and Dennison (2012), using responses

²⁸ There were 527 responses from providers after pre and post-test responses were 'merged'; there were 419 pre-test responses, and 241 post-test responses. Additionally, 11 'case study' visits were undertaken (Campbell-Jack et al 2020, p. 13).

²⁹ Of those that provided information about the costs of wraparound care (Lowndes and Dennison 2012, p. 40).

from principals who provided information regarding the costs of their schools' wraparound care programmes, found that a quarter of holiday wraparound care programmes offered by schools in Northern Ireland charged between £1 and £5 per day. 21 per cent charged between £5.01 and £10, 21 per cent charged between £15.01 and £20, 15 per cent charged between £10.01 and £15 (p. 40). They also found that all categories of wraparound care services provided by the school were cheaper than services provided by private companies (p. 44).

- 5.93 Very little information was available regarding the marketing of summer holiday programmes to prospective students and their families. In marketing HAF provision, providers used a range of approaches. Most commonly, parents/carers had heard about HAF from teachers or school staff (28 percent). 16 per cent of parents/carers became aware of HAF due to leaflets, and 15 per cent due to social media (Campbell-Jack et al 2020, pp. 29, 33). Additionally, Augustine et al reported that the US summer schools programme evaluated by the authors was supported by a number of '...technical assistance providers...', who assisted programme leaders with a number of tasks, including the recruitment of students to the programme (2016, p. 4).
- 5.94 A number of studies included in this review examined summer holiday programmes that were targeted at students from economically disadvantaged backgrounds in particular. Programmes utilised different approaches in attempting to target these students. In order for schools to be eligible for a SHEP scheme, the school's Local Authority needed to determine whether FSM eligibility was over 16 per cent in that school's student body (Data Cymru 2020, p. 1). Settings needed to be situated in areas of high deprivation to be eligible to take part in the 'playworks' pilot scheme (Geary, Awoyemi and Gracey 2020, p. 17). Beach and Traga Philippakos reported that students needed to be underperforming in reading and attend a school where over 98 per cent of students participated in the National School Lunch Programme, in order to participate in the summer reading programme evaluated by the researchers (2021, p. 173). Martin, Sharp and Mehta reported that although the summer schools programme was aimed at children from disadvantaged backgrounds, schools did offer provision to children from non-disadvantaged backgrounds as well (2013, p. 4). Campbell-Jack et al reported that while three areas in receipt of HAF funding attempted to limit their holiday provision to FSM-

eligible students only, other areas were more open to having non FSM-eligible students attend holiday provision as well (2020, p. 15). They also found that, during recruitment, providers generally targeted either individual FSM-eligible children, or areas with high levels of FSM eligibility (p. 29). Where providers targeted individual FSM-eligible children, this was done through liaising with schools and other children's services to facilitate direct referrals of FSM-eligible children to HAF, and wider efforts by schools to promote HAF (pp. 29, 31). Where providers targeted areas of high FSM eligibility, marketing was broader and aimed to recruit students generally (p. 29). Some coordinators (n=10 interviews) used a mix of individual and location-based targeting, and some used alternative indicators to target children from disadvantaged backgrounds, such as Looked After status (pp. 13, 31-32).

- 5.95 For many summer holiday programmes, teachers and staff delivering provision were required to undertake training and/or prepare for the summer curriculum prior to the start of delivery. This was reported by Siddiqui, Gorard and See (2014, p. 128), Gorard, Siddiqui and See (2015, p. 7), Campbell-Jack et al (2020, p. 20), Augustine et al (2016, p. 4), and Beach and Traga Philippakos (2021, pp. 177-178). Additionally, during interviews, staff responsible for delivering HAF provision reported concerns about a lack of care regarding staff wellbeing, and noted that staff often worked over their contracted hours (Campbell-Jack et al 2020, p. 79). Children and parents provided positive feedback regarding HAF staff, although some responses indicated that particular sites suffered from insufficient staffing (p. 80).
- 5.96 Siddiqui, Gorard and See reported that the lesson plans used in the summer school they evaluated '...were developed by two expert teachers in literacy and numeracy' (2014, p. 128). Similarly, Gorard, Siddiqui and See reported that experts had designed the lesson plans used in the summer school they evaluated, '...using formative feedback from the pilot study' (2015, p. 7). Augustine et al noted that the 'technical assistance providers' helped programme leaders with both '...curriculum development... [and] program planning...' (2016, p. 4).
- 5.97 Some researchers also noted that there was room for considerable variation among providers/settings as to how they implemented summer holiday provision. Martin, Sharp and Mehta stated that '[s]chools were free to design their programme based

on the needs of their incoming Year 7 cohort' (2013, p. 4). Geary, Awoyemi and Gracey noted that, in delivering the 'playworks pilot' scheme, settings had discretion as to the length of the sessions offered, the age range of children catered for, and for how many days and weeks provision would be delivered during the school holidays (2020, p. 18). Similarly, Augustine et al reported that districts were given some freedom as to how to implement summer provision within the programme (2016, p. 4). The authors tested for heterogeneity and district-specific effects to examine whether differences in implementation across districts had affected any key outcomes. They found no evidence to indicate that differences in implementation had affected any key outcomes significantly (p. 56).

- 5.98 Both Siddiqui, Gorard and See (2014, p. 127)³⁰ and Augustine et al (2016, p. 3) noted that the summer schools they evaluated featured free transport for participating students. Additionally, Campbell-Jack et al (2020) reported that HAF providers were given discretion in delivering healthy meals to participating children, due to local variation regarding available facilities and arrangements for sourcing ingredients. 64 per cent of providers reported that meals were prepared in-house, while 25 per cent used external providers, and 10 per cent used a mixture of in-house and external preparation (2020, p. 70).
- 5.99 The duration of summer holiday provision varied across (and at times, within) programmes. Table 5.1 provides an overview of the duration of the programmes evaluated in each study examining summer holiday provision included in this review.

³⁰ Free transport was provided for students to the summer school; however, parents/carers arranged transport home (Siddiqui, Gorard and See 2014, p. 127).

Table 5.1: Duration of summer holiday programmes³¹

Study	Duration
Augustine et al (2016)	24-30 days* ³² (pp. 5-6)
Beach and Traga Philippakos (2021)	23 days (p. 175)
Campbell-Jack et al (2020)	16 days minimum* ³³ (p. 29)
Data Cymru (2020)	12 days minimum* (p. 1)
Defeyter, Graham and Prince (2015)	Two to five days per week* (p. 3)
Defeyter et al (2018)	16-29 days* (p. 12)
Geary, Awoyemi and Gracey (2020)	30 days maximum* ³⁴ (pp. 18-19)
Gorard, Siddiqui and See (2015)	Four weeks (p. 1)
Lowndes and Dennison (2012)	Minimum five days per week* (p. 18)
Martin, Sharp and Mehta (2013)	Two weeks maximum* (p. 4)
McCombs et al (2014)	23-30 days* (p. 26)
Siddiqui, Gorard and See (2014)	Four weeks (p. 125)

Barriers to and facilitators of calendar reforms and their effects

Year-round education

5.100 Studies of YRE included in this review did not generally discuss factors that facilitated or hindered the successful implementation of YRE, or that impacted the ways in which the adoption of YRE affected key outcomes. However, Isom (2020) reported that teachers made a number of recommendations as to how best to

³¹ The majority of studies that examined the effects of YRE did not provide details as to the specific calendars used (i.e. duration of terms and breaks). Both Isom (2020) and Ramos (2012) gave descriptions of the YRE calendars used in the schools that they evaluated. In addition, Depro and Rouse (2015) described the YRE calendar used in Wake County, North Carolina. Details of these calendars can be found in sections 5.67 and 5.28, and footnote 18 of this review. For details as to the length of the YRE calendars examined in the studies included in this review, please see 3.8. This review found no studies of longer/shorter school years that stated how long the alternative school year was.

³² An asterisk next to a study's duration indicates that the duration of provision varied between settings, and that the entry in this table represents the range of provision duration across settings, the minimum or maximum duration that funding was provided for, or the duration that was most common across settings. For further details, please see the individual studies.

³³ This figure refers to the duration of most programmes operated by providers that delivered the programme in 2019, and delivered an earlier version in 2018 (Campbell-Jack et al 2020, p. 29).

³⁴ This figure refers to the duration of the 'playworks' pilot scheme delivered during the summer break.

implement YRE calendars featuring intersession weeks. Teachers stated that remediation sessions should be taught in small groups, and by the students' usual teachers. Additionally, remediation sessions should be taught using alternative and engaging techniques. Teachers also recommended delivering enrichment activities to smaller classes, providing three days of enrichment programming per week for elementary school pupils (rather than five), and making use of community resources in undertaking enrichment activities (2020, pp. 145-147).

Summer holiday provision

Attendance and engagement

- 5.101 A number of studies included in this review noted that low attendance rates were a barrier to the successful provision of effective summer holiday programmes, and conversely, some researchers found that high attendance rates facilitated the successful provision of effective summer holiday programmes. The EEF (2021) reported that poor attendance is barrier to the successful implementation of summer schools, especially for disadvantaged students. Martin, Sharp and Mehta noted that, in delivering a summer schools programme, schools found that '[g]etting pupils to attend Summer School was the most common challenge' (2013, p. 8).³⁵ Similarly, Campbell-Jack et al reported that ensuring high attendance levels was a challenge commonly encountered by programme providers during the set-up phase (2020, pp. 27-28). Variation in attendance levels throughout provision presented a barrier to meeting set quality standards (p. 80). Furthermore, there is some evidence to indicate that poor student attendance can impact upon the capacity of summer holiday provision to deliver improvements in academic achievement. McCombs et al (2014) found that students attending summer school experienced greater gains in their performance in maths if '...they had attended at least 22 days and received at least 13 hours of mathematics instruction', and even greater gains if they had received a total of 26 hours or more of instruction. The authors therefore recommended that summer programmes should offer provision for five to six weeks and between 60 and 90 minutes of instruction in maths every day, and that

³⁵ Martin, Sharp and Mehta (2013), in discussing barriers to and attendance of the summer schools programme, referred to findings produced in the first and second evaluation phases of the summer schools programme. These findings were derived from schools' responses to a survey (n=877 schools) and case studies (n=10) (p. 7).

programmes should take steps to maximise ‘...instructional time inside the classroom’ (pp. xiii-xiv). Additionally, Augustine et al (2016) found that, after the summer schools programme had been offered for two consecutive years, ‘...students who had attended both summer programs, attended at high rates for both summers, attended at high rates in summer 2014 [i.e. the second year of provision], experienced high academic time on task in summer 2014, or some combination thereof had higher near-term language arts and mathematics achievement relative to control students. These associations persisted through the school year as indicated by the spring 2015 state assessments’ (2016, p. 69). Therefore, evidence from the USA appears to indicate that high attendance rates are associated with increased academic achievement. However, it must be noted that these conclusions are derived from comparing subsets of the treatment group to all of the control group, and these comparisons only demonstrate associations, not causation (McCombs et al 2014, pp. xiii-xiv; Augustine et al 2016, p. 69).

- 5.102 Campbell-Jack et al (2020), in evaluating the implementation and effects of the HAF programme, found that a number of factors influenced attendance levels among children. The authors noted that coordinators played a key role in facilitating attendance (by tackling logistic and organisational issues), as did ensuring that the venues used were large enough to properly accommodate provision, and ensuring that trust in staff was maintained. In addition, providers reported that families’ proximity to and familiarity with settings encouraged attendance, and parents, providers and children all cited provision being free as encouraging attendance (2020, p. 55). Conversely, key barriers to attendance included difficulties in engaging parents to commit to their child attending provision, particularly where parents had to commit to their child’s attendance for blocks of time or for sessions in advance, or where parents were required to attend provision with their child. Provision for four hours per day was not long enough for some parents and carers with longer working hours, and charges to parents for their child’s participation became a barrier where children were not eligible for FSM (and so did not qualify for free provision), but were still from relatively disadvantaged backgrounds. Some children who were eligible for FSM did not want to attend, as their non-eligible peers couldn’t attend, and providers reported concerns that parents may be less likely to send their child to HAF, due to stigmatisation. Arranging transport, especially in

rural areas and for children who were wheelchair users, presented a barrier to attendance (p. 56). Furthermore, in dealing with low levels of attendance, Defeyter et al recommended ‘...capitalising on community networks, linking with key stakeholders (e.g. local authorities), and ensuring effective communication about opening times through a number of mediums’ (2018, p. 150).

