

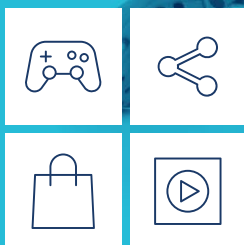
Likely to be accessed

Impact assessment

July 2023



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Information Commissioner's Office



children's
code

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Executive summary

This impact assessment accompanies the 'Likely to be accessed' guidance (LTBA guidance). The aim of the guidance is to help Information Society Services (ISS) to assess whether children are accessing their service. The guidance consists of:

- a set of frequently asked questions to support ISS in determining if they are in scope of the code;
- a non-exhaustive list of factors to consider when carrying out an assessment of whether children are likely to access their service;
- and a series of case studies to demonstrate how the assessment could be carried out.

Problem definition and rationale for intervention

We have increasingly observed research indicating that children are likely to be accessing services aimed at adults. This poses a risk of data protection harms, with children losing control of their data or being manipulated to give more data.

As a result, we revised our position in September 2022 to clarify that adult-only ISS are in scope of the Children's code if they are likely to be accessed by children.

The ICO's supervision of the Children's code has shown that its success is at risk of being undermined by organisations claiming they are not in scope of the code, as they are not likely to be accessed by a 'significant number of children'. The code does not provide detail on what constitutes a significant number of children. This enhances the potential for harms and market failure.

To provide further support to ISS to assess whether children are likely to access their service, the ICO decided further regulatory intervention was required.

Options for appraisal

In the context of the problem identified, the options for regulatory intervention considered to increase regulatory certainty and enhance supervision were:

1. do nothing
2. provide guidance with numeric thresholds to ISS
3. provide guidance to support ISS to undertake a 'likely to be accessed' test using a non-exhaustive list of criteria
4. update the language in the code scope section.

These options were appraised against various critical success factors and Option 3 was identified as the preferred option, at this time.

Detail of the 'likely to be accessed' intervention

We are providing guidance in the form of FAQs, case studies and a non-exhaustive list of factors, so ISS can determine if their services are likely to be accessed by a 'significant number of children', and are thus in scope of the Children's code. This includes defining 'significant number of children' and 'substantial and identifiable user group' in the context of the Children's code.

The development of the LTBA guidance included a public consultation on a draft product alongside an impact assessment. There were 27 responses to the consultation, which provided useful feedback resulting in some amendments to the LTBA guidance and our impact assessment considerations.

There are a number of groups that could be affected by the LTBA guidance including ISS, children and parents, and wider society. There are evidence gaps limiting the extent to which these groups can be quantified.

Cost benefit analysis

The costs and benefits of the LTBA guidance have been identified, quantitatively and qualitatively, as far as is possible and proportionate. There are significant evidence gaps around the quantification of ISS, which limit our ability to monetise impacts.

Overall our assessment suggests that the benefits, in particular through reducing the potential data protection related harms for children and the related benefits to wider society, outweigh the costs identified.

Monitoring and evaluation

The Children's code, which the LTBA guidance has been developed to support, has benefitted from an extensive evaluation programme. The ICO published the Children's code evaluation in June 2023. The evaluation suggests that monitoring and evaluation activity of the Children's code and associated guidance and clarifications should continue. The Children's Privacy Board is considering the lessons learnt from the evaluation and recommendations around future monitoring. If it is taken forward, this would include assessing effectiveness, together with any areas for improvement, or unintended consequences of policy.

1. Introduction

This impact assessment accompanies the 'Likely to be accessed' guidance (LTBA guidance). The aim of the guidance is to help Information Society Services (ISS) providers to assess whether children are accessing their service. The guidance consists of:

- a set of frequently asked questions to support ISS providers in determining if they are in scope of the code;
- a non-exhaustive list of factors to consider when carrying out an assessment of whether children are likely to access their service; and
- a series of case studies to demonstrate how the assessment could be carried out.

The guidance has been developed to support the implementation of the Children's code (the code)¹ and help organisations assess whether they are in scope of the code. The Children's code is a statutory code of practice.² It explains how online services likely to be accessed by children should comply with the UK General Data Protection Regulation (UK GDPR) and Privacy and Electronic Communications Regulations (PECR) when using children's data. It seeks to protect children within the digital world, not protect them from it.

1.1. Approach

Our approach follows the principles set out in the ICO's Impact Assessment Framework.³ We have assessed the impacts of the LTBA guidance using cost-benefit analysis, a systematic approach that aims to identify the full range of impacts. Where possible we have quantified these impacts, and where this has not been possible we have sought to capture them qualitatively.

The ICO ran a consultation on an initial draft of the LTBA guidance and a supporting impact assessment (see Section 4 for more information). These consultation responses have been accounted for in this impact assessment.

¹ Formally known as the age appropriate design code. See - ICO (2020) *Age appropriate design: a code of practice for online services*. Available at: <https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/childrens-information/childrens-code-guidance-and-resources/age-appropriate-design-a-code-of-practice-for-online-services/> (Accessed 21 June 2023).

² The ICO developed the Children's code between 2018 and 2020. The code came into force in September 2020 with a 12 month transition period. From September 2021 the Commissioner began to take the code into account when considering compliance with the UK GDPR and PECR.

³ ICO (2023), *The ICO's approach to impact assessment – our draft Impact Assessment Framework*. Available at: <https://ico.org.uk/media/about-the-ico/consultations/4023825/draft-impact-assessment-framework-20230130.pdf> (Accessed 29 June 2023)

Our approach follows HM Treasury's Green Book (The Green Book),⁴ Regulatory Policy Committee,⁵ and Business Impact Target guidance⁶ on best practice for impact assessments.

Understanding the theory of change is an important part of our impact assessment approach.⁷ Given the role of the LTBA guidance in supporting the implementation of the Children's code, the code's theory of change is the relevant point of reference for this impact assessment. The code's theory of change is included in an annex⁸ and full details can be found in the recent evaluation⁹ of the Children's code.

1.2. Structure

The remainder of this document is split into five sections plus annexes:

- Section 2: Problem definition and rationale for intervention;
- Section 3: Identification of options for appraisal;
- Section 4: Details of 'likely to be accessed' intervention;
- Section 5: Cost benefit analysis;
- Section 6: Monitoring and evaluation; and
- Annex A: Children's code evaluation theory of change
- Annex B: Children in the UK
- Annex C: Quantification of children accessing adult-only ISSs
- Annex D: Familiarisation costs.

⁴ HM Treasury (2022), *The Green Book*. Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> (Accessed 21 June 2023).

⁵ Regulatory Policy Committee (2020), *RPC guidance for Departments and Regulators*. Available at: <https://www.gov.uk/government/collections/rpc-guidance-for-departments-and-regulators> (Accessed 21 June 2023).

⁶ Department for Business, Energy and Industrial Strategy (2019), *Business Impact Target Statutory Guidance*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776507/Business_Impact_Target_Statutory_Guidance_January_2019.pdf (Accessed 21 June 2023).

⁷ A theory of change is a framework that outlines the logical connections between interventions, expected outcomes and impacts of an intervention, explaining how and why change is expected to occur.

⁸ See Annex A: Children's code evaluation theory of change.

⁹ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023).

2. Problem definition and rationale for intervention

Summary

We have increasingly observed research indicating that children are likely to be accessing services aimed at adults. This poses a risk of data protection harms, with children losing control of their data or being manipulated to give more data.

As a result, we revised our position in September 2022¹⁰ to clarify that adult-only ISS providers are in scope of the Children's code if they are likely to be accessed by children.

The ICO's supervision of the Children's code has shown that its success is at risk of being undermined by organisations claiming they are not in scope of the code, as they are not likely to be accessed by a 'significant number of children'. The code does not provide detail on what constitutes a significant number of children. This enhances the potential for harms and market failure.

To provide further support to ISS providers to assess whether children are likely to access their service, the ICO decided to develop LTBA guidance.

In this section we present evidence on children accessing services aimed at adults, outline our understanding of data protection harms that occur as a result, explore market failures and lay out the political and legal context around the implementation of the code.¹¹

2.1. Children's use of ISS

The ICO has seen evidence of large numbers of children accessing ISS that are not specifically aimed at them. This includes some sites that it would not be appropriate for children to use due to the content, with terms of service typically specifying a minimum age of 18.

The evidence summarised in Table 1 below indicates three types of ISS that are not aimed at children but that children are accessing.

¹⁰ ICO (2022), *Children are better protected online in 2022 than they were in 2021*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2022/09/children-are-better-protected-online-in-2022-than-they-were-in-2021/> (Accessed 31 May 2023).

¹¹ ICO (2020) *Introduction to the Children's code*. Available at: <https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/childrens-information/childrens-code-guidance-and-resources/introduction-to-the-childrens-code/> (Accessed 21 June 2023).

Table 1: Quantification of children accessing adult sites

Type of ISS	Quantification
Online pornography	Research from the Children’s Commissioner suggests 3 million children in the UK have seen pornography online. ¹²
Online adult dating	Research from Ofcom suggests at least 213,200 children use dating apps or sites. ¹³
Online adult gaming	Analysis by ICO Economic Analysis suggests up to 2.5 million children in the UK could be playing adult games online. ¹⁴

Source: ICO Economic Analysis.

Note: For detailed analysis see Annex C.

For context when considering the above evidence, the Office for National Statistics (ONS) estimated there were 13.8 million children in the UK in 2021, equivalent to 21% of the whole population.¹⁵ According to Ofcom (2022), nearly all children went online in 2021¹⁶ and children aged 7 – 16 spent an average of just under three and a half hours a day online in 2021.¹⁷

2.2. Data protection harms

The ICO’s regulatory remit covers harms that arise from data protection and other information rights issues.¹⁸ Without age appropriate control and information on the risks of the data they share, children’s present and future personal safety, relationships and reputations are at risk. In designing and drafting the code, the Commissioner considered the key harms to children that

¹² Children’s Commissioner (2023) ‘A lot of it is actually just abuse’. Available at : <https://www.childrenscommissioner.gov.uk/wp-content/uploads/2023/02/cc-a-lot-of-it-is-actually-just-abuse-young-people-and-pornography-updated.pdf>, (Accessed 23 May 2023).

¹³ Ofcom (2022) *Online Nation interactive report*. Available at: <https://www.ofcom.org.uk/research-and-data/online-research/online-nation/interactive> (Accessed 31 May 2023).

¹⁴ See Annex C

¹⁵ Note: This is the most recent estimate that covers the whole UK. Full data is provided in Annex B.

¹⁶ Ofcom (2022) *Children’s media use and attitudes*. Available at: https://www.ofcom.org.uk/_data/assets/pdf_file/0024/234609/childrens-media-use-and-attitudes-report-2022.pdf, p.11 (Accessed 23 May 2023).

¹⁷ Ofcom (2022) *Children’s media use and attitudes*. Available at: https://www.ofcom.org.uk/_data/assets/pdf_file/0024/234609/childrens-media-use-and-attitudes-report-2022.pdf, p.64 (Accessed 23 May 2023).

¹⁸ ICO, *Data Protection Harms*. Available at: <https://ico.org.uk/about-the-ico/research-and-reports/data-protection-harms/> (Accessed 21st June 2023).

can arise from the processing of their personal data online, and that therefore need to be addressed by the code.¹⁹

The ICO also recognises that adult-only content can cause harm to children. It should be noted that content harms are not part of the ICO's remit. However, we have highlighted them here in the context of exacerbation by data protection issues.

- Content harm impacts children themselves, their families and society as a whole. The Children's Commissioner (2023) found extensive examples of content harms associated with children accessing adult material online.²⁰
- Childline identified the risk of children being groomed on dating sites.²¹

Some of these content harms can be indirectly caused or exacerbated by data protection issues. This includes adults gaining access to the personal data of children with the intent to cause harm, or algorithms using children's personal data to target them with harmful content.

Below we provide some examples of how data protection harms are relevant to children accessing adult-only ISS. This is not intended to be exhaustive or hierarchical.

2.2.1. Harms to children's mental, physical and emotional health and wellbeing

Personal data processing can exacerbate exposure to harms such as bullying, abuse and harmful content through content feeds, suggested content or keeping children online. Enhanced exposure to these harms can lead to anxiety, self-harm and eating disorders.²²

2.2.2. Economic harms or commercial exploitation

The use of behavioural advertising or promotion of in-app purchases to children can make them more vulnerable to commercial exploitation.²³ Nudge techniques and micro-transactions within games and mobile applications are common and can result in direct financial harms (children spending excessive amounts of

¹⁹ ICO (2020) *Age appropriate design code*. Available at: https://ico.org.uk/media/about-the-ico/documents/2617988/aadc-impact-assessment-v1_3.pdf, p.11 (Accessed 23 May 2023).

²⁰ Children's Commissioner (2023) 'A lot of it is actually just abuse'. Available at : <https://www.childrenscommissioner.gov.uk/wp-content/uploads/2023/02/cc-a-lot-of-it-is-actually-just-abuse-young-people-and-pornography-updated.pdf>, pp.26-28 (Accessed 23 May 2023).

²¹ Childline, *Grooming*. Available at: <https://www.childline.org.uk/info-advice/bullying-abuse-safety/online-mobile-safety/online-grooming#:~:text=A%20%27groomer%27%20is%20someone%20who%20makes%20an%20emotional,webcam%20%20meet%20up%20with%20them%20in%20person.> (Accessed 21st June 2023).

²² ICO (2020) *Age appropriate design code: impact assessment*. Available at: https://ico.org.uk/media/about-the-ico/documents/2617988/aadc-impact-assessment-v1_3.pdf, p.12 (Accessed 23 May 2023).

²³ ICO (2020) *Age appropriate design code: impact assessment*. Available at: https://ico.org.uk/media/about-the-ico/documents/2617988/aadc-impact-assessment-v1_3.pdf, p.13 (Accessed 23 May 2023).

money) and also children's data being used for the financial gain of a commercial enterprise with no or insufficient recompense to the child.

Ofcom (2022) found that 34% of UK internet users aged 13+ reported experiencing commercial harm or disadvantage over the past four weeks, including potential harms related to the commercialised collection of personal data.²⁴ While this evidence isn't exclusive to the children's population, it is indicative of the wider issue.

2.3. Market failure

Market failures occur when an exchange of goods or services fails to achieve the most beneficial outcome for society. If unaddressed, market failure can lead to significant adverse effects on individuals, communities or the whole economy. The presence of market failures further strengthens the rationale for regulatory intervention relative to the statutory obligation (Section 123(1) of the DPA 2018²⁵) that required the Information Commissioner to produce the Children's code. The LTBA guidance aims to address the following market failures.

2.3.1. Imperfect information

Children, by their nature, have differing abilities (for example due age and learning capability factors) to access and understand the information presented to them. When considering ISSs not aimed at children, information provided through tools such as privacy policies may not be appropriately tailored to them. This affects children's ability to understand and mitigate risks they could face, particularly where the information they are sharing is of a sensitive nature. Where the lack of information or understanding impedes children's ability to make an informed decision, this can result in a market failure.