- 5.103 However, it is worth noting that Defeyter et al (2018) also found that attendance was, at times, too high. Both parents and staff reported that provision was, at times, oversubscribed, and that some families could not access provision (2018, pp. 98-99, 128-129). Staff recommended ensuring that capacity is sufficient, both in terms of the provision itself and of the transportation to and from provision (pp. 128-129). Conversely, Lowndes and Dennison found that, in interviewing primary school principals in Northern Ireland and asking why their school did not provide wraparound care (including holiday wraparound care), 26 per cent reported that there was a lack of demand for such provision (2012, p. 56).
- 5.104 Although a number of summer holiday programmes examined in this review attempted to target pupils from disadvantaged backgrounds, some programmes encountered difficulties in targeting these students. Coordinators of the HAF programme reported that engaging with particular groups of students that coordinators had initially planned to target presented a challenge during the set-up phase (Campbell-Jack 2020, pp. 21-22). Targeting disadvantaged students using FSM-eligibility presented a challenge, as not all students from disadvantaged backgrounds would necessarily be eligible for FSM. Additionally, identifying students who were FSM-eligible presented a challenge for non-school organisations offering HAF provision, as these organisations did not automatically have access to this information (2020, p. 18). As noted above, there were concerns that students would only want to attend the programme if their friends and/or family would also attend, which would present a problem if said friends and family did not meet the eligibility criteria to participate in the programme (p. 29). Where providers and coordinators targeted individual FSM-eligible students, this approach was facilitated by existing strong links between providers/coordinators and schools, to facilitate referrals (p. 31). Where providers and coordinators targeted areas with high FSM-eligibility, this was facilitated by coordinators having sufficient information about the area to situate provision in an area that made it easier for FSM-eligible children to

attend provision. However, targeting locations in this was especially difficult in areas that were rural and/or sparsely populated, and which did not have particular areas of high economic deprivation (p. 32).

5.105 The EEF (2021) stated that where provision of summer schools is targeted at students from disadvantaged backgrounds, providers must avoid stigmatising these students. Campbell-Jack et al noted that both providers and coordinators expressed concerns about potentially stigmatising FSM-eligible pupils, and that this was cited by some as a barrier to marketing (2020, pp. 29, 35). The authors also reported that some coordinators chose location-based targeting (rather than targeting individual FSM-eligible students) in an attempt to avoid stigmatising FSM-eligible students (p. 32). Few studies reported what proportion of attending students were from disadvantaged backgrounds, and what the attendance levels of students from disadvantaged backgrounds were. Martin, Sharp and Mehta reported that '[h]alf of the disadvantaged pupils invited to a[s] [sic] Summer School attended at least once' (2013, p. 8). Campbell-Jack et al noted that, in most areas offering HAF provision, between 34 and 44 per cent of attending children were eligible for FSM (2020, p. 30). They also reported that, of the attending students who were eligible for FSM in 2019, 29 per cent attended between five and 10 sessions, 27 per cent attended over ten sessions, and 18 per cent attended one session (p. 30). In addition, they noted that the two HAF areas with the highest proportion of FSM-eligible students attending provision were not situated within the local authorities which had the highest levels of FSM eligibility, and that these areas targeted FSM-eligible students more than most other areas. However, there were also indications that targeting provision in this way had made organising provision more difficult, and that this may have affected the overall number of pupils who engaged with the programme in these areas (pp. 30, 41).

5.106 Furthermore, Campbell-Jack et al reported that difficulty getting parents to engage was cited a barrier to successfully providing enrichment activities (2020, p. 69).

Costs and funding

5.107 Other factors that were commonly reported to have influenced the success of summer holiday provision were the cost associated with the programme and the funding allocated to the programme. The EEF (2021) noted that summer schools

tend to be expensive interventions, and costs include staff salaries, hiring facilities, purchasing resources, and undertaking activities. They also stated that summer schools delivered by teachers are likely to be more expensive than those delivered by other staff. 28 per cent of surveyed primary school principals in Northern Ireland cited cost as a disadvantage or difficulty of providing wraparound care (including holiday wraparound care) through schools (Lowndes and Dennison 2012, p. 52). Campbell-Jack et al found that the cost of activities and trips presented a barrier to providing enrichment activities, and inability to purchase sports equipment was reported by providers as being a barrier to providing physical activities (2020, pp. 66, 69). The authors also noted that providers who had not been allocated HAF funding reported that they would have been able to deliver longer, more frequent and better quality provision, had they been given HAF funding (p. 38). This was supported by statements given by HAF coordinators and providers during interviews. They indicated that HAF funding had particularly affected the provision of food and nutrition education, and the majority of providers reported that HAF had a 'positive' or 'large positive' impact upon the types of activities offered by providers (84 per cent) and upon attendance (87 per cent) (pp. 30, 64). 46 per cent of providers reported that HAF funding had a 'positive' or 'large positive' impact upon the training they provided to staff (p. 60).³⁶ HAF providers were found to be more likely to offer healthy meals, physical activities, enriching activities, and nutrition education every day than non-HAF providers (p. 62). Additionally, the authors found that, while provision of summer programming that met the '4:4:4'³⁷ standard increased between 2018 and 2019 in areas that were allocated HAF funding, the level of '4:4:4' provision in non-HAF areas did not increase, suggesting that HAF funding may have increased provision (p. 38).

- 5.108 Similarly, Lowndes and Dennison found that principals of primary schools that received extended schools funding were more likely to report that their school offered wraparound care than principals of primary schools that were not in receipt of extended schools funding (2012, p. 34). Of the principals of schools that did not provide wraparound care, 65 per cent reported 'cost/lack of funding' as a reason (p.

³⁶ 36 per cent said the funding had made no difference, and 16 per cent said they didn't know (Campbell-Jack et al 2020, p. 60).

³⁷ This refers to provision that was offered for (at least) four hours per day, over four days per week, across four weeks during the summer holidays (Campbell-Jack et al 2020, p. 29).

56). Additionally, some principals provided information as to how much their school charged families per session for wraparound care during the school holidays. Most commonly, schools charged between £1 and £5 per day (25 percent). 21 per cent charged between £5.01 and £10, and 21 per cent charged between £15.01 and £20. 15 per cent charged between £10.01 and £15, 15 per cent offered provision for free, and 3 per cent charged over £20. The authors found that schools that did not receive extended schools funding were more likely to charge families more for holiday wraparound care (p. 40).

- 5.109 In addition, Geary, Awoyemi and Gracey reported that most 'open-access' play sites (92 percent) that received funding to implement the 'playworks pilot' '...used the funding to increase the provision of food or number of days the settings was open...', while '...[six] out of school settings used the funding to fund places for children at risk of holiday hunger' (2020, p. 20). 50 per cent of sites hadn't provided food before receiving the funding for the pilot (p. 22). Funding for the pilot helped 'open-access' settings to attract children and families who hadn't accessed the settings before by providing food, and '...supported the sustainability...' of out of school clubs receiving funding through the pilot scheme (p. 31).
- 5.110 Campbell-Jack et al found that coordinators reported that the short-term nature of the funding presented a challenge during the set-up phase, as some providers were concerned about potential decreases in funding in the future, as only one year of funding was confirmed at the time (2020, p. 20).

Staffing issues

- 5.111 Some researchers reported that staffing presented a challenge in implementing and delivering summer holiday programmes. HAF providers reported that staffing presented a number of challenges during the set-up phase. These included recruitment (which was particularly difficult in instances where a greater number of staff/teachers were needed – for instance, in delivering provision for students with ALN), getting DBS checks completed, and relying on staff from partner organisations (Campbell-Jack et al 2020, pp. 27-28). 43 per cent of surveyed principals of primary schools in Northern Ireland stated that 'staffing/management difficulties' were a disadvantage/difficulty of providing wraparound care (including holiday wraparound care) through schools. 28 per cent cited 'workload' as a

disadvantage/difficulty, while only 2 per cent cited 'care issues' (Lowndes and Dennison 2012, p. 52). Additionally, 45 per cent of principals whose school did not provide wraparound care cited 'staffing issues' as a reason for this (p. 56).

- 5.112 Furthermore, insufficient staff training was found to be a barrier to the provision of nutrition education by Campbell-Jack et al (2020, p. 79). Staff interviewed by Defeyter et al stated that staff should be provided with training on a range of topics, including mental health, food provision, safety, and dealing with disruptive students (2018, pp. 128-129, 151).
- 5.113 However, Campbell-Jack et al (2020) found that the staff delivering the HAF programme were often a facilitator of effective provision. They reported that the wide range of backgrounds and expertise of staff helped to facilitate the provision of high-quality activities for children attending the programme (2020, p. 79). Additionally, McCombs et al reported that '...teacher grade-level experience... [was] associated with better outcomes' in reading (2014, pp. xiii-xiv). However, this finding indicates an association, and does not establish causation.
- 5.114 The EEF (2021), in its summary of existing evidence regarding summer schools, cautioned against increasing the workloads of teachers, and advised those considering implementing summer schools to take into account the potential impact this intervention could have upon the capacity of teachers to plan in advance for the upcoming academic year. In addition, staff interviewed by Defeyter et al recommended that staff with general duties should not be required to move often between clubs, and the specialised staff (i.e. staff that can provide specific activities for children) should be shared between clubs to a greater extent (2018, pp. 128-129).

Teaching, facilities and content

- 5.115 Some studies found that the quality of teaching impacted upon the effectiveness of summer holiday programmes. Siddiqui, Gorard and See (2014), undertook a 'process evaluation', monitoring the implementation and delivery of the summer school. Evaluators undertook observations of the staff training day, four days of the programme, and emergency and administrative procedures. They also undertook 'ad-hoc' interviews with '...organisers, trainers, staff including mentors, parents and pupils' (p. 127). They found that the quality of teaching varied, and that '[t]here were

some quite basic pedagogical and factual errors in some classes, apparent lack of interest by teachers, and too many broken promises to pupils'. Regarding numeracy instruction, concerns were raised relating to the amount of time spent on disciplinary issues, and the evaluators noted that although teachers were instructed during training not to act or sound like teachers in a normal school would, they did so anyway. Evaluators also noted that students became tired and lost interest during numeracy lessons (p. 128). Evaluators were more positive in their accounts of literacy instruction, noting that disciplinary issues were dealt with more effectively here (p. 129). Similarly, independent evaluators undertook process evaluation of the summer school examined by Gorard, Siddiqui and See (2015). They observed teaching, training and testing, examined texts and documents related to the programme, and interviewed staff, students and project members (p. 5). The evaluators observed poor teaching in a number of lessons, particularly in maths. They also reported '...basic pedagogical and factual errors, and in one case pupil written responses were marked incorrectly'. Evaluators also noted that student enjoyment appeared to be higher in literacy lessons, and remarked that '...classroom control was sometimes poor' (p. 8).

- 5.116 Beach and Traga Philippakos reported that research assistants monitored the fidelity of teachers and reading partners to the prescribed programme through observations, conducted at least once a week during the programme (2021, p. 180). They found that, on average, fidelity for teachers was high, and fidelity for reading partners was moderately high (p. 184). It is worth noting that the summer programme evaluated by Beach and Traga Philippakos was one of the only studies of a summer intervention evaluated in this review that demonstrated significant and positive effects on academic achievement. Additionally, McCombs et al reported that '...instructional quality... [was] associated with better outcomes' in reading (2014, pp. xiii-xiv). However, these findings only indicate associations, and do not demonstrate causation.
- 5.117 A number of researchers also found that poor-quality resources and a lack of sufficient facilities presented barriers in delivering effective summer holiday provision. Lowndes and Dennison found that, of the surveyed primary school principals whose schools did not provide wraparound care, 32 per cent cited a 'lack of accommodation/facilities' as a reason for this (2012, p. 56). Campbell-Jack et al

reported that insufficient cooking facilities and resources to integrate nutrition education into children's participation in meal preparation both acted as barriers to the effective provision of nutrition education through the HAF programme (2020, p. 79). Additionally, access to resources (particularly outdoor activities) was identified as a facilitator (p. 80). In interviews, staff who delivered the summer provision scheme evaluated by Defeyter et al recommended ensuring that club facilities are sufficient to feed the attending children, and ensuring provision of sufficient outdoor and indoor play spaces (2018, pp. 128-129). In addition, process evaluators evaluating a summer school raised concerns that there was a lack of new content in the literacy lessons to help students improve their abilities or their understanding, and the quality of the materials used in numeracy lessons (Siddiqui et al 2014, pp. 128-129). Parents, teachers and pupils reported that there had been a lack of variety in the available activities (pp. 129-131).

- 5.118 There was also limited evidence indicating that some summer holiday programmes were not inclusive of all attending students. Siddiqui, Gorard and See reported that, in delivering enrichment activities, there was a lack of consideration for students with ALN (2014, p. 129). Additionally, Gorard, Siddiqui and See reported that variation in student ability within groups was a barrier to effective provision, as activities did not cater to all students, which in turn reduced 'time on task' (2015, p. 9).
- 5.119 Furthermore, some students refused, were reluctant, or unable to participate in certain aspects of provision. Campbell-Jack et al reported that, while the majority of providers did not report encountering any particular barriers in providing healthy meals, some providers did state that some children would be reluctant or refuse to eat the food provided (2020, p. 72). In addition, providers reported that some students were reluctant to participate in physical activities, especially girls, less confident students, and students who were less physically active (p. 66). Some students were also reluctant to participate in enrichment activities; in particular, boys were often hesitant to participate in activities like dance and art (p. 69). Providers also reported that some students wore clothes that were unsuitable for physical activities (p. 66).