2.3.2. Negative Externalities

As noted previously in the chapter (see section 2.2), adult-only ISSs can lead to data protection harms to children. The cost of these harms is often borne by the children who experience them, their families and wider society that must deal with the consequences of the harm. Negative externalities²⁶ occur where the full cost of these harms is not borne by ISS providers or their customers, resulting in market failure.

²⁴ Ofcom (2022) *Online Nation 2022*. Available at: https://www.ofcom.org.uk/data/assets/pdf_file/0023/238361/online-nation-2022-report.pdf p.62 (Accessed 21st June 2023).

²⁵ Data Protection Act 2018. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/section/123/enacted> (Accessed 29 June 2023)

²⁶ Negative externalities occur when production and/or consumption impose external costs on third parties outside of the market for which no appropriate compensation is paid. This causes social costs to exceed private costs. This is considered a market failure.

With regulatory intervention, such as issuing guidance, the ICO is seeking to address these market failures and thus the cost to wider society.

2.4. Policy and legal context

Regulatory intervention in this area is in line with the actions of the UK government and regulators internationally.

2.4.1. Alignment with the UK Policy

The ICO's regulatory intervention in this area aligns with a variety of UK government strategies and proposed legislation. Examples of strong alignment with wider policy are provided in Table 2 below.

Table 2: Policy alignment

Strategy	Objective	Alignment
National Data Strategy ²⁷	Mission two: Securing a pro-growth and trusted data regime.	The proposed intervention aims to enhance regulatory certainty.
Online Safety Bill ²⁸	Protecting children: For children, these new laws will mean that all in-scope companies must assess risks and take action to tackle illegal activity that threatens the safety of children.	The proposed intervention aims to improve compliance and reduce data protection harms.
ICO25 ²⁹	Safeguard and empower people, particularly the most vulnerable.	The proposed intervention aims to enhance protection for children online, reducing the risk of harms as outlined in section 2.2.

²⁷ Department for Culture, Media and Sport (2020) *UK National Data Strategy*. Available at: <https://www.gov.uk/government/publications/uk-national-data-strategy> (Accessed 23 May 2023).

²⁸ *Online Safety Bill*. Available at: <https://bills.parliament.uk/bills/3137> (Accessed 31 May 2023).

²⁹ ICO (2022) *ICO25 strategic plan*. Available at: <https://ico.org.uk/about-the-ico/our-information/our-strategies-and-plans/ico25-plan/> (Accessed 31 May 2023).

Data Protection and Digital Information (No. 2) Bill ³⁰	Provision for the regulation of the processing of information relating to identified or identifiable living individuals.	The proposed intervention aims to increase data protection compliance.
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Source: ICO Economic Analysis.

The Government consulted on the *Online Harms White Paper* from April to July 2019.³¹ When the ICO published the Children's code in July 2020 it was expected that the white paper would soon become law. By May 2023, the successor to the *Online Harms White Paper*, the *Online Safety Bill*, was still progressing through Parliament.³² Slower than anticipated legislative progress, along with increasing calls for regulatory action to protect children, have contributed to the ICO's decision to issue this guidance.³³

2.4.2. Alignment with regulators internationally

The Children's code has gained international recognition and praise as the first of its kind. This has led to other countries using the code as a basis for their own regulations on children's privacy with a number of authorities adopting the principles of the code and working these into their own domestic legislation. Examples include the California Assembly's *The California Age-Appropriate Design Code Act*³⁴ and the Irish Data Protection Commission's *Fundamentals for a child-orientated approach to data processing*³⁵. As the guidance builds on the code, rather than contradicting it, it is hoped that it will continue to align well with regulators in other jurisdictions.

³⁰ *Data Protection and Digital Information (No. 2) Bill*. Available at: <https://bills.parliament.uk/bills/3430> (Accessed 31 May 2023).

³¹ Department for Culture, Media and Sport (2019) *Online Harms White Paper*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/973939/Online_Harms_White_Paper_V2.pdf (Accessed 23 May 2023).

³² *Online Safety Bill*. Available at: <https://bills.parliament.uk/bills/3137> (Accessed 31 May 2023).

³³ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023).

³⁴ *The California Age-Appropriate Design Code Act 2022*. Available at: https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB2273 (Accessed 23 May 2023).

³⁵ Data Protection Commission, Ireland (2020) *Fundamentals for a child-orientated approach to data processing*. Available at: https://www.dataprotection.ie/sites/default/files/uploads/2020-12/Fundamentals%20for%20a%20Child-Oriented%20Approach%20to%20Data%20Processing_Draft%20Version%20for%20Consultation_EN.pdf (Accessed 23 May 2023).

2.5. Issuing of guidance to support the Children's code

The ICO's supervision of the Children's code has shown that its success is at risk of being undermined by organisations claiming they are not in scope of the code as they are not likely to be accessed by a 'significant number of children'.³⁶

In particular, the ICO has seen evidence of organisations claiming they are not in scope of the code, as they are not likely to be accessed by a 'significant number of children' due to the code being unclear.³⁷ The reasons given for this include a lack of guidance or definition of what constitutes a 'significant number of children'. This lack of clarity creates uncertainty and increases the risk of the harms and market failure, as outlined previously in this chapter.

The uncertainty and risk of harms led the ICO to clarify its position in 2022 that adult-only services are in the scope of the Children's code if they are likely to be accessed by children.³⁸ To provide further support to ISS providers to assess whether children are likely to access their service, the ICO decided to develop LTBA guidance.

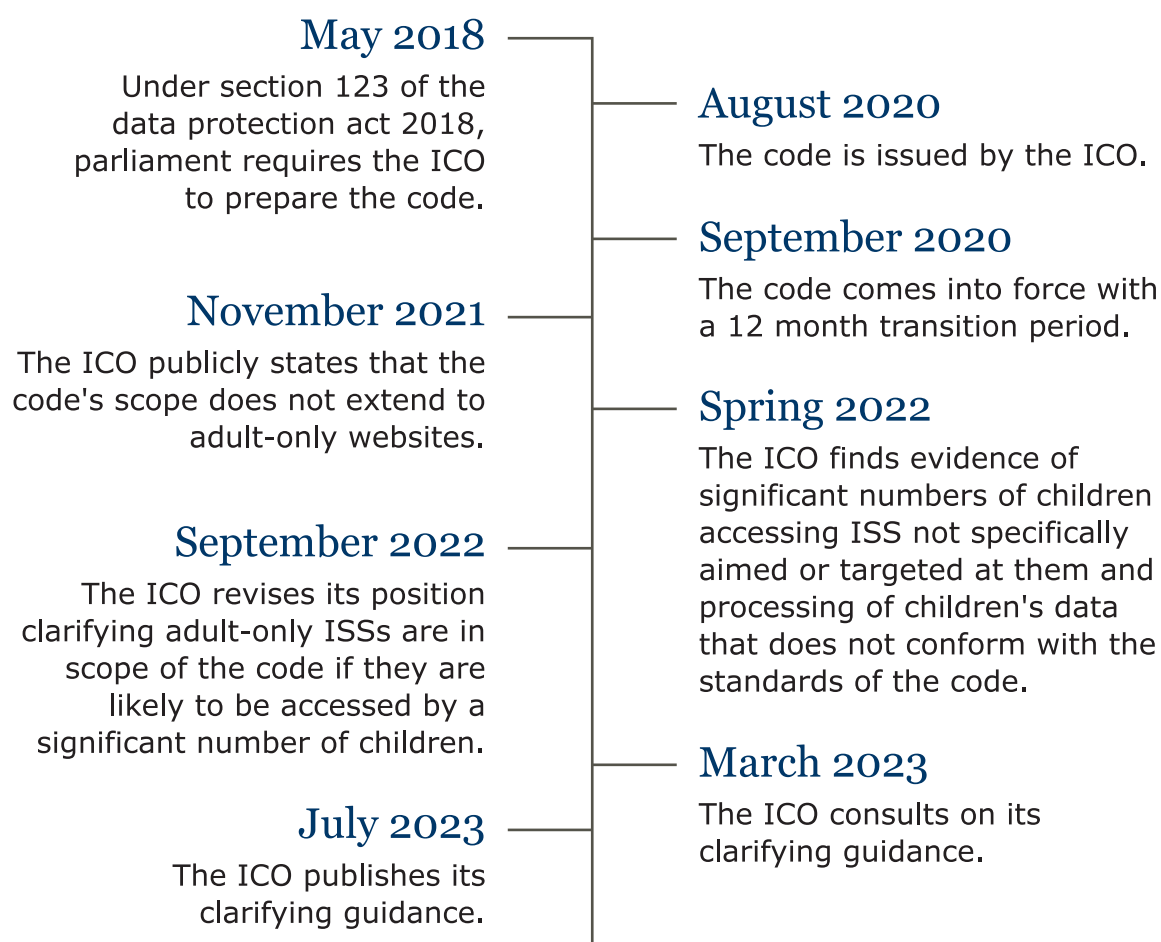
Figure 1 provides background on the key milestones linked to the ICO's decision to issue LTBA guidance.

³⁶ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023).

³⁷ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023).

³⁸ ICO (2022) *Children are better protected online in 2022 than they were in 2021*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2022/09/children-are-better-protected-online-in-2022-than-they-were-in-2021/> (Accessed 27 June 2023)

Figure 1: Timeline of key milestones linked to guidance



Source: ICO Economic Analysis.

3. Identification of alternatives for options appraisal

Summary

In the context of the problem identified in Section 2, options considered to increase regulatory certainty and enhance supervision are:

1. Do nothing
2. Provide guidance with numeric thresholds to ISS
3. Provide guidance to support ISS to undertake a 'likely to be accessed' test using a non-exhaustive list of criteria
4. Update the language in the Children's code scope section.

These options were appraised against various critical success factors and Option 3 was identified as the preferred option at this time.

This section outlines which options were considered to address the problem identified in Section 2 and why the preferred option was taken forward.

3.1. Options for consideration

The ICO considered various options during the policy development process. In the interests of proportionality, this has been condensed into four options that provide a good sense of the implications of alternative approaches and demonstrate why the ICO decided on the preferred option. This approach follows government guidance on policy development and appraisal.³⁹ The options are as follows:

- **Do nothing:** Beyond the September 2022 clarification on adult-only sites linked to the Children's code⁴⁰, no further action is required. The ICO leaves ISS providers to make their own determination of what constitutes a 'significant number of children' likely to be accessing their service.
- **Provide guidance with numerical thresholds to ISS:** Provide a quantitative measure, namely a number or percentage, that can be explicitly defined and be applicable in all circumstances.

³⁹ HM Treasury (2020) *The Green Book*. Available at: <https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents> (Accessed 31 May 2023).

⁴⁰ ICO (2022) *Children are better protected online in 2022 than they were in 2021*. Available at: <https://ico.org.uk/about-the-ico/media-centre/news-and-blogs/2022/09/children-are-better-protected-online-in-2022-than-they-were-in-2021/> (Accessed 27 June 2023)

- **Provide guidance to support ISS to undertake a 'likely to be accessed' test using a non-exhaustive list of criteria (preferred):** Provide a non-exhaustive list of methods which could be used to determine whether children are accessing an ISS. The list should make clear distinction between a service's knowledge that children are accessing each site and their obligation to consider whether it is likely that children will access the online service.
- **Update the language in the Children's code scope section:** Update the language of the code, while clarifying the meaning of 'significant number of children' within the body of the code.

3.2. Critical success factor analysis

In line with HMT Green Book guidance⁴¹, we have assessed these options against the following critical success factors.⁴²

- **Strategic alignment:** How each option furthers the objectives set out in the ICO25 plan⁴³ (stronger alignment with more goals is better).
- **Cost:** the cost for the ICO of delivering and maintaining the option (low in most cases given ongoing costs are likely to be largely absorbed into existing activities).
- **Achievability:** How achievable it is considering capacity and capability within the ICO and wider policy landscape at the time of intervention.
- **Risk:** the risks posed to the ICO, including legal and reputational risks (this includes the risks of both being perceived to publish overly flexible guidance but also publishing overly prescriptive guidance).
- **Impact:** The likely potential impact of the option considering both costs and benefits.

Table 3 assesses the options against the critical success factors. The assessments are indicative and are based on available evidence at the time and the professional judgment of the assessors. This should be considered as a high level decision making tool. Lighter shading is considered positive and darker shading negative.

⁴¹ HM Treasury (2020) *The Green Book*. Available at: <https://www.gov.uk/government/collections/the-green-book-and-accompanying-guidance-and-documents> (Accessed: 31 May 2023).

⁴² These are based on the Green Book (2020) but modified appropriately to accommodate the specific circumstances of the proposed intervention, in line with the guidance.

⁴³ ICO (2022) *ICO25 strategic plan*. Available at: <https://ico.org.uk/about-the-ico/our-information/our-strategies-and-plans/ico25-plan/> (Accessed 31 May 2023).

Table 3: Analysis of options by critical success factors

Option	Strategic alignment	Cost	Achievability	Risk	Impact
1:Do nothing	Not aligned to Objectives 1 & 2	Very Low	Very High	High	Neutral, potentially negative
2:Provide numerical thresholds	Objectives 1 & 2	Low	Low	Medium	Medium, potentially negative
3:Provide a list of non-exhaustive factors	Objectives 1 & 2	Low	High	Low	Medium, positive
4:Update the language of the Children’s code	Objectives 1 & 2	Medium	Low	Low	High, positive.

Source: ICO Economic Analysis.

The assessment in Table 3 shows option 3 scoring well across all five critical success factors. Option 1 (do noting) scored the lowest and was removed from our considerations. We now note some further detail related to the three remaining options.

3.2.1. Policy landscape challenges to updating the Children’s code

While an update of the Children’s code (option 4) would represent the most effective solution in terms of impact, it is unlikely that it would be achievable before 2024 given the current legislative landscape. In particular, the progression of the Data Protection and Digital Information (No. 2) Bill⁴⁴ (the DPDI Bill) could significantly impact achievability. In the interim, there is a need for the ICO to address the language of the code as currently written, and provide a solution to the likely to be accessed scope issue. This will allow us to address industry uncertainty and more effectively influence sites with a high data processing risk that are likely to be accessed by children through supervision and engagement. Thus, option 4 at this time is not considered feasible given achievability and cost.

⁴⁴ *Data Protection and Digital Information (No. 2) Bill*. Available at: <https://bills.parliament.uk/bills/3430> (Accessed 31 May 2023).

3.2.2. Numeric thresholds lack flexibility

Numerical thresholds (option 2) can be inflexible and do not take into account that all services are different. What is a 'significant number of children' may vary based on a number of factors including:

- the number of people using the service;
- the number of the users who are likely to be children; and
- the data processing risks the service poses to children.