Administrative, organisational and logistical issues

- 5.120 Several studies indicated that a key factor in the effective implementation of summer holiday programmes was the amount of time available to those planning and organising the provision, and the use of that time to plan effectively before delivery began. The EEF (2021) highlighted the need for providers of summer schools to anticipate and deal with barriers early on. Campbell-Jack et al noted that mapping exercises helped coordinators to identify gaps in existing provision, both by location, and in relation to specific groups of students (for instance, students with ALN) (2020, p. 19). In one case study, mapping provision in this way facilitated engagement with local businesses, who contributed extra funding and expertise (p. 81). However, some coordinators stated that they would have liked to have had more time for mapping (p. 19). Additionally, coordinators reported that a lack of time caused difficulties during the initial set-up phase, which hindered the ability of coordinators to engage with providers, especially in areas where there was a lack of existing provision (p. 15). Coordinators also reported that a lack of time also created challenges for providers who were not already well-established or experienced (pp. 21-22). However, some coordinators did state that having already established a place in the community, links to other organisations and marketing, they were able to mitigate against the effects of a lack of time (p. 15). Staff interviewed by Graham, Defeyter and Prince repeatedly referred to the need for sufficient time to advertise provision properly (2015, p. 8).
- 5.121 Deficiencies in available information also appeared to be a barrier to effective planning. Staff interviewed by Defeyter et al recommended that information should be provided about children attending the programme prior to the start of delivery (especially regarding children with particular needs) (2018, pp. 128-129).
- 5.122 Several studies indicated that the extent to which programme staff are able to effectively collaborate with schools and other organisations is a key factor in determining how successful the implementation of a summer holiday programme will be. HAF coordinators cited difficulty engaging with and insufficient support from schools as challenges during the set-up phase, and reported wanting more support from DfE in engaging with schools (Campbell-Jack et al 2020, pp. 21-22, 27-28). Coordinators found '[g]etting services (e.g. children's services and public health

organisations) on board with specific requirements' to be a challenge during the set-up phase (p. 20). They also cited successful engagement with other bodies for the purposes of pupil referrals (including schools) as a facilitator during the set-up phase (p. 28). Surveyed principals of primary schools in Northern Ireland emphasised the benefits of working with other childcare providers in providing wraparound care, which included the ability to incorporate provision for different schools together, giving children the opportunity to meet students from other schools, and sharing knowledge between schools and childcare providers (Lowndes and Dennison 2012, p. 27). The EEF (2021) recommended that, where summer schools aim to target student transitioning from primary to secondary school, organisers should liaise with 'feeder' primary schools. However, it is worth noting that other organisations may present 'competition' for providers. HAF providers reported that competition with other providers was a challenge during the set-up phase, particularly as some providers could target specific groups of students (Campbell-Jack et al 2020, pp. 27-28). Furthermore, of the surveyed principals whose schools were not providing wraparound care, 21 per cent said that the reason for this was that there were 'childcare services already in [the] area' (Lowndes and Dennison 2012, p. 56).

- 5.123 There was limited evidence to indicate that transport was a barrier to the provision of summer holiday programmes. 11 per cent of principals whose schools did not provide wraparound care reported that this was due to difficulties with transport (Lowndes and Dennison 2012, p. 56).
- 5.124 Campbell-Jack et al's (2020) evaluation of the HAF programme found a facilitator specific to that particular programme: the role of the coordinator. Coordinators supported providers to understand the stipulated quality standards of the programme, provided training and guidance on meeting those quality standards, and assisted providers in developing policies and procedures (p. 59). They used informal triage processes to determine which providers needed the most support; these were generally providers that were not well-established and/or had no set policies and procedures (p. 16). Training and guidance were provided by coordinators to providers on a range of topics, such as food hygiene, safeguarding, health and safety, first aid, developing policies and procedures, and inclusion/accessibility (p. 59). Coordinators varied in their approaches to

management, and generally allowed providers varying degrees of discretion in organising activities (pp. 58-59). Some coordinators conducted monitoring visits to providers, or used minimum standards checklists to review providers (p. 58). 85 per cent of providers reported being 'fairly satisfied' or 'very satisfied' with the support provided by their coordinator (p. 59). 89 per cent of providers that received training and/or guidance found it 'useful' or 'very useful' (p. 60). However, there was some limited negative feedback from providers regarding coordinators. This feedback indicated that problems here (where they arose) were due to hurried or poor communication, a lack of clarity regarding quality standards, or insufficient support in liaising with external partners to deliver physical activities (pp. 59, 66).

- 5.125 Additionally, Campbell-Jack et al (2020) found that a lack of experience as a provider or a coordinator presented difficulties in successfully implementing the HAF programme. The authors stated that a lack of experience among coordinators exacerbated problems caused by a lack of experience among providers (p. 20). Coordinators reported that difficulties created by a lack of time were made more challenging where providers lacked experience or were not well-established (pp. 21-22).

Extended school year

- 5.126 Very few researchers that examined extended school years provided any information regarding the barriers and facilitators to this intervention. Barnard-Brak, Stevens and Valenzuela surveyed directors of special education in Texas (n=164), and asked them about the barriers to providing extended ESY services to children with ALN (2018, p. 246). The term 'extended school year' services refers to programming provided during the summer break, and under US law, students with ALN are entitled to a free and appropriate public education, which includes access to ESY services (p. 245). 81 per cent of directors reported at least one barrier to providing ESY services. The most commonly reported barrier (45 percent) was hiring qualified staff who would willingly work during the summer. Directors who worked in rural areas were significantly more likely to report this as a barrier. Other barriers reported were difficulty in determining which children were eligible for ESY services (32 percent), gaining the agreement of parents for their child to attend ESY services (29 percent), and insufficient financial resources (23 percent). Rurality was

not significantly related to any of these other barriers; however, directors in rural areas reported significantly more barriers than those working in non-rural areas (p. 247). Similar barriers to providing ESY services were reported by directors in both rural and non-rural areas (p. 248).

5.127 Furthermore, research conducted by Barnard-Brak and Stevens (2021) suggested that students with ALN in the USA may be underserved by existing extended school year provision. The authors surveyed special education directors across the USA (n=937), regarding the eligibility of students with individualised education plans (IEPs)³⁸ for ESY services (2021, p. 5). A key determinant of a student's eligibility for ESY services was the '(r)egression-recoupment standard.' This refers to '(s)ubstantial regression on IEP goals/objectives over the summer months followed by a failure to readily recoup losses in a reasonable amount of time (e.g., within the first 6 weeks of school)' (p. 7). 73 per cent of directors reported that the regression-recoupment standard was used to determine the eligibility of students with IEPs for ESY services, either as a main or partial factor. This was the most commonly reported criterion for eligibility (p. 6). Previously, Barnard-Brak and Stephens estimated that around 15 per cent of students with IEPs should receive ESY services, based on the regression-recoupment criterion (pp. 4-5, citing Barnard-Brak and Stephens 2019). However, directors reported that, on average, 12 per cent of students with IEPs are determined to be eligible for ESY services (p. 9). Additionally, around 63 per cent of directors reported that only students with IEPs who were educated in '...self-contained classrooms...'³⁹ were provided with ESY services (p. 9). The authors argued that assignment to a self-contained classroom should not be used as a determinant for eligibility for ESY services among students with IEPs, as this may cause parents to seek such assignment in order to ensure that their child has access to ESY services, even where these assignments may not be in the educational interests of the child (p. 10). Therefore, there is some evidence to suggest that existing practises to determine student eligibility for ESY services may be acting as a barrier to students with ALN in the

³⁸ Individual education plans (or 'individualized' education plans) are used to plan and monitor learning for students with special educational needs (National Autistic Society, September 2020).

³⁹ Children educated in 'self-contained classrooms' learn in classrooms dedicated to provision for pupils with special educational needs, as opposed to being placed in 'mainstream' provision, or receiving education at home or in a hospital setting (Spencer, 2013).

USA, preventing them from accessing necessary extended provision during the summer.

Content and delivery of alternative calendars

Year-round education

- 5.128 Most of the studies included in this review did not examine the content or the delivery of alternative calendars in detail. Isom (2020) provided some information regarding the content and delivery of intersession weeks, as part of a YRE calendar. During the intersession weeks, academic support was provided for students who were struggling. Students who were not struggling took part in enrichment activities (2020, p. 17). Lessons and activities were largely planned and implemented by teachers, but some community organisations also delivered activities (pp. 17-18).

Summer holiday provision

Content

- 5.129 Although studies included in this review did not examine the effects of specific allocations of activities during summer holiday provision, a number of researchers examined the content of summer holiday programmes, and how programme content affected the capacity of the programme to produce impacts upon key outcomes, such as academic achievement. The EEF (2021) stated that available evidence indicates that summer schools must contain an academic element in order to produce positive effects upon academic achievement. Additionally, the EEF reported that in order for disadvantaged students to benefit from summer schools, those summer schools must feature an academic component (as well as 'intensive teaching' – see 5.137). The Foundation recommended that summer schools provide '...additional learning time in key subjects' and additional targeted support.
- 5.130 In evaluating SHEP, Data Cymru (2020) found that some specific elements of the programme were perceived to have positively impacted attending children. Participants from all five case studies reported a link between the school-based elements of SHEP and improvements in children's school-based and general happiness (p. 11). In addition, participants in three of the five case studies reported a positive relationship between enrichment activities offered by SHEP and improved

mental health and emotional wellbeing among children (p. 10). Stakeholders in the 'ALN' and 'urban' case studies reported that the enrichment activities had moderately increased children's self-directed learning, their independence and their enjoyment of physical activities, while stakeholders in the 'west Wales' and 'Welsh medium' case studies stated that the enrichment activities had helped children to develop their social skills (pp. 13, 24, 28). Parents (in five out of five case studies) and stakeholders (in three out of five case studies) reported that learning new skills had supported children in developing their social skills (p. 14). Furthermore, there were indications that the physical activities provided by SHEP were associated with positive outcomes for children attending the provision. Participants in three out of the five case studies reported a link between the structured physical activities provided and improved mental health and emotional wellbeing in attending children (p. 10). Stakeholders in three of the five cases ('urban', 'ALN' and 'Welsh medium') stated that the structured physical activities helped children to develop their social skills, and stakeholders in three of the five case studies ('Welsh medium', 'west Wales' and 'transition') reported moderate links between structured physical activities and the take-up of sports among children after having attended SHEP (pp. 13, 27). In the 'transition' case study, stakeholders reported that structured physical activities contributed to an increase in take-up of local physical activity provision, and that children were able to familiarise themselves with school PE lessons, which supported them during term-time (pp. 22, 28). Parent and stakeholders in four of the five case studies stated that exposure to sports and links to providers (established through SHEP) encouraged children to take part in local physical activities; parental survey responses provided some support for this claim (p. 28). Stakeholders from all five case studies reported that structured physical activities contributed to children's increased enjoyment of sports and physical activities, and parents in three of the five case studies reported that children's increased exposure to physical activities provided opportunities for them to improve their connections to friends and family members by playing sports together (p. 29). Parents from all five case studies commented on the positive impact of their child having a safe place to play (provided by SHEP) upon their child's mental health and emotional wellbeing (p. 12). In addition, participants in the 'Welsh medium' and 'west Wales' case studies reported a positive relationship between SHEP's provision of a weekly family meal

and improved mental health and emotional wellbeing, for both parents and children (p. 10). Stakeholders in the 'transition' and 'ALN' case studies reported that the delivery of nutrition education helped children to develop their social skills. In four of the five case studies, stakeholders reported that the provision of a healthy breakfast and lunch also supported children in developing social skills (p. 13).

- 5.131 Settings which offered provision under the 'playworks pilot' scheme noted that certain aspects of the programme appeared to have produced positive outcomes. For instance, some settings reported that facilitating sociable family meals supported children to try different foods, and to snack less over the course of the day. Additionally, settings reported that children's awareness and knowledge of healthy eating was improved by '[i]nvolving [them] in food preparation... and having discussions about food and drink choices whilst preparing and eating [food]...' The majority of settings provided drinking water for children, and reported increased water consumption among the children, and children being '...less likely to bring soft drinks with them to the setting' (Geary, Awoyemi and Gracey 2020, p. 31).
- 5.132 Additionally, Campbell-Jack et al noted that children, staff and parents all reported that attending children enjoyed the unstructured activities provided as part of HAF programmes, which allowed children to learn at their own pace (2020, p. 69).
- 5.133 Other studies provided details of the content of the summer holiday programmes they examined, but did not provide any conclusions as to how specific elements of the content affected key outcomes. For instance, Siddiqui, Gorard and See described the schedule used by the summer school they examined: 'The morning consisted of literacy and numeracy sessions using a mixture of activities, presentation and team work. There was a break between the sessions. Then there was a sandwich-based lunch, and an afternoon of enrichment and/or enjoyable activities. Sometimes these activities were for the whole intake, sometimes by group and sometimes selected individually from a menu' (2014, p. 127).
- 5.134 Similarly, Gorard, Siddiqui and See reported that the summer school they evaluated utilised '...a specially designed curriculum involving regular literacy and numeracy lessons... Each afternoon, students participated in a variety of sports and enrichment activities' (2015, p. 2). All attending students took part in '...two 75 [minute] academic lessons each morning, one for literacy and one for numeracy.'