Other regulatory contexts are often guided by non-exhaustive criteria.^{45, 46} Where there are quantitative thresholds, they are established by case law and are often soft in the sense of being rebuttable and accepted as being only one part of the analysis. Thus, option 2 scores low on achievability. Furthermore, there are relatively greater risk levels associated with option 2 and the ability to drive impact is uncertain. Consequently, options 2 is not considered feasible.

3.2.3. A non-exhaustive list of considerations is the preferred option

Option 3 (a non-exhaustive list) scores well across all success factors. This option responds to external demands for clear guidance whilst ensuring it is not overly prescriptive, retains flexibility and can take a case-by-case approach. The option is strongly aligned across ICO25⁴⁷, policy direction in data protection reform⁴⁸ and the ICO's obligations under the Regulators Code.⁴⁹

⁴⁵ Office for Disability Issues (2010), *Equality Act 2010 Guidance*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/570382/Equality_Act_2010-disability_definition.pdf (Accessed 21st June 2023).

⁴⁶ Financial Conduct Authority, *List of financial activities we regulate*. Available at: <https://www.fca.org.uk/firms/authorisation/how-to-apply/activities> (Accessed 21st June 2023).

⁴⁷ ICO (2022) *ICO25 strategic plan*. Available at: <https://ico.org.uk/about-the-ico/our-information/our-strategies-and-plans/ico25-plan/> (Accessed 31 May 2023).

⁴⁸ *Data Protection and Digital Information (No. 2) Bill*. Available at: <https://bills.parliament.uk/bills/3430> (Accessed 31 May 2023).

⁴⁹ Department for Business, Innovation and Skills (2014) *Regulator's code*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/913510/14-705-regulators-code.pdf (Accessed 31 May 2023).

4. Detail of 'likely to be accessed' intervention

Summary

The ICO is providing guidance in the form of FAQs, case studies and a non-exhaustive list of factors so ISS providers can determine if their services are likely to be accessed by a 'significant number of children', and are thus in scope of the Children's code. This includes defining 'significant number of children' and 'substantial and identifiable user group' in the context of the Children's code.

The development of the LTBA guidance included a public consultation on a draft product alongside an impact assessment. There were 27 responses to the consultation which provided useful feedback resulting in some amendments to the LTBA guidance and our impact assessment considerations.

There are a number of groups that could be affected by the LTBA guidance including ISS providers, children and parents, and wider society. There are evidence gaps limiting the extent to which these groups can be quantified.

This section describes the intervention that has been designed to address the problem outlined in Section 2. It provides an overview of the responses to the consultation on the draft guidance and the impact assessment. It also outlines the main groups that could be affected by the guidance.

4.1. The 'likely to be accessed' (LTBA) guidance

The ICO has found that there is a need to provide further guidance regarding what is a "significant number of children" and a "substantive and identifiable user group" in the context of the Children's code. It is responding to this need by providing guidance and supporting materials to ISS providers.

The aim of the LTBA guidance is to help ISS providers to assess whether children are accessing their service. Where ISS providers find that children do access their services, it then explains how to apply appropriate safeguards to protect them in a proportionate way.

The ICO's guidance consists of:

- a set of frequently asked questions to support ISS providers in determining if they are in scope of the Children's code;
- a non-exhaustive list of factors to consider when carrying out an assessment of whether children are likely to access their service; and
- a series of case studies to demonstrate how the assessment could be carried out.

These are provided in the form of a web page on the ICO’s external website which is readily accessible to ISS providers and other interested parties. The ICO will publicise the guidance through its website, social media and other channels to drive engagement and encourage ISS providers to use it.

It is intended the guidance will be either revised or replaced in the event that the Data Protection and Digital Information (No.2) Bill currently being considered by Parliament is passed, resulting in changes having to be made to the Children’s code. In this event, the ICO could update the language of the code and ensure alignment with other regulators using the phrase ‘significant’.

4.2. Consultation and engagement

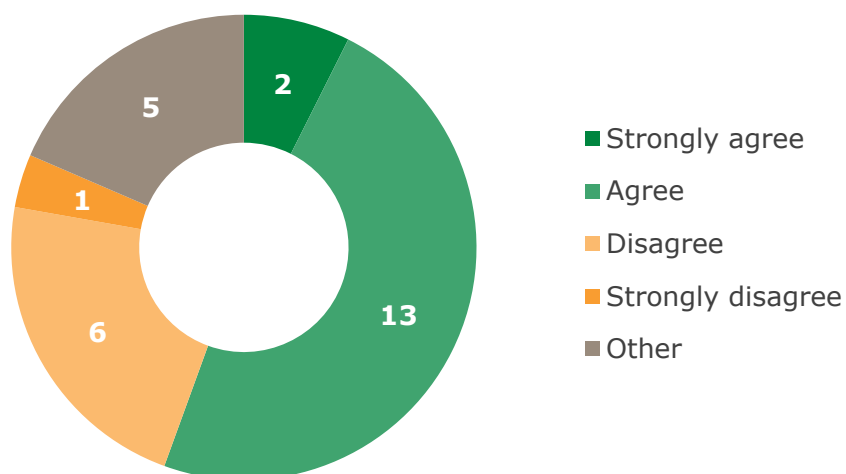
The ICO ran a consultation on an initial draft of the guidance and a supporting impact assessment. The consultation ran for 8 weeks between 24 March and 19 May 2023 and received 27 responses. Around two thirds of respondents were from industry, with one third from civil society.

The consultation responses touched on a wide range of themes, with respondents generally supportive of the ICO’s commitment to provide regulatory certainty in this area. Some amendments that were made in response to feedback included:

- general clarifications within the guidance and FAQs;
- amendments to the definition of ‘significant number of children’; and
- additional case studies to cover a broader range of scenarios.

Figure 2 shows the extent to which respondents agreed with the scope and coverage of the impact assessment presented for the public consultation. Four in five respondents provided a view on the impact assessment within their response. Most respondents (56%) were positive about the impacts and affected groups covered by the impact assessment.

Figure 2: Extent of agreement with the impact assessment’s scope and coverage



Source: ICO Economic Analysis. 27 responses

Where respondents made requests or suggestions, these were generally for more detail or clarification on the methodology rather than disagreement with what was covered. This impact assessment responds to these requests by providing a greater level of detail on the approach and evidence used, relative to what was provided at the consultation stage.

4.3. Affected groups

The main groups that we expect to be affected by the guidance are outlined below.

4.3.1. Children

A child is any individual under the age of 18. Children are likely to be affected by the guidance as it could change the way in which their personal data is used by providers of ISSs not specifically aimed at them. It could also change how they access ISSs and which ISSs they are able to access. The ONS estimated there were 13.8 million children in the UK in 2021, equivalent to 21% of the whole population.⁵⁰ According to Ofcom (2022), nearly all children went online in 2021.⁵¹ The evidence does not allow us to robustly estimate precisely how many children will be affected by the guidance and to what extent.

4.3.2. Those with parental responsibility

Those with parental responsibility may be affected by the guidance. Changes that ISS providers make may alter the level and nature of their parental intervention. Any impacts on children are also likely to impact on those with parental responsibility. The ONS estimates that there are 30.2 million people in all types of family with dependent children in the UK in 2022, suggesting that there are up to 16.4 million people with parental responsibility.^{52, 53}

4.3.3. Providers of ISS

Section 123 of Data Protection Act 2018 (DPA 2018) states that the Children's code applies to "*information society services which are likely to be accessed by children.*"⁵⁴ The impact assessment undertaken for the DPA 2018 does not

⁵⁰ Note: This is the most recent estimate that covers the whole UK. A more detailed overview is provided in Annex A.

⁵¹ Ofcom (2022) *Children's media use and attitudes*. Available at: https://www.ofcom.org.uk/data/assets/pdf_file/0024/234609/childrens-media-use-and-attitudes-report-2022.pdf, p.11 (Accessed: 23 May 2023).

⁵² Number of people in all families with dependent children minus the number of children in the UK.

⁵³ ONS (2023) *Families and Households dataset: table 2*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/datasets/familiesandhouseholdsfamiliesandhouseholds> (Accessed 31 May 2023).

⁵⁴ *Data Protection Act 2018*. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> (Accessed 31 May 2023).

include any estimate of the number of services likely to be impacted by the scope of section 123.

The impact assessment for the Children's code draws on evidence from Department for Culture, Media and Sport (DCMS) and Department for Business, Energy and Industrial Strategy (BEIS) to provide an indicative estimate of those in scope of the code.⁵⁵ DCMS, in its response to the Online Harms White Paper in early 2020, estimated that 'fewer than 5% of UK businesses will be in scope of this regulatory framework'.⁵⁶ The latest figures from the Department for Business, Energy and Industrial Strategy (2022) estimates there are 5.5 million businesses in the UK in 2022.⁵⁷ This would suggest around 275,000 businesses affected. The Online Harms White Paper has now progressed into a draft bill and has moved on from the definition and scope used. This means that this estimate may no longer be suitable.

We found no further estimates for the number of ISS providers in the UK or ISS providers within the scope of the code. This was also highlighted in the evaluation of the Children's code which recommended more research to enhance the understanding of ISS providers in the UK.⁵⁸ We have concluded that there is currently insufficient evidence to quantify them with confidence.⁵⁹

4.3.4. Other organisations within the supply chain

We anticipate organisations that provide services to ISS providers or that rely on ISSs to market or enable their products and services will be affected by the guidance.

The guidance is likely to stimulate innovation and trade in technology designed to uphold the standards of the Children's code. For example, providers of age assurance technology are likely to see an increase in demand for their products.

Online marketing businesses that use personal data could experience a decrease in commodifiable data inadvertently collected from children.

⁵⁵ ICO (2020) *Age appropriate design code: impact assessment*. Available at: https://ico.org.uk/media/about-the-ico/documents/2617988/aadc-impact-assessment-v1_3.pdf, p.13 (Accessed 23 May 2023).

⁵⁶ Department for Culture, Media and Sport (2020) *Online Harms White Paper – Initial consultation response*. Available at: <https://www.gov.uk/government/consultations/online-harms-white-paper/public-feedback/online-harms-white-paper-initial-consultation-response> (Accessed 31 May 2023).

⁵⁷ Department for Business, Energy and Industrial Strategy (2022) *Business population estimates for the UK and the regions 2022*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1106039/2022_Business_Population_Estimates_for_the_UK_and_regions_Statistical_Release.pdf#:~:text=There%20we%20re%205.5%20million%20private%20sector%20businesses%20in,million%20small%20businesses%20%28with%200%20to%2049%20employees%29. (Accessed 31 May 2023).

⁵⁸ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023).

⁵⁹ We have considered a range of proxies to support quantification including businesses that hold personal data other than employee data; businesses that acquire data through cookies or similar; businesses with an online presence; but determined that these measures are too loose and do not reflect the actual population of relevant ISS providers.

We have not been able to quantify either of these impacts.

4.3.5. The ICO

The Information Commissioner is the data protection regulator, with responsibility for regulating the UK General Data Protection Regulation (UK GDPR)⁶⁰, and DPA 2018.⁶¹ This includes investigating potential infringements of the legislation and using relevant enforcement powers as appropriate.

The guidance will make it easier for organisations to understand their obligations. This could affect the demand for ICO advice and support, as well as the need for enforcement activity.

4.3.6. Wider society

There are also likely to be wider societal impacts from reducing harm to children (see overview in section 2.2).

Wider society may also be affected by the guidance as it may change the way in which online services are offered, for example by reducing services which can be accessed anonymously.

⁶⁰ *Regulation (EU) 2016/679 of the European Parliament and of the Council*. Available at: <https://www.legislation.gov.uk/eur/2016/679/contents> (Accessed 31 May 2023).

⁶¹ *Data Protection Act 2018*. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> (Accessed 31 May 2023).

5. Cost benefit analysis

Summary

The costs and benefits of the intervention have been identified, quantitatively and qualitatively, as far as is possible and proportionate. There are significant evidence gaps around the quantification of ISS providers, which limit our ability to monetise impacts.

Overall our assessment suggests that the benefits, in particular through reducing the potential data protection related harms for children and the related benefits to wider society, outweigh the costs identified.

In this section, we provide an overview of the potential costs and benefits associated with the LTBA guidance, as well as limitations to the assessment. The aim is to identify and understand the likelihood and extent of impacts on affected groups (both positive and negative) and to judge the overall impact on society.

Significant evidence gaps exist around the population of ISS providers, other organisations within the supply chain and other affected groups. This limits our ability to provide quantitative estimates of any of the impacts.

In identifying potential impacts of the guidance there is a distinction between:

- Impacts that are attributable to the guidance - impacts which are affected by the decision to produce the guidance, what the ICO chooses to include in the guidance, and how the ICO chooses to present it; and
- Impacts that are not attributable to the guidance - these are impacts that could arise from the Children's code itself, and legislation such as the UK GDPR⁶² and the DPA 2018.⁶³ Controllers are already expected to comply or conform with these requirements.

Due to information deficits, it has not been possible nor proportionate to robustly identify which of these impacts are likely to be attributable to the guidance and to what extent. This depends on multiple factors such as:

- ISS providers' current interpretation of the Children's code and existing legislation;

⁶² Regulation (EU) 2016/679 of the European Parliament and of the Council. Available at: <https://www.legislation.gov.uk/eur/2016/679/contents> (Accessed 21 June 2023).

⁶³ *Data Protection Act 2018*. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/contents> (Accessed 21 June 2023).

- the nature of the services they deliver and the market they operate in; and
- the age profile and preferences of users of the service.

5.1. Cost benefit analysis

Table 4 outlines potential costs and benefits to the LTBA guidance. We then discuss some of the main impacts for the affected groups in more detail below the table and provide an overall assessment based on the available evidence.

Table 4: Cost benefit analysis

Affected Group	Benefits	Costs
Children	Reduction in harms and improved outcomes for children.	Potential for reduced or more cumbersome access to services perceived as useful.
Those with parental responsibility	Reduction in anxiety and stress related to children suffering harm. Reduction in the costs of avoiding and mitigating harms to children.	Parents could be required to spend time and effort supporting children to access websites with parental consent.
Providers of ISS	Greater regulatory certainty and confidence in providing services. Conformant providers could see increased trust and confidence amongst customers and wider society, as well as reputational benefits.	Familiarisation costs of additional guidance of approximately £34 per affected ISS provider. ¹ Resource cost of applying criteria and assessing likelihood to be accessed by children. Cost of putting measures in place for those newly discovered as in scope of the Children’s code. Revenue impacts of potential chilling effects of less adults willing to access services if additional age assurance steps required.
Other organisations within the supply chain	Age assurance tech providers could see increased demand for their products.	Some enterprises could face loss of revenue from targeted advertising.

¹ See Annex D: Familiarisation costs for calculation details.