Enrichment activities included cooking, arts, sports, and activities that took place off-site (p. 7). Augustine et al stated that the summer programmes examined by the researchers all featured ‘...voluntary, full-day programming combining academics and enrichment... [and] at least three hours of instruction (language arts and mathematics) per day...’ (2016, p. 3).

- 5.135 Campbell-Jack et al (2020) also described the activities most commonly delivered by HAF providers. The majority of providers reported that they provided healthy meals (94 percent), physical activities (89 percent), and enriching activities (65 percent) every day throughout provision, while 44 per cent said that they provided nutrition education every day (p. 61). These responses from providers were largely supported by the responses provided by children as to which activities they had completed during the programme (p. 63). Campbell-Jack et al noted that, in delivering physical activities, providers aimed to offer a range of activities, for different age groups and interests. As such, the content and format of physical activity sessions varied considerably between providers, as did the content of the enriching activities offered (pp. 65, 67). They also found that, of all the HAF providers, schools were most likely to meet the programme’s set quality standards every day during provision, while VCSOs were the least likely to provide healthy meals, physical activities, and enriching activities every day. Private organisations were the least likely, among providers, to deliver daily nutrition education (p. 62).
- 5.136 Geary, Awoyemi and Gracey reported that around 40 per cent of settings that offered provision through the ‘playworks pilot scheme’ ‘...offered parent or family activities. Most of these allowed parents to join in with the available play opportunities so that families could play together. A few included parents at mealtimes in order to allow families to eat and try new food together’ (2020, p. 23). In evaluating the ‘A Day Out, Not a Handout’ programme, Defeyter et al (2018) found that all participating clubs offered attending children meals and activities. Activities offered allowed families to take part with their children (p. 12). During interviews, staff reported that the clubs provided educational opportunities and promoted family activities (pp. 128-129). Defeyter, Graham and Prince found that some of the holiday breakfast clubs they examined also provided activities for attending children (2015, p. 3).

Delivery of content

- 5.137 Some researchers provided details regarding the personnel responsible for delivering summer holiday programmes. However, researchers did not generally explore the effects of personnel upon the effectiveness of the programme in depth. The exception here was the EEF's (2021) summary of existing evidence on summer schools. The EEF noted that on average, summer schools delivered by teachers known to attending students in advance (i.e., teachers that students have previously been taught by) produce around four months of additional learning gains, one month more than the average gains produced by summer schools.
- 5.138 Other researchers described the staff responsible for delivering provision in the summer holiday programmes they evaluated. Siddiqui, Gorard and See reported that each '...teaching group[s]...' was assigned '...a trained teacher and one or more mentors or peer mentors' (2014, p. 127). Similarly, Gorard, Siddiqui and See stated that the summer school they evaluated provided academic content, which was delivered by '...trained teachers', who were supported in their delivery '...by mentors and peer-mentors...' (2015, p. 2). Teachers at this summer school were described as being '...well-qualified and experienced in teaching at primary or secondary levels...' (p. 5). Mentors were older students, some of whom were in sixth-form (p. 7). Beach and Traga Philippakos reported that the summer reading programme they examined was delivered by 16 teachers and 30 reading partners (2021, pp. 173-174). In order to be recruited to the study, teachers had to be actively teaching children in grades k-5 (5-11 years) in the participating district (p. 173). Reading partners were between 80 and 93 years old, and most had some prior experience of reading with children or grandchildren. 20 out of the 30 participating reading mentors had some experience of higher education (p. 174). Furthermore, Augustine et al indicated that teachers were responsible for delivering academic content in the summer schools programme that the researchers examined (2016, p. 37). Campbell-Jack et al (2020) reported that most HAF providers utilised a mixture of paid and unpaid staff (57 percent), while 40 per cent of providers delivered provision using only paid staff. Only 3 per cent of providers used exclusively unpaid staff (p. 25).

- 5.139 There is also evidence to suggest that the 'student to teacher' ratio can affect the impacts delivered by a summer programme. The EEF (2021) reported that summer schools with '...an intensive teaching component such as using small group or one-to-one approaches have higher impacts, on average.' Additionally, the EEF stated that there is evidence to indicate that disadvantaged students may benefit from summer schools, '...where activities are focused on well-resourced, small group or one-to-one academic approaches.' Furthermore, Gorard, Siddiqui and See (2015) noted that teachers participating in the summer school reported that children's confidence had increased, as a result of the '...individualised attention...' that they had received in their literacy and numeracy sessions, '...almost at the level of private tutoring'. Mentors who had supported students with ALN also stated '...that regular tutoring support had increased the confidence of pupils and in the [fourth] week of the programme they felt that the pupils had improved' (2015, p. 9).
- 5.140 Some researchers provided details of the student to teacher ratio or student group sizes in the summer schools they evaluated, but did not explore the effect of these ratios and/or groupings upon the effectiveness of the summer schools. Siddiqui, Gorard and See reported that '[p]upils were divided into eight teaching groups of between 16 and 20 each...', and that although students were at first divided into group on the basis of academic performance, they were placed into mixed groups later on (2014, p. 127). Additionally, Gorard, Siddiqui and See (2015) stated that while groups were originally envisioned as containing at least ten students each, '[t]he achieved pupil to teacher ratio was around 5.5...' (pp. 7-8), with considerably fewer students in each lesson than had been originally anticipated. The authors reported that '[t]here were usually 3 or even 4 adults in each classroom of 10+ pupils, and every child was seen receiving extra attention and time from the adults. In some observations there were more adults than pupils in each classroom' (p. 8). Augustine et al noted that small class sizes were a consistent feature of provision across the summer school programme that they evaluated, with at least one adult present for every 15 students (2016, p. 3). Lastly, Beach and Traga Philippakos reported that the summer reading intervention they examined used small groups in delivering the intervention (2021, p. 169).

6. Limitations

How applicable is this evidence to education in Wales?

- 6.1 There appears to be very little evidence as to the effects of changes to the school calendar in Wales, or in other UK nations. No studies were found that examined the impact of YRE or extended school years in a UK context. There are some sources that evaluate the effects of summer holiday provision in Wales,⁴⁰ in England,⁴¹ in Northern Ireland,⁴² and in England and Northern Ireland.⁴³ Aside from these, all other studies included in this review either use international data to report on the effects of YRE or extended school years across multiple nations,⁴⁴ or report on the impacts of changes to the school calendar, or the effects of summer holiday provision, in the USA. Studies examining the effects of YRE in the USA tend to focus on particular areas where YRE schools are more prevalent, such as North Carolina⁴⁵ and California,⁴⁶ rather than examining the effects of YRE across the USA. Conclusions as to the effects of changes to the calendar (or the provision of summer holiday programmes) derived from studies undertaken outside of Wales will not necessarily be generalisable to Wales, as Wales has its own distinct population, education system and background factors, all of which could alter how such changes would impact upon academic attainment, the health and wellbeing of pupils, the conduct of pupils, and the satisfaction and wellbeing of teachers and other school staff. Evidence derived from studies examining the impact of summer holiday provision in England is more likely to be generalisable to Wales, as Wales and England share significant similarities in many areas, such as their current school calendars. Additionally, evidence derived from studies examining the impact of YRE across countries may be applicable to Wales. However, in general, evidence as to the impacts of changes to the school calendar (or the provision of

⁴⁰ See Data Cymru (2020, pp. 1-2) and Geary, Awoyemi and Gracey (2020, p. 1).

⁴¹ See Martin, Sharp and Mehta (2013, p. 1), Siddiqui, Gorard and See (2014, p. 127), Gorard, Siddiqui and See (2015, p. 1), Defeyter et al (2018, p. 1), and Campbell-Jack et al (2020, p. 10).

⁴² See Lowndes and Dennison (2012, p. 18).

⁴³ See Defeyter, Graham and Prince (2015, p. 3).

⁴⁴ See Sandoval-Hernandez et al (2013, p. 3) and Wu (2020, pp. 105-106).

⁴⁵ See Smith (2011, pp. 45-49), McMullen and Rouse (2012, p. 815), Huffman (2013, p. 12), and Depro and Rouse (2015, p. 157). It is also worth noting that all of these studies (barring Huffman 2013) specifically examine the impacts of multi-track YRE in Wake County, North Carolina.

⁴⁶ See Graves (2011, pp. 1284, 1287), Pfeiffer (2011, p. iii), Jez and Wassmer (2011, p. 2), and Graves (2013, pp. 57-58).

summer holiday programmes) derived from studies undertaken outside of Wales must be treated with caution, as it cannot be assumed that these interventions would have the same effects, were they to be applied in Wales. Therefore, this review cannot provide any reliable evidence as to the likely impact of YRE or extended school years in Wales, as there are no available evaluations of these interventions in a Welsh (or UK) context.

- 6.2 The scarcity of evidence as to the effects of changes to the school calendar in Wales also means that this review cannot present any reliable evidence as to the likely impact of changes to the school calendar upon Welsh-language provision in education. Data Cymru have provided some limited evidence as to the impact of Welsh-medium summer provision upon Welsh-speaking children (2020, p. 23). However, there is no available evidence regarding the impact of changes to the school calendar upon Welsh-speaking pupils or Welsh-language provision in education. While there is some available evidence as to the impact of YRE and summer holiday provision upon students who speak English as an additional language, these studies were all undertaken in either England or the USA, and therefore it cannot be assumed that this evidence is generalisable to Wales. In addition, although EAL pupils and pupils in Wales may both speak different languages at home and at school, it is likely that there will be significant differences in the language learning and maintenance processes for EAL pupils and pupils in Wales. In particular, EAL students in English-speaking countries are likely to receive a higher level of daily exposure to English than the level of daily exposure to Welsh that students in Wales receive. Therefore, it cannot be assumed that conclusions as to the impact of YRE or of summer holiday provision upon EAL pupils will also be applicable to pupils in Wales, regarding the acquirement and maintenance of the Welsh language.
- 6.3 Even where studies have been undertaken in Wales, or other UK nations, caution must be exercised in applying the findings of these studies across Wales. This is because the samples within these studies are unlikely to be representative of the overall population in Wales, or of the overall populations of the UK nations in which they were conducted. Many studies did not attempt to randomly select participants, and often interventions were targeted specifically at children from economically

deprived backgrounds;⁴⁷ therefore the conclusions derived from these studies reflect the impacts of these interventions on disadvantaged pupils, rather than the impacts of these interventions on pupils generally. In addition, Data Cymru note that Welsh-medium schools are most likely under-represented in the School Holiday Enrichment Programme (2020, p. 6). Therefore, we cannot assume that their conclusions as to the effects of summer provision in Wales are generalisable to pupils attending Welsh-medium schools.

Quality of available evidence

Sample size

- 6.4 Evidence produced by studies with larger sample sizes are more likely to be valid, as generally, the more participants there are, the lower the risk of factors unrelated to school calendars and holiday provision are to distort (or ‘confound’) the relationship between school calendars/holiday provision and the measured outcomes (e.g. academic attainment, health and wellbeing of students, etc.). Sample sizes varied considerably across studies included in this review. Studies with a total sample size of fewer than 1,000 cases should be interpreted more cautiously, and studies with a total sample size of fewer than 100 cases should be treated with considerable caution.

⁴⁷ For Wales, see Data Cymru (2020, p. 1), and Geary, Awoyemi and Gracey (2020, p. 17); for England, see Martin, Sharp and Mehta (2013, p. 1), Gorard, Siddiqui and See (2015, pp. 1, 4), Defeyter et al (2018, p. 1), and Campbell-Jack et al (2020, pp. 9-10); for England and Northern Ireland, see Defeyter, Graham and Prince (2015, p. 2). Several US studies also examined interventions that were targeted at specific groups of pupils as well, such as low-income students in urban areas.

Table 6.1: Sample sizes: by number of cases⁴⁸

Sample size	Study
Meta-analyses/Systematic reviews	EEF (2021)
	Fitzpatrick (2018, p. 1)
	Fitzpatrick and Burns (2019, pp. 1-2)
>10,000 cases	Depro and Rouse (2015, p. 163)
	Graves (2011, p. 1287)
	Graves (2013, p. 60) ^{*49}
	Jez and Wassmer (2011, p. 18)*
	Mahoney (2014, p. 68)*
	Martin, Sharp and Mehta (2013, p. 12)
	McMullen and Rouse (2012, p. 815)
	Pedersen (2011, p. 1)*
	Poppink, Ma and Shen (2019, p. 9)*
	Sandoval-Hernandez et al (2013, p. 3)*
	Smith (2011, p. 49)
	Wu (2020, p. 106)*
>1,000 cases	Augustine et al (2016, p. 7)
	McCombs et al (2014, p. 2015)
>100 cases	Barnard-Brak, Stephens and Valenzuela (2018, p. 246)
	Barnard-Brak and Stephens (2021, p. 5)
	Beach and Traga Philippakos (2012, p. 174)
	Campbell-Jack et al (2020, pp. 102-103)** ⁵⁰
	Defeyter et al (2018, pp. 12-16)**

⁴⁸ In several studies, sample sizes for certain methods of data collection were missing. These were Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Gorard, Siddiqui and See (2015), Pfeiffer (2011), Ramos (2012), and Siddiqui, Gorard and See (2014).

⁴⁹ Although some studies evaluated in this review did not provide the total number of cases used in their analyses, several studies examined data across a large number of settings, including schools, districts, and countries. A single asterisk next to a study indicates that the scale of the studies indicate that their sample sizes are large, and likely in excess of 10,000 cases in total.

⁵⁰ Two asterisks next to a study indicates that the researchers used multiple methods of data collection, and that for some of these methods, the sample size fell below 100 cases.

Sample size	Study
	Geary, Awoyemi and Gracey (2020, p. 13)**
	Gorard, Siddiqui and See (2015, p. 4)
	Huffman (2013, pp. 58-59)
	Lowndes and Dennison (2012, p. 18)
	Pfeiffer (2011, pp. 66, 71, 85-90)**
	Siddiqui, Gorard and See (2014, p. 132)
	Weaver et al (2020, p. 18)
<100 cases	Data Cymru (2020, pp. 4-5)
	Defeyter, Graham and Prince (2015, p. 1)
	Isom (2020, p. 84)
	Ramos (2012, p. 6)

Establishing causation

6.5 In order to establish the strength of the evidence presented in this review, it is necessary to consider whether studies establish that the intervention they examine (i.e. changes to the school calendar or the provision of summer holiday programming) cause any changes in the measured outcomes (e.g. academic attainment). To do so, studies must compare outcomes for groups that have been exposed to the intervention to outcomes for groups that have not been exposed to the intervention. Most commonly, studies included in this review did so by comparing outcomes for students that had either attended a school operating under an alternative calendar, or had attended a summer holiday programme, to outcomes for students that had not attended an alternative-calendar school or summer holiday provision.⁵¹ Only two studies relied on pre and post-test data, in lieu of a comparison group.⁵² The studies in this review that did not compare

⁵¹ In the cases of the EEF (2021) report on summer schools, Fitzpatrick (2018) and Fitzpatrick and Burns (2019), the researchers reported findings derived from studies that utilised control and treatment groups.

⁵² Pfeiffer (2011) examined outcomes in an elementary school, before and after the implementation of YRE (pp. 84-107). Defeyter et al compared questionnaire responses from children at two different points in time (2018, pp. 16-17); otherwise, the findings presented here do not demonstrate causation, as they are not backed by comparisons between a treatment group and a control group, or pre and post-test data. Defeyter et al (2018), in surveying parents, asked parents about their experiences at two different points in time (p. 35), rather than surveying parents before and after the intervention; therefore, these findings are not backed by pre

outcomes across groups exposed to calendar changes/holiday provision and groups not exposed to these changes were Lowndes and Dennison (2012), Ramos (2012), Defeyter, Graham and Prince (2015), Defeyter et al (2018), Isom (2020), Campbell-Jack et al (2020), Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Barnard-Brak, Stephens and Valenzuela (2018), and Barnard-Brak and Stephens (2021). As such, these studies should be interpreted as providing evidence of associations between the interventions they evaluate and the recorded effects, rather than demonstrating that these interventions cause these effects. This means that the available evidence as to the impact of summer holiday provision in Wales⁵³ only demonstrates associations between provision and changes to key outcomes.

- 6.6 In order to isolate the impact of the intervention, participants in the control group should not be exposed to the intervention. If participants in the control group were exposed to the intervention, this would ‘contaminate’ the findings for the control group, and comparisons between the control and treatment groups would not provide reliable evidence as to the impact of the intervention. Although this was not a problem in any of the studies examining YRE, Pedersen noted that his examination of the impact of YRE does not consider whether participating students had previously attended YRE provision at elementary or middle school level. He stated that if some pupils have already been exposed to YRE, this could have impacted upon their attainment; however, whether students had previously attended YRE provision was not recorded (2011, 19). Other studies of YRE do not appear to report whether participating students previously attended YRE provision; however, this would only be an issue if the study examines the impact of YRE upon students attending middle school or high school (as it is unlikely that elementary school students would have been exposed to YRE prior to beginning elementary school). Few studies examining the impacts of summer holiday provision gave details as to the summer activities of children in the control group. It is possible that these children may have attended alternative summer provision, or received parental support, tutoring or enrichment activities equivalent to those included in a summer

and post-testing, and do not reliably establish causation. These findings must be interpreted as associations between attendance of the summer provision and the measured outcomes.

⁵³ See Data Cymru (2020) and Geary, Awoyemi and Gracey (2019).

programme. Beach and Traga Philippakos note that they did not collect data regarding the summer reading habits of children in the control group, and that children in this group had access to similar summer interventions (2021, p. 174). Additionally, McCombs et al reported that nearly 60 per cent of children in the control group did not attend any summer provision during the studied period, and that children in the control group who attended another summer programme during the studied period did not experience any positive impacts upon their performance in reading or in maths, in contrast to the treatment group (regarding maths) (2014, pp. xii, 38). This indicates that despite contamination of the control group, the findings of McCombs et al remain valid.

6.7 Although assigning participants into control and treatment groups presents the opportunity to examine whether changes to the calendar/holiday provision affect any key outcomes (such as academic attainment of students), there is a danger that differences between students in the treatment group and students in the control group could distort the relationship between the intervention and the measured outcomes. Random assignment of participants (for instance, students or teachers) into a treatment group or a control group increases the validity of a study's conclusions, because it significantly reduces the chances that differences between the control group and the treatment group (such as the prior academic achievement or socio-economic status of students) will distort the relationship between the intervention (in this case, changes to the calendar or the provision of summer holiday programming) and the measured outcomes (e.g. academic attainment, health and wellbeing, etc.). However, the majority of studies evaluated here did not attempt to randomly assign participants into control and treatment groups. This is because most studies examined instances where changes had been decided upon and implemented outside of the study, and these changes were not decided upon or implemented randomly. Therefore students, teachers and school staff were not assigned to summer holiday provision or schools operating under alternative calendars on a random basis, and we cannot conclusively state that the evidence presented in these studies has not been distorted by other factors. Exceptions here are Gorard, Siddiqui and See (2015), McCombs et al (2014), and Augustine et al (2016). Gorard, Siddiqui and See initially used a process of random assignment; however, this was compromised by a request from the funders to assign more year

six pupils to the treatment group, and high drop-out rates from children assigned to the treatment group after randomisation (2015, p. 4). Students whose families applied for their child to participate in the summer schools programme evaluated by McCombs et al (2014) and Augustine et al (2016) were randomly assigned places by a lottery. Students who were awarded a place formed the treatment group, while students who were unsuccessful formed the control group (Augustine et al 2016, p. 6). This means that the findings produced by McCombs et al (2014) and Augustine et al (2016) are less likely to be distorted by differences between the treatment and the control groups. However, it is worth noting that the families of pupils in both the control and treatment groups had to apply for their child to participate in the lottery; therefore the findings of both studies relate to the impacts of the summer schools programme upon pupils whose parents/guardians had selected their children as potential participants, rather than the impacts of the summer schools programme upon pupils generally.

- 6.8 In addition, there were some instances where studies, despite not achieving random assignment of participants into treatment or control groups, benefitted from assignment practices that reduced the likelihood of outside factors distorting the relationship between changes to the calendar/holiday provision and measured outcomes. In Wake County, North Carolina, pupils were assigned to different schools across the county, in an attempt to maintain a certain level of ‘...socioeconomic diversity...’ among pupils in schools. This meant that parents had little discretion regarding whether their child attended a YRE school or a traditional calendar school, and helped to mitigate against bias produced by socio-economic status and whether parents wanted their child to attend a YRE school (McMullen and Rouse 2012, p. 814). This policy came to an end in March 2010 (Depro and Rouse 2015, p. 161). As all studies included in this review that examined the impact of YRE in Wake County collected their data before then,⁵⁴ this assignment practice increases the validity of their conclusions.
- 6.9 While researchers in the majority of studies included here were not able to randomly assign participants to treatment and control groups, most did attempt to reduce the impact of potential confounding factors. Many of the studies used ‘matched

⁵⁴ See Smith (2011, p. 49), McMullen and Rouse (2012, p. 815), and Depro and Rouse (2015, p. 161).

comparison' research designs. These designs involved 'matching' students receiving the intervention (e.g. those attending YRE schools) with student who did not receive the intervention (e.g. attending traditional calendar schools), on the basis of similar demographic characteristics (e.g. FSM eligibility), in order to ensure that only similar students were compared. Alternatively, some studies matched intervention schools and non-intervention schools (e.g. YRE and traditional calendar schools) with similar characteristics. Studies that used such designs were Smith (2011, pp. 62-63), Siddiqui, Gorard and See (2014, pp. 127-128); Beach and Traga Philippakos (2021, p. 174), Weaver et al (2020, pp. 19, 24), Martin, Sharp and Mehta (2013, p. 10), and Pedersen (2011, p. 1). In addition, a number of studies included here introduced controls to account for the influence of other factors. These studies included Graves (2011, p. 1290), Jez and Wassmer (2011, pp. 14-15), McCombs et al (2014, p. 59), Augustine et al (2016, p. 56), Beach and Traga Philippakos (2021, p. 174), Poppink, Ma and Shen (2019, pp. 1, 8), Sandoval-Hernandez et al (2013, p. 7), Wu (2020, p. 127), Mahoney (2014, pp. 68-69), Graves (2013, p. 59), and Depro and Rouse (2015, pp. 158, 163, 165). Almost all studies included here, other than those that did not use control and treatment groups (noted above), took steps to account for the influence of other factors that could affect measured outcomes.⁵⁵

Further limitations

- 6.10 Studies that assess the effects of YRE tend to do so using data from multiple academic years.⁵⁶ Additionally, the impact of longer school years was examined across multiple years by Wu (2020, p. 106).⁵⁷ By examining data for multiple academic years, researchers here increase the reliability of their findings. This is a key limitation of existing evidence as to the impacts of summer holiday provision;

⁵⁵ There are some exceptions here; the EEF (2021) report on summer schools and Fitzpatrick (2018) did not attempt to control for other factors, but this was because these sources reviewed evidence provided by existing studies. Fitzpatrick and Burns, in reviewing existing evidence on single-track YRE in the USA, attempted to assess bias within the existing studies, but were unable to ascertain the size or direction of the bias (2019, pp. 8-12).

⁵⁶ See Smith (2011, p. 49), Pfeiffer (2011, p. 67), McMullen and Rouse (2012, p. 815), Graves (2011, p. 1284), Pedersen (2011, p. 1), and Depro and Rouse (2015, p. 161). However, Weaver et al (2020, p. 18) and Graves (2013, pp. 60, 63) examine the impacts of YRE throughout one school year. Jez and Wassmer (2011, p. 11) and Poppink, Ma and Shen (2019, p. 9) use data from one year only.

⁵⁷ However, other studies examining the effects of the length of the school year do not examine impacts across multiple academic years.

the majority of studies included here only assess the impacts of one year's provision.⁵⁸ Augustine et al analysed the effects of two consecutive summers of provision (2016, p. 6); however, there were no studies that evaluated the impacts of holiday provision for more than two years. Therefore, we cannot assess the long-term impacts of holiday provision. Similarly, there is little evidence as to the longer-term impacts of YRE, as studies did not track the same cohort across multiple years, and in the case of Wake County (North Carolina), schools had not operated under YRE calendars for more than three years at the time that data was collected (Depro and Rouse 2015, p. 170).