The ICO	<p>Increased regulatory certainty to drive conformance.</p> <p>Efficiencies from expanded guidance for advice and support to ISS providers.</p> <p>Potential reputational impacts if regulatory certainty is improved and the guidance is perceived to enhance conformance and compliance.</p>	<p>Up-front resource cost of policy clarification and developing associated guidance.</p> <p>Potential reputational impacts if policy perception is poor for certain affected groups</p>
Wider Society	<p>Lower cost to society in supporting children who are harmed through their use of adult-only ISSs.</p> <p>Benefits to users of adult sites in knowing they are less likely to come across children when they are specifically looking to communicate with adults (eg on dating sites).</p> <p>Some privacy enhancing measures used to protect children could also lead to enhanced privacy for adult users with the potential for knock on reductions in data protection harms.</p>	<p>Cost to adult users of going through additional effort to access elements of services depending on age assurances methods applied.</p> <p>Reduced use of services as a result of chilling effects caused by perceived lack of anonymity.</p> <p>Potential harm through actual or perceived privacy risk of use of certain age verification measures.</p>

Source: ICO Economic Analysis.

Given the evidence gaps, the assessment findings are limited to the evidence presented in this paper, findings from the Children’s code evaluation, and experience from other relevant impact assessments. Although this prevents the quantification of impacts, the qualitative evidence enables us to reach an overall assessment.

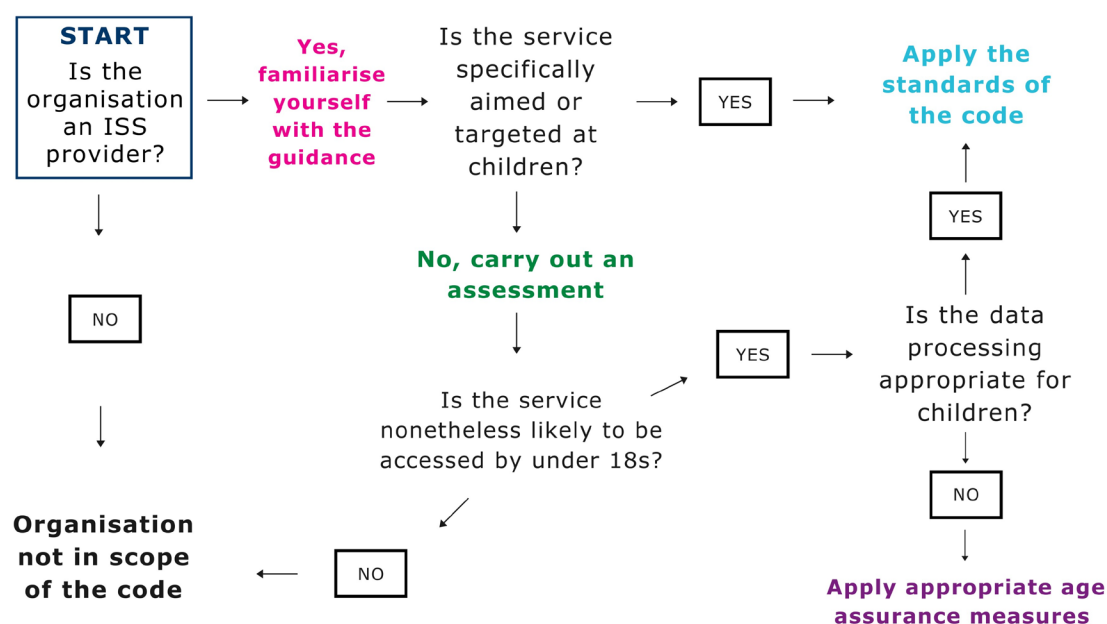
5.1.1. ISS providers

Impacts on ISS providers depends on a range of factors. We anticipate three potential types of impact from the guidance:

- Firstly, the LTBA guidance will be relevant to all ISS providers assessing whether they are likely to be accessed by children. All ISS providers are likely to need to **familiarise themselves with the guidance**. This is indicatively estimated as approximately £34 per organisation (see Annex D for more detail).
- Second, providers of ISS not specifically aimed at children will need to **carry out an assessment** to determine whether they are now in scope of the Children’s code.
- Third, ISS providers that had previously found that they were not in scope of the Children’s code but find a significant number of children access their service, will now **face the cost of applying the standards of the code or applying appropriate age assurance measures** to restrict access by under 18s.

Figure 3 illustrates the practical application of the guidance for ISS providers and where each type of impact occurs (in bold).

Figure 3: Implications of the guidance for ISS providers



Source: ICO Economic Analysis

Note: this diagram is not intended for use by ISS providers when carrying out their assessment.

As well as any costs associated with the impact types above, there could also be reputational benefits for ISS providers that change their practices and are able to more confidently assure customers that they are compliant with legislation.

The extent to which the guidance presents additional impacts for ISS providers will depend on their previous understanding of the scope of the Children's code and how they were assessing their service prior to the implementation of the guidance. Where there are significant costs for ISS providers, it is possible that they weren't compliant with existing legislation. In this case, the additional costs incurred as result of reading the guidance could be a small fraction of potential future legal, reputational or regulatory costs.

Responses to the consultation recognised that impacts are likely to come in the form of both costs and benefits:

"Additional benefits include legal certainty and increased ease in complying with the code. Increased costs may come with assessing whether kids are reasonably likely to access the service and documenting the assessment, as well as implementing the code or having to restrict access for children via methods like age gating/age assurance methods."

5.1.2. Other organisations within the supply chain

Impacts on organisations within the supply chain of affected ISS providers will depend on the extent of impacts faced by the ISS providers themselves and how they chose to respond to the guidance. This could include both costs where ISS providers purchase less services because of a reduction in revenue or benefits where other organisations provide services that assist with age assurance measures. One respondent to the public consultation stated:

"The clarification of the ICO position on adult services is critical to persuading ISS within scope of the Children's Code to invest in compliance tools"

5.1.3. Children and those with parental responsibility

The extent to which children and those with parental responsibility see any costs related to the guidance will depend on how ISS providers decide to respond to the guidance and the types of measures they decide to put in place.

The greatest potential for benefit will be in any reduction in harms (see section 2.2) associated with changes made by ISS providers. This could come in the form of a reduction in high risk collection or processing of children's data or

greater control over the use of personal data for children and those with parental responsibility.

As harms can lead to significant impacts on children and wider society, even a small reduction as a result of the guidance is likely to considerably outweigh the costs identified.

5.1.4. Societal Impacts

Societal impacts are difficult to measure or predict but these could include:

Benefits

- a reduction in damage to children's personal reputations, leading to better outcomes in education, future employment potential and health;
- improved physical and mental wellbeing among children leading to reduced demand on health services; and
- a reduction in commercial exploitation and negative externalities leading to more efficient markets.

Costs

- cumbersome or intrusive age assurance measures leading to chilling effects on the use of services by adults.⁶⁵
- where personalised advertising is perceived to be useful, a reduction in personal data collection or processing could, in theory, lead to targeted advertising being less effective and search costs increasing. This could lead to price increases for consumers.⁶⁶

As with other impacts, the extent of these impacts will depend on the changes ISS providers make as a result of the guidance.

5.1.5. Overall assessment

Overall our assessment suggests that the benefits, in particular through reducing the potential data protection harms to children and the related benefits to wider society, are likely to outweigh the costs identified. This is largely due to the fact that even a small reduction in harms to children would bring significant benefits to children, those with parental responsibility and wider society.