- 6.11 Additionally, some studies provided evidence that relied exclusively upon reports from students themselves, the families of the students, or teachers/providers. For instance, Mahoney's conclusions as to the impact of extended school years upon norm-breaking and anti-social behaviours relies upon reports of the prevalence of these behaviours from head teachers and school administrators, rather than data of exclusions, detentions, or other indicators of disruptive behaviours (2014, p. 68). Although such reports are valuable, evidence derived from them would be more robust if they had been accompanied by further supportive data.
- 6.12 In both available meta-analyses examining the effects of YRE, there was some variation as to the specific structure of the YRE calendars used in the studies analysed. Neither Fitzpatrick (2018, p. 4) nor Fitzpatrick and Burns (2019, p. 7) provided comprehensive details of the calendar structures used across all the studies evaluated. This means that we cannot ascertain which particular YRE calendars produced specific impacts upon key outcomes. Similarly, in a number of studies examining the impacts of summer holiday provision, researchers noted that there was considerable variation across settings as to how provision was implemented.⁵⁹

⁵⁸ These studies include Siddiqui, Gorard and See (2014, p. 127), Gorard, Siddiqui and See (2015, p. 2), and Martin, Sharp and Mehta (2013, p. 1). Geary, Awoyemi and Gracey examined the impact of one summer and one half-term holiday's worth of provision (2020, p. 6).

⁵⁹ See Martin, Sharp and Mehta (2013, p. 4), Augustine et al (2016, p. 3), and Geary, Awoyemi and Gracey (2020, p. 18).

7. Conclusions

7.1 This REA has sought to address key questions about the optimum school calendar, and the effects of changes to the school calendar upon a range of outcomes. These questions are:

- (1) What evidence is there demonstrating effects and impacts of reforms to the school calendar, particularly in relation to learning, child mental health, physical health and wellbeing, wraparound care and family life?
- (2) Are specific impacts upon disadvantaged and/or other groups of learners examined or identified? What are they? How do alternative calendars impact provision for students with ALN, and the learning and wellbeing of those students?
- (3) What evidence is there of alternative calendars being applied or considered in contexts where language immersion, or intensive language learning, is a feature of education provision? How have these considerations been approached in the planning and delivery of the alternative calendars? What are the effects of alternative calendars on this feature of provision?
- (4) What other effects have been demonstrated or suggested?
- (5) What factors have led to these reforms? Have these reforms been accompanied by wider changes (e.g. changes to the number of teachers, or changes to the curriculum)? If so, what are these changes? Have these reforms been made specifically in response to the Covid-19 pandemic?
- (6) How have reforms been implemented? In particular, what changes to funding arrangements, workforce volume and structure, incentives or statutory requirements have been deployed or considered?
- (7) What barriers and facilitators have been encountered and what have been their effects?
- (8) What is the nature of the activities provided within alternative calendars, outside of class teaching? Who delivers these activities? What is the balance between class teaching, learning support activities, individual tuition, physical activity and

creative/cultural activity in alternative calendars, and what are the effects of these allocations of activities?

7.2 The findings of this REA, in relation to each of these questions, will now be explored in turn.

7.3 **1(a) Effects of changes to the school calendar in relation to learning**

7.3.1 Research from the USA has produced mixed findings as to the impact of year-round education. Meta-analyses undertaken by Fitzpatrick and Burns (2019) and Fitzpatrick (2018) found that single-track YRE had significant and positive effects upon student achievement in some subjects. Fitzpatrick and Burns (2019) concluded that single-track YRE produced gains of just over one additional month's progress in reading, and just under one additional month's progress in maths. Fitzpatrick (2018) found that single-track YRE produced a significant positive effect upon performance in science (but not in social studies), and Jez and Wassmer (2011) found that multi-track YRE produced improvements in schools' academic performances. However, studies by Smith (2011), McMullen and Rouse (2012), Pedersen (2011) and Pfeiffer (2011) did not find consistent evidence to indicate that YRE significantly affected student achievement. Poppink, Ma and Shen (2019) concluded that YRE does not significantly affect whether schools make sufficient academic yearly progress. Research by Graves (2011) indicated that while single-track YRE did not significantly affect student achievement, multi-track YRE produced significant negative effects here.

7.3.2 Evidence regarding the impact of summer holiday provision upon academic achievement is also mixed. The EEF (2021), in summarising (mostly US-based) research published from 1963 to 2014, concluded that summer schools provided around three months of additional progress. Beach and Traga Philippakos (2021) found that a reading-based summer intervention in the US significantly and positively affected the reading skills of attending children. However, findings from Siddiqui, Gorard and See (2014) and Gorard, Siddiqui and See (2015) found no secure evidence to indicate that summer schools in England significantly affected academic achievement. Augustine et al (2016) concluded that although two years of summer programming in the US significantly and positively affected achievement in maths,

this effect was short-lived, and the programme did not significantly affect achievement in reading.

7.3.3 International and US research indicates that, overall, extended school years do not positively affect academic attainment. Jez and Wassmer (2011) found that increasing annual teaching time produced positive impact upon the academic performance of schools in the USA. However, research by Poppink, Ma and Shen (2019) contradicts this finding. Additionally, international research conducted by Sandoval-Hernandez (2013) and Wu (2020) concluded that longer school years are not significantly linked to academic attainment.

7.4 **1(b) Effects of changes to the school calendar upon children's mental health, physical health and wellbeing**

7.4.1 Evidence regarding the effects of YRE upon children's health and wellbeing was very limited, and provided mixed findings. Weaver et al (2020), examining the impacts of YRE in the US, concluded that YRE produced a reduction in students' BMI, and delivered positive, short-term impacts upon some student health outcomes over the summer, which did not persist over the school year. Additionally, Weaver et al concluded that YRE did not positively affect students' development of cardio-respiratory fitness. Research by Pfeiffer indicated that interviewed teachers in a YRE school in California unanimously felt that the YRE calendar reduced stress among students.

7.4.2 Evidence regarding the effects of summer holiday provision on children's health and wellbeing is also limited. Research conducted by Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Martin, Sharp and Mehta (2013), Campbell-Jack et al (2020), Defeyter et al (2018), and Defeyter, Graham and Prince (2015) indicated associations between summer holiday programmes and positive child health outcomes in Wales and other UK nations. These positive outcomes included improved emotional wellbeing and mental health, increased participation in physical activities, healthier eating habits, and improved social skills, as well as increased levels of confidence, school readiness and socialisation. However, these studies demonstrate associations between summer holiday programmes and these (mostly self-reported) outcomes. Research by McCombs et al (2014) and Augustine et al (2016) found that provision of a summer programme in the US did not produce

positive impacts upon social-emotional outcomes for children, after one or two years of programming. The review did not find evidence as to the impact of extended school years upon child health and wellbeing outcomes.

7.5 1(c) Effects of changes to the school calendar upon family life and wraparound care

7.5.1 Research examining the impact of YRE upon family life was very limited. Ramos (2012) found that, among families whose children were already attending school under a single-track YRE calendar, there were high levels of satisfaction with the single-track YRE calendar, and with the process of the school's transition to offering only a single-track YRE calendar. Opinion was mixed among families whose children had, until then, attended school under a traditional calendar. Findings also suggested that families value consistency regarding the type of calendar used by a school. However, the review did not find any studies that examined how (or whether) YRE calendars impacted family life.

7.5.2 Evidence regarding the effects of summer holiday provision on family life is also limited. Research conducted by Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Campbell-Jack et al (2020), Defeyter et al (2018) and Defeyter, Graham and Prince (2015) demonstrated that the provision of summer holiday programmes in Wales and other UK nations was associated with improved wellbeing, reductions in stress and financial pressures for parents, and increased quality time for families. However, as with reported beneficial effects upon child health and wellbeing, this evidence only demonstrated association, and not causation. This review did not find any studies that examined the effects of extended school years upon family life.

7.5.3 No studies were found that explored the impact of changes to the school calendar upon the provision of wraparound care.

7.6 2(a) Effects of changes to the school calendar upon specific groups of students, particularly students from economically disadvantaged backgrounds

7.6.1 The majority of research that investigated the impact of changes to the school calendar on specific groups of students examined effects on students from economically disadvantaged backgrounds. Research from the USA indicates that YRE did not significantly narrow the achievement gap between economically

disadvantaged students and their non-economically disadvantaged peers. Studies by Smith (2011) and Jez and Wassmer (2011) concluded that multi-track YRE produced significant and positive impacts upon academic achievement for economically disadvantaged students, and that these students experienced greater benefits from multi-track YRE than other students. However, research by Pedersen (2011) and Graves (2011) found that YRE either produced no significant effect upon the achievement of economically disadvantaged students, or (in the case of Graves 2011) produced significant negative impacts. Graves (2011) also concluded that multi-track YRE produced significant negative impacts upon the achievement of economically disadvantaged students, while single-track YRE did not appear to consistently produce any significant effects here. A meta-analysis conducted by Fitzpatrick and Burns (2019) found that students from socio-economically disadvantaged backgrounds exposed to single-track YRE experienced similar impacts to other students.

7.6.2 Similarly, research from the UK and USA indicates that summer holiday provision did not narrow the attainment gap between economically disadvantaged students and their non-economically disadvantaged peers. The EEF (2021), in summarising research published between 1963 and 2014, concluded that although disadvantaged students may benefit from summer schools, these benefits are only produced by certain kinds of summer school. Research by Siddiqui, Gorard and See (2014) produced inconclusive findings regarding the effects of a summer school programme upon economically disadvantaged students in England, and a study by Gorard, Siddiqui and See (2015) found that economically disadvantaged students experienced similar effects to their non-economically disadvantaged peers from attending a summer school programme in England. Research conducted by McCombs et al (2014) and Augustine et al (2016) found that economically disadvantaged pupils in the US were not impacted differently by one or two years of summer school programming. Martin, Sharp and Mehta (2013) found that attending a summer school was associated with increases in levels of confidence, school readiness and socialisation, and that these increases were significantly greater among economically disadvantaged students. However, these findings represent associations, and not causation.

- 7.6.3 Research examining the effects of extended school years upon economically disadvantaged students was very limited. Jez and Wassmer (2011) concluded that increasing annual teaching time produced significant and positive impacts upon academic achievement for socio-economically disadvantaged students in California. Mahoney (2014) found that while extended school years produced increases in anti-social and norm-breaking behaviours among 13-14 year olds, this effect was stronger in schools with lower proportions of economically disadvantaged students.
- 7.6.4 Additionally, evidence from the USA indicates that YRE did not consistently impact the academic achievement of students from Black, Asian and Minority ethnic communities differently to the academic attainment of white students. Research by Graves (2011) found that multi-track YRE produced either no significant effect or negative significant effects upon the achievement of Hispanic/Latino students, and no consistent, significant effects upon the achievement of African American students. McMullen and Rouse (2012) concluded that multi-track YRE impacted academic achievement similarly regardless of ethnicity, and Fitzpatrick and Burns (2019) produced similar findings regarding the impact of single-track YRE. The review found no studies that examined the impacts of summer holiday provision or of extended school years upon students from ethnic minority communities.
- 7.6.5 Almost no studies reviewed here examined the effects of changes to the school calendar upon looked after children. Martin, Sharp and Mehta (2013) found that attendance of a summer school in England was associated with increased school readiness, and that this association was stronger for looked after children. However, this study demonstrated only an association, and not causation. The review found no studies that explored the impacts of YRE or extended school years upon looked after children.
- 7.6.6 Evidence of the effects upon academically struggling students was similarly limited. Research by McCombs et al (2014) and Augustine et al (2016) found that low-performing students experienced largely similar effects from a summer schools programme as those experienced by higher-performing students, indicating that summer holiday provision did not assist students who are falling behind academically. The review did not find any studies that specifically examined the

effects of YRE or extended school years upon students who were struggling academically.

7.6.7 No studies were found that examined whether changes to the school calendar affected students differently on the basis of students' sex.

7.7 **2(b) Effects of changes to the school calendar upon students with ALN**

7.7.1 There are mixed findings from the USA regarding whether YRE significantly affects the academic achievement of students with ALN. Although Smith (2011) found that multi-track YRE had a positive impact upon reading achievement among students with ALN, research by Pedersen (2011) and Pfeiffer (2011) found that YRE did not significantly affect academic achievement among students with ALN. Additionally, Pfeiffer (2011) concluded that YRE had no significant effect upon attendance rates among students with ALN, and found no evidence to indicate that YRE affected behaviour among students with ALN.

7.7.2 This review found very little evidence regarding the impact of summer holiday provision upon students with ALN. Data Cymru (2020) reported that summer provision was associated with reduced stress among children with ALN. The review found no studies that explored regarding the impact of extended school years upon students with ALN.

7.8 **3) Effects of changes to the school calendar upon education provision incorporating language immersion and/or intensive language learning**

7.8.1 This review found no research examining the impact of changes to the school calendar upon Welsh-medium provision, or upon education systems that feature language immersion or intensive language learning in existing provision. Data Cymru (2020) found that some parents reported that their child's participation in a summer programme had helped them to maintain their Welsh language skills. However, this represents an association, rather than causation, reported by a small number of parents. No studies were found that examined the impacts of YRE or extended school years upon Welsh-speaking pupils.

7.8.2 However, some studies did examine the impact of changes to the school calendar upon students who speak English as an additional language (EAL). Evidence from the USA indicates that YRE does not positively affect academic achievement among

EAL students. Pedersen (2011) found that YRE produced no significant effects upon achievement among students with limited proficiency in English. Similarly, McMullen and Rouse (2012) found that students who were non-native English speakers did not experience different effects of multi-track YRE to students who were native English speakers. Research by Smith (2011) found that multi-track YRE produced negative impacts upon academic achievement among students who were or had previously been classed as having limited proficiency in English.

7.8.3 The review found very limited evidence regarding the impact of summer holiday provision upon EAL students. McCombs et al (2014) and Augustine et al (2016) reported that ELL students did not experience significantly different effects from attending a summer schools programme in the US to those experienced by students who were native English speakers, after one or two years of provision. No studies were found that examined the effects of extended school years upon EAL students.

7.9 **4) Other effects of changes to the school calendar**

7.9.1 Evidence regarding the impact of changes to the school calendar upon teachers was limited but largely positive. Smith (2011) found no consistent evidence to indicate that multi-track YRE significantly impacted teacher turnover. Findings from Pfeiffer (2011) and Ramos (2012) indicated that the majority of teachers at YRE schools felt positively about teaching under a YRE calendar. Ramos (2012) found that teachers were more likely to have initially positive responses to a school's transition to YRE-only education if they had already been teaching under a YRE calendar, and that teachers valued consistent use of calendar types in school. Additionally, Isom (2020) found that teachers at YRE schools held positive views regarding the use of intersession weeks, as part of a YRE calendar.

7.9.2 This review found very little evidence regarding the impact of summer holiday programmes upon teachers and other school staff. Data Cymru (2020) reported an association between attendance of summer provision and improved relationships between teachers and children, and teachers and parents. Defeyter et al (2018) found that staff who delivered a summer holiday programme felt they had developed new skills and were given leadership opportunities. No research was found relating to the effects of extended school years upon teachers or other school staff.

- 7.9.3 Research examining the impact of changes to the school calendar upon behaviour and attendance was limited. Pfeiffer (2011) found no evidence to indicate that YRE had any significant effects upon student behaviour. Pfeiffer's analysis regarding the relationship between YRE and student attendance produced inconclusive findings. Huffman (2013) concluded that there was moderate agreement among teachers at both YRE and non-YRE schools that YRE calendars positively affected student behaviour. However, teachers that taught higher grade levels (i.e. older year groups) were less likely to report this relationship. Huffman also found that positive perceptions of YRE were strongly correlated to perceived improvements in student behaviour among teachers. Huffman's (2013) findings do not establish causation.
- 7.9.4 This review found very limited evidence regarding the impact of summer holiday provision and extended school years upon behaviour. Data Cymru (2020), Geary, Awoyemi and Gracey (2020), and Defeyter et al (2018) all reported associations between summer holiday provisions in Wales or England and improvements in behaviour among participating children. However, these studies demonstrated (largely self-reported) associations, rather than causation. Augustine et al (2016) found that, after two years of provision, a summer schools programme in the US produced no significant impacts upon student behaviour. Mahoney (2014) found that while extended school years had no significant effects upon the behaviour of students aged 9-10, a longer school year produced significant increases in both anti-social and norm-breaking behaviours among 13-14 year olds.
- 7.9.5 There is limited evidence relating to the economic impacts of changes to the school calendar. YRE appears to produce small, negative economic effects in the USA. Graves (2013) found that increases in enrolment in elementary single-track YRE schools produced significant, negative economic impacts upon maternal employment, specifically among women with school-aged children. Additionally, Depro and Rouse (2015) found that multi-track YRE produced significant, negative effects upon property values in the USA. This review found no studies that explored the economic impacts of summer holiday provision, or of extended school years.

7.10 **5) Factors leading to reforms, wider accompanying changes, and impact of the Covid-19 pandemic upon decisions to reform**

7.10.1 Although most researchers did not specify particular factors that led schools or districts to reform their school calendars, several researchers observed that, while multi-track YRE was usually implemented to tackle the effects of overcrowding in schools, single-track YRE was usually implemented with the aim of improving academic achievement and reducing summer learning loss.

7.10.2 A number of researchers identified the aims of summer holiday programmes. Data Cymru (2020) described the key aims of the SHEP programme as improving the long-term health and wellbeing of children living in deprived areas. Geary, Awoyemi and Gracey (2020), Campbell-Jack et al (2020) and Defeyter et al (2018) all reported that providing food to disadvantaged students and their families during the holidays was a key aim of the programmes they evaluated. In addition, the summer schools examined by Martin, Sharp and Mehta (2013) and Siddiqui, Gorard and See (2014) were both intended to facilitate the successful transition of students from primary to secondary school, and to reduce summer learning loss. Furthermore, Lowndes and Dennison (2012) found that principals of primary schools believed that supporting working parents was a key advantage of schools providing wraparound care to children, including during school holidays.

7.10.3 Researchers did not identify particular factors for altering the length of the school calendar in specific schools or districts. However, Sandoval-Hernandez et al (2013), Mahoney (2014), and Wu (2020) all noted that, often, school years were extended with the aim of improving academic achievement. Jez and Wassmer (2011) also stated that shortening the school year was often done due to budgetary constraints.

7.10.4 Most studies in this review did not indicate whether reforms to the school calendar were accompanied by broader changes to schooling. Smith (2011) noted that the introduction of multi-track YRE in Wake County (North Carolina) was not accompanied by changes to the curriculum, staff, or leadership. Pfeiffer (2011) referred to the introduction of online classes and an 'Adult Education Program' at a studied YRE school in the USA, and stated these changes were at least partial causes of an observed increase in the graduation rate at this school.

7.10.5 This review found no evidence to suggest that the interventions examined in these studies were made in response to the Covid-19 pandemic.

7.11 **6) Implementation of changes to the calendar, e.g. changes to funding arrangements, workforce volume and structure, incentives or statutory requirements**

7.11.1 This review did not find evidence of changes to the volume or structure of the workforce, or of any incentives or statutory requirements being used or considered. However, one study provided details of the use of local decision-making powers to enforce a change to the school calendar. Some studies gave details of funding arrangements, and/or of other aspects of implementation.

7.11.2 The majority of studies that examined the use of YRE calendars did not give information as to how those calendars had been implemented in specific districts or schools. However, Depro and Rouse (2015) stated that Wake County's school system took the decision to switch to multi-track YRE, and that despite a legal challenge mounted by an opposition group, this decision was upheld in the State Supreme Court. In addition, Isom (2020) gave details of the intersession weeks that formed part of a Virginia school system's YRE calendar. During intersession weeks, teachers spent half a day teaching and half a day planning, and although schools were ultimately able to decide whether teachers would provide enrichment activities or 'remedial' lessons, teachers could indicate their preference.

7.11.3 Studies which examined summer holiday programmes provided some details regarding the implementation of these programmes. Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Martin, Sharp and Mehta (2013), and Gorard, Siddiqui and See (2015) all gave details of the cost of delivering the programmes they examined, and/or the funding arrangements for the delivery of the programmes. Campbell-Jack et al (2020), Evans (2020, referencing Defeyter et al 2018), Lowndes and Dennison (2012), and Augustine et al (2016) provided information as to the cost of the programmes to families of children attending provision. Campbell-Jack et al (2020) also stated that children and parents reported concerns regarding insufficient staffing at some delivery sites, and that staff reported an apparent lack of concern about the welfare of staff responsible for delivering the programme.

7.11.4 Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Campbell-Jack et al (2020), Lowndes and Dennison (2012), and Augustine et al (2016) each gave information about the regarding the organisations and structures involved in planning, managing and delivering the summer holiday programmes evaluated in their studies. Additionally, Data Cymru (2020), Geary, Awoyemi and Gracey (2020), Martin, Sharp and Mehta (2013), Campbell-Jack et al (2020), and Beach and Traga Philippakos (2021) detailed how providers/coordinators attempted to target students from disadvantaged backgrounds. Furthermore, Siddiqui, Gorard and See (2014), Gorard, Siddiqui and See (2015), Campbell-Jack et al (2020), Augustine et al (2016), and Beach and Traga Philippakos (2021) all stated that staff responsible for programme delivery attended training and/or prepared for the curriculum prior to the beginning of provision. Very little information was available as to how programmes were marketed; Campbell-Jack et al (2020) and Augustine et al (2016) provided some information as to the marketing approaches used. Siddiqui, Gorard and See (2014), Gorard, Siddiqui and See (2015), and Augustine et al (2016) all stated that ‘expert’ or ‘technical’ assistance was used in the developed of the curriculum delivered during provision. Siddiqui, Gorard and See (2014) and Augustine et al (2016) both indicated that students attending the summer programmes they evaluated were offered free transport to and/or from provision. Considerable variation in implementation across providers/settings was reported by Geary, Awoyemi and Gracey (2020), Martin, Sharp and Mehta (2013), NS Augustine et al (2016). Additionally, Campbell-Jack et al (2020) gave details regarding the provision of meals at different settings. Summer holiday programmes varied considerably in their duration (see Table 5.1).

7.11.5 This review found no studies that discussed how extensions to the school year were implemented.

7.12 **7) Barriers to and facilitators of school calendar reforms and their effects**

7.12.1 This review did not find evidence of specific barriers to or facilitators of alternative school calendars, such as YRE calendars. However, Isom (2020) interviewed teachers in a US school system operating under a YRE calendar about the use of intersession weeks. They gave a number of recommendations as to the implementation of intersession weeks in a YRE calendar, including utilising smaller class sizes (for both ‘remedial’ lessons and enrichment activities), having teachers

instruct their 'usual' students, and ensuring that 'remedial' lessons are different to 'normal' lessons, and are engaging.

- 7.12.2 Many researchers discussed barriers to and facilitators of delivering effective summer holiday programmes. A barrier reported by multiple researchers was low attendance. Defeyter et al (2018) found that provision was at times oversubscribed, indicating that effective delivery of provision could also be hindered by particularly high attendance levels.
- 7.12.3 Campbell et al (2020) found that a barrier to delivering effective summer provision was the challenge of successfully targeting students from disadvantaged backgrounds. Not all students from disadvantaged backgrounds were eligible for FSM, and providers were not always able to access data regarding students' FSM eligibility. Some eligible students did not want to attend provision, as friends or family could not attend with them (because they themselves were not FSM-eligible). Concerns were also raised by providers that targeting FSM-eligible students and/or their families could risk stigmatising them.
- 7.12.4 The EEF (2021) report on summer schools found that summer schools tend to be costly to provide. In addition, Campbell-Jack et al (2020) found that short-term funding arrangements were reported as posing a challenge.
- 7.12.5 Issues relating to staffing and staff training were also reported as barriers to effective delivery of summer provision. Research conducted by Campbell-Jack et al (2020) and Lowndes and Dennison (2012) suggested that insufficient levels of staffing presented a barrier to effective provision. Furthermore, Campbell-Jack et al (2020) found that insufficient training for staff was also reported as a barrier, and staff interviewed by Defeyter et al (2018) recommended that staff receive more training. Both Siddiqui, Gorard and See (2014) and Gorard, Siddiqui and See (2015) indicated that poor teaching appeared to present a barrier to effective provision in summer schools. However, Campbell-Jack et al (2020) and McCombs et al (2014) both found that staff experience and expertise were reported to facilitate the delivery of effective provision, and McCombs et al (2014) reported that good-quality instruction, provided by teachers, was associated with better outcomes.
- 7.12.6 Another factor that appeared to influence the success of summer programmes was the extent to which sufficient, good-quality resources and facilities were available.

Siddiqui, Gorard and See (2014), Campbell-Jack et al (2020) and Lowndes and Dennison (2012) all found that a lack of good-quality or sufficient resources and/or facilities appeared to act as barriers to delivering (effective) provision. In addition, staff interviewed by Defeyter et al (2018) recommended that before delivery of provision begins, facilities should be checked, to ensure they are sufficient to cater to the needs of the programme.

7.12.7 Research conducted by Siddiqui, Gorard and See (2014) and Gorard, Siddiqui and See (2015) indicated that provision offered at two summer schools was not always suitable for or inclusive of all attending children.

7.12.8 Campbell-Jack et al (2020) and Defeyter, Graham and Prince (2015) both found that early planning for holiday provision was reported as a key facilitator of effective provision. Similarly, staff interviewed by Defeyter et al (2018) recommended that staff should be given any important information about attending students before the start of provision.

7.12.9 Research conducted by Campbell-Jack et al (2020) and Lowndes and Dennison (2012) indicated that successful provision could be facilitated through effective collaboration with schools and other organisations. Campbell-Jack et al (2020) noted that a lack of successful collaboration and engagement, particularly with schools, appeared to act as a barrier to effective delivery of summer provision. In addition, evidence provided by Campbell-Jack et al (2020) and Lowndes and Dennison (2012) suggested that other providers could act as competition for new provision.

7.12.10 Lowndes and Dennison (2012) noted that difficulties in arranging transport to and from provision were reported as a barrier, and Campbell-Jack et al (2020) found that a lack of experience among coordinators and/or providers was cited as a barrier. However, Campbell-Jack et al (2020) also found that the role played by coordinators was cited as a facilitator of effective provision delivery.

7.12.11 Although studies identified various barriers to and facilitators of delivering effective summer holiday provision, some studies did not explicitly state what effects these barriers and facilitators had, or how they affected reforms. However, McCombs et al (2014) and Augustine et al (2016) found that higher attendance rates among students was associated with positive effects upon academic achievement for those particular students. In addition, research conducted by Martin, Sharp and Mehta

(2013) and Campbell-Jack et al (2020) indicated that students from disadvantaged backgrounds invited to attend summer provision often only attended provision once, or did not attend provision at all.

7.12.12 Research conducted by McCombs et al (2014) indicated that high-quality instruction and more experienced teachers in a summer programme were associated with better outcomes.

7.12.13 Campbell-Jack et al (2020) found that certain barriers appeared to hinder the provision of specific activities. Providing enriching experiences to attending children and their families became more difficult when providers struggled to engage parents to participate. Delivering physical and enriching activities was sometimes difficult, due to the costs of these activities. In addition, providing healthy meals and enriching activities was sometimes hindered by reluctance or refusal from some students to take part. Furthermore, delivering nutrition education was made difficult by poor-quality/insufficient facilities and resources, and by a lack of training for staff.

7.12.14 Campbell-Jack et al (2020) also found that a lack of time during the early phases of planning was reported to have created difficulties for coordinators and providers in engaging with one another. In addition, staff interviewed by Defeyter, Graham and Prince (2015) reported that in order to market provision effectively, sufficient time must be allowed for this early on.

7.12.15 Additionally, research undertaken by Lowndes and Dennison (2012) indicated that some principals of primary schools in Northern Ireland view a lack of demand, local provision already being established, difficulties in arranging transport, and insufficient staffing, funding and resources/facilities as obstacles to the provision of wraparound care (including during the school holidays) by primary schools.

7.12.16 Furthermore, Campbell-Jack et al (2020) reported that some providers of the HAF programme elected to target areas of high economic deprivation, rather than individual students from economically disadvantaged backgrounds, to avoid stigmatising these students.

7.12.17 Barnard-Brak, Stephens and Valenzuela (2018) found that difficulty finding qualified staff who would work over the summer period was the most commonly reported barrier (reported by 45 per cent of directors) to providing ESY services to students with ALN by directors of special education in Texas. Directors in rural areas

were significantly more likely than directors in non-rural areas to report this as a barrier. Directors also reported determining the eligibility of students for ESY services (32 percent), gaining support from parents (29 percent), and a lack of financial resources (23 percent) as barriers to providing ESY services to students with ALN. Significantly more barriers were reported by directors in rural areas, compared to the number of barriers reported by directors in non-rural areas.

7.12.18 Barnard-Brak and Stephens (2021) examined the impact of difficulty in determining the eligibility of students with ALN for ESY services. Their analysis suggested that the way in which eligibility was determined kept students with ALN from accessing appropriate ESY provision.

7.13 **8) The nature of the activities provided within alternative calendars, the balance between different activities, the effects of these allocations of activities, and personnel responsible for delivery**

7.13.1 Most studies included in this review did not explicitly consider the content or nature of the activities delivered in schools that operated under an alternative calendar, or who was responsible for delivering these activities. However, Isom (2020) reported on the content delivered during intersession weeks, as a feature of a YRE calendar. 'Remedial' lessons were provided to students who were struggling academically, while enrichment activities were provided to students who were not struggling. Most activities and lessons were planned and delivered by teachers, but some activities were provided by community organisations.

7.13.2 A number of researchers provided some detail as to the content and the nature of the activities that students undertook when they attended summer holiday provision. Siddiqui, Gorard and See (2014), Gorard, Siddiqui and See (2015), and Augustine et al (2016) all reported that instruction in literacy (or language arts) and numeracy was provided to participating students every day during provision, and students spent between around 150 minutes and half a day studying numeracy and literacy/language arts. Siddiqui, Gorard and See (2015) reported that lessons incorporated teamwork, presentation and activities. Siddiqui, Gorard and See (2014), Gorard, Siddiqui and See (2015), and Augustine et al (2016) reported that the programmes they studied also featured enrichment activities. Gorard, Siddiqui and

See (2015) noted that activities varied considerably, and included sports, arts, cooking, and some off-site activities.

7.13.3 Additionally, Campbell-Jack et al (2020) reported that 94 per cent of HAF providers provided healthy meals, 89 per cent delivered physical activities, 65 per cent provided enriching activities, and 44 per cent delivered nutrition education every day during provision. Schools were most likely to meet the HAF quality standards every day throughout provision. Geary, Awoyemi and Gracey (2020), in evaluating the 'playworks' pilot scheme, found that around 40 per cent of settings offered activities for parents and/or other family members take part in. Defeyter et al (2018) reported that clubs participating in the 'A Day Out, Not a Handout' scheme offered meals and activities, which families could also take part in. Furthermore, Defeyter, Graham and Prince (2015) noted that some of the holiday breakfast clubs they examined also provided activities.

7.13.4 This review found no studies that explored the effects of the balance between different types of content within alternative calendars or summer holiday provision. However, some studies did examine the effects of particular types of content upon participating children. The EEF's (2021) report on summer schools stated that summer schools must feature an academic component in order to positively affect students' academic achievement (including the achievement of students from disadvantaged backgrounds). In addition, Data Cymru (2020) found that specific elements of the programme were perceived to have positively affected key outcomes for participating children. For instance, school-based elements of the programme were reported to have positively impacted children's school-based and general happiness. Enrichment activities, physical activities, and a safe space for children to play were all said to have positively impacted the mental health and emotional wellbeing of attending children, and the delivery of weekly family meals was reported to have improved the mental health and emotional wellbeing of both attending children and their parents. Learning new skills, physical activities, enrichment activities, nutrition education and provision of a healthy breakfast and lunch were said to have supported attending children in developing their social skills. Furthermore, it was reported that enrichment activities had produced a moderate increase in self-directed learning, enjoyment of physical activities and independence. Physical activities were reported to have familiarised children with their school's PE lessons,

provided opportunities for children to strengthen their connections with friends and family by participating in sports together, increased children's enjoyment of sports and physical activities, and were linked to an increase in take-up of local physical activity provision. Geary, Awoyemi and Gracey (2020), in evaluating the 'playworks' pilot scheme, noted that certain elements of the programme, such as facilitating family meals, having children participate in food preparation, and providing drinking water on-site were reported to have positively impacted upon the health and wellbeing of attending children. Campbell-Jack et al (2020), in examining the HAF programme, found that there were reports that unstructured activities allowed children to learn at a pace suitable for them.

7.13.5 Additionally, some researchers gave information as to the personnel who were responsible for delivering summer holiday provision. Siddiqui, Gorard and See (2014) and Gorard, Siddiqui and See (2015) reported that, in the summer schools they evaluated, each students group was assigned a trained teacher and at least one mentor (or peer mentor). Augustine et al (2016) and Beach and Traga Philippakos (2021) both reported that teachers delivered provision in the summer interventions they examined; however, the latter also reported that the summer intervention they examined utilised reading partners, as well as teachers, in delivering provision. Campbell-Jack et al (2020) reported that 57 per cent of HAF providers used a combination of paid and unpaid staff. The majority of studies did not explicitly consider how the personnel responsible for delivering provision could impact upon the effectiveness of the summer holiday provision. The EEF (2021) report on summer schools stated that summer schools which were delivered by teachers already familiar to the students produced around four months of additional learning gains on average, compared to three months of additional progress (on average) for summer schools generally.

7.13.6 Lastly, some studies discussed the student-to-teacher ratio and/or class sizes of certain summer holiday programmes. Siddiqui, Gorard and See (2014) reported that provision was delivered to groups of between 16 and 20 students. Additionally, Gorard, Siddiqui and See (2015) reported that the student-to-teacher ratio was 5.5, and that each class was supervised by at least three or four adults. Augustine et al (2016) stated that class sizes were consistently small across the programme, and that for every 15 students, at least one adult was present. Beach and Traga

Philippakos (2021) stated that the summer intervention they examined was delivered in small groups. However, very few studies examined how the student-to-teacher ratio or group sizes might impact the effectiveness of summer holiday provision. The EEF (2021) report on summer schools stated that summer schools which featured teaching in small groups or on a one-to-one basis tended to produce higher impacts on average, and that summer schools would need to feature 'small group' or 'one-to-one' teaching for disadvantaged children to benefit from attending. Additionally, Gorard, Siddiqui and See (2015) noted that teachers reported that close support from teachers (similar to tutoring) produced improvements in children's confidence. Similar improvements among students with ALN were reported by mentors, and attributed to the close, personalised support that students received from staff.

7.13.7 Studies included in this review did not provide evidence regarding the content or the nature of activities delivered during extended school years, or who delivered content and/or activities during extended school years.

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Appendix A

Search terms used: initial search

Year-round/balanced calendars: balanced school calendar, year round schools, balanced school year, year-round education, year-round schooling, balanced schooling, balanced education, balanced calendar, school term, school term dates

Length of the school year: extended school year, extending the school year, school year,

Summer holiday provision: summer learning loss, summer programme, summer school, summer learning slide, holiday school, school holiday schemes, school vacation scheme, school holiday

Increase learning time (general): extended schools, instruction time, teaching time, classroom time, classroom hours, teaching hours, extended learning opportunities, extended schedule, longer schedule, instruction hours, extended school, extended timetable, longer timetable, extended learning time, learning opportunities, school time

Other changes to school timetables: school day, extended school day, school hours, asymmetric school week, asymmetric week, four day school week, three day school week, six day school week, after school, out of school, extra-curricular, compressed school, after school clubs, after school learning, out of school activities, extended school day, extending the school day, school week, after school care

General/other search terms: school schedule, school timetable, school calendar, education calendar, academic calendar, academic timetable, education timetable, educational timetable, pre school, wrap around care, wrap around

Sources and databases searched:

ACER, APO, BASE, BERA, British Education Index, Campbell Collaboration, Children's Commissioner for Wales, CUREE, Department for Education (England), Early Intervention Foundation, ERIC, Education and Development Trust, EEF, Education Policy Institute, HAPPEN Network Wales, IFS, NAEL Cymru, NESTA, Northern Ireland Executive, Nuffield Foundation, NZCER, OECD iLibrary, Rees Centre (University of Oxford), Republic of Ireland Government, Science Direct, Scottish Government, Sutton Trust, Teacher Reference Centre, Web of Science, Welsh Government Library Catalogue, What Works Centre for Wellbeing

Search terms used: secondary search

Language immersion/learning: language learning, intensive language learning, language immersion, intensive language immersion, language provision, bilingual, trilingual, multilingual, plurilingual

Childcare and wraparound care: childcare, child-care, child care, childcare providers, childminders, child minding, after school care, before school care, breakfast clubs, homework clubs, wraparound, wrap-around, wrap around, extended parental support, after-school care, after-school clubs, after-school provision, working families, wrap around childcare, wrap around child-care, wrap around child care, wrap-around childcare, wrap-around child care, wrap-around child-care, wraparound childcare, wraparound child-care, wraparound child care, wraparound wrap around, wrap-around, outside of school hours, out of school

Provision for pupils with ALN: learning disabled, learning disability, learning difficult*, learning problems, remedial education, remedial learning, remedial teaching, gifted learner, gifted education, compensatory education, developmental disabilit*, cognitive disabilit*, educational diagnosis, statement of educational needs

Changes to school timetables:⁶⁰ extend* school day, extend* school week, extend* school term, extend* school year, asymmetric timetable, asymmetric term, asymmetric day, asymmetric week, asymmetric schedule, asymmetric year, four day school week, five day school week, balanced school calendar, year-round schools

Welsh language search terms: trochiad hwyr, trochi, dysgu iaith, addysg cyfrwng Cymraeg, Cymraeg ail iaith, anghenion dysgu, dysgu ymyrraeth, oriau ysgol, amser dysgu, tymhorau ysgol, diwrnod ysgol, amserlen ysgol, tu allan i oriau ysgol, wythnosau ysgol

Sources and databases searched:

ASSIA, BASE, BERA, British Council, British Education Index, British Library Ethos, Campbell Collaboration, EconLit, Education Development Trust, EEF, Emerald Insight, ERIC, Estyn, Gwerddon Journal, IFS, Ingenta Connect, National Bureau of Economic Research, National Institute of Economic and Social Research, Nuffield Foundation, ProQuest Premium, ProQuest Social Sciences Premium Collection, Research and Statistics (UK government), Science Direct, Social Care Online, Sutton Trust, Taylor and Francis, Teacher Reference Centre, Wales Journal of Education, Web of Science

⁶⁰ These search terms were used in conjunction with other English-language search terms used in this search.