⁶⁵ A chilling effect is a factor that discourages a consumer from engaging in a legitimate market transaction due to possible negative consequences.

⁶⁶ A search cost is time and money spent by consumers and producers to find each other in order to engage in a transaction.

6. Monitoring and evaluation

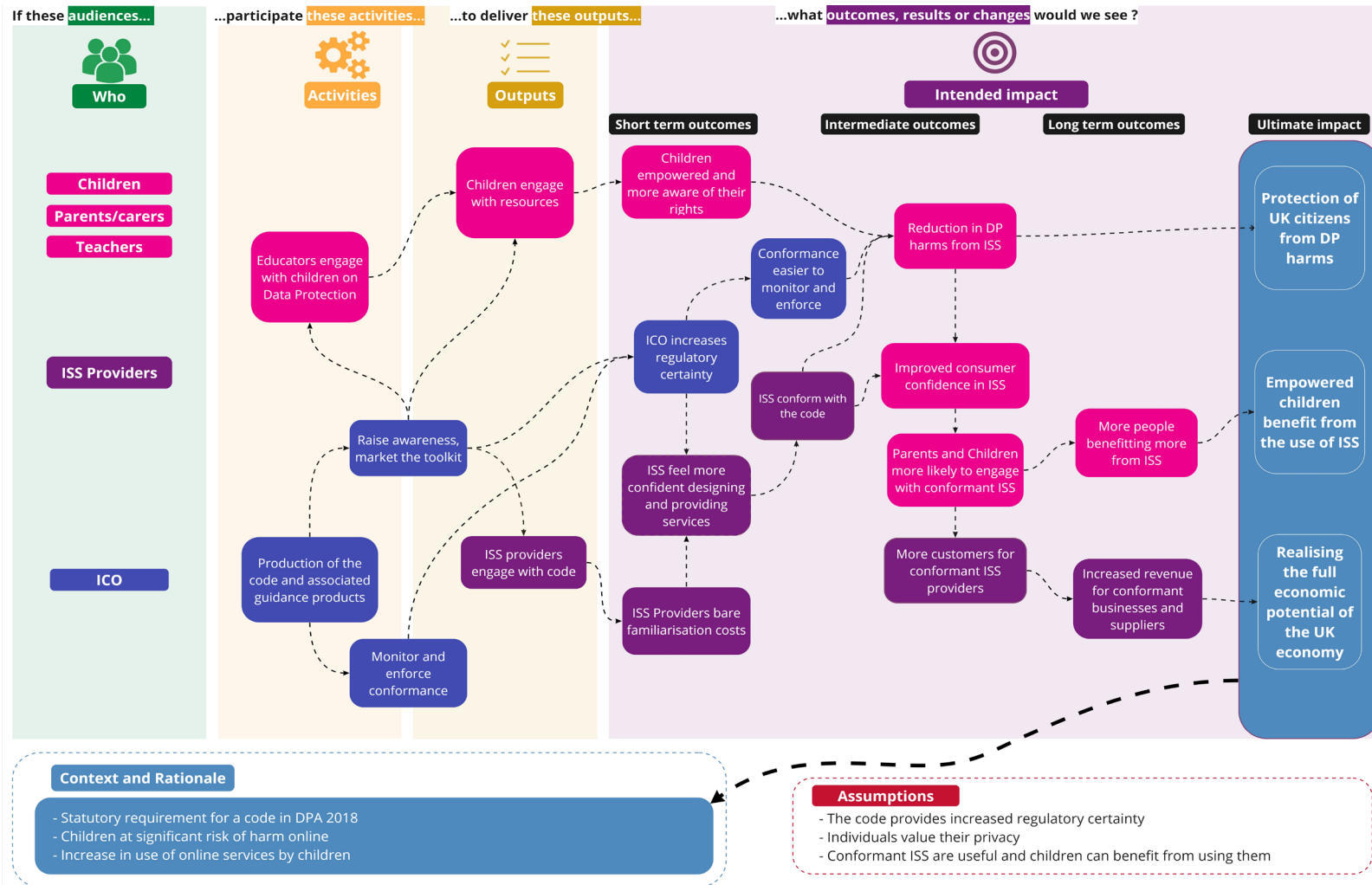
The Children's code, which the LTBA guidance was developed to support, has benefitted from an extensive evaluation programme. The ICO published the Children's code evaluation in June 2023.⁶⁷

The evaluation suggests that monitoring and evaluation activity of the Children's code and associated guidance and clarifications should continue. The Children's Privacy Board is considering the lessons learnt from the evaluation and recommendations around future monitoring. If it is taken forward, this would include assessing effectiveness, together with any areas for improvement, or unintended consequences of policy.

⁶⁷ ICO (2023) *Children's code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21st June 2023).

Annex A: Children’s code evaluation theory of change

Figure 4: Children’s code theory of change



Source: ICO (2023) *Children’s code evaluation*. Available at: <https://ico.org.uk/media/about-the-ico/documents/childrens-code/4025494/childrens-code-evaluation-report.pdf> (Accessed 21 June 2023), p.8

Annex B: Children in the UK

This annex provides a breakdown of the number of children by single year of age for reference.

Table 5: UK population by age, mid-year 2021 ¹

Age	Population
0	675,000
1	702,000
2	719,000
3	732,000
4	751,000
5	775,000
6	770,000
7	775,000
8	796,000
9	818,000
10	822,000
11	810,000
12	807,000
13	814,000
14	782,000
15	766,000
16	764,000
17	759,000
Total	13,837,000

Source: ONS (2022).

¹ ONS (2022), *Mid-Year Population Estimates, UK, June 2021, table MYE2 – Persons*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/dataset/populationestimatesforukenglandandwalesscotlandandnorthernireland> (Accessed: 30 May 2023).

Annex C: Quantification of children accessing adult-only ISSs

Here we present analysis estimating the number of children accessing adult-only ISSs. For this indicative analysis, we have selected three typical adult-only ISSs. This is not an exhaustive list and does not imply any hierarchy.

Online pornography

The proportion of children who have seen pornography online is estimated by the Children's Commissioner (2023) who finds that 10% had seen pornography by age nine; 27% had seen it by age 11; half (50%) of children who had seen pornography had seen it by age 13; and 73% had seen it by the age of 15. These estimates are in line with other research on the topic.²

This implies that **at least 3 million children have accessed pornography online**. This is equivalent to 43% of children between the age of 9 and 17.

Table 6: Central estimate of number of children who have ever seen pornography online

Age	Population of UK children	Percentage who have seen pornography online	Children who have seen pornography online
9	818,000	10%	82,800
10	822,000	10%	82,200
11	810,000	27%	218,800
12	807,000	27%	217,800
13	814,000	50%	406,800
14	782,000	50%	390,900
15	766,000	73%	558,900
16	764,000	73%	557,800
17	759,000	73%	554,400
Total	7,142,000	43%	3,069,300

Source: Children's Commissioner (2023), ONS (2022), ICO Economic Analysis.

² For example: British Board of Film Classification (2019) *Children see pornography as young as seven new report finds*. Available at: <https://www.bbfc.co.uk/about-us/news/children-see-pornography-as-young-as-seven-new-report-finds> (Accessed 31 May 2023); National Society for the Prevention of Cruelty to Children (2017) *...I wasn't sure it was normal to watch it ...*. Available at: <https://eprints.mdx.ac.uk/19989/6/MDX%20NSPCC%20OCC%20Online%20Porno> (Accessed 31 May 2023); Thuram et al. (2021) *The regulation of internet pornography*. Available at: <https://onlinelibrary.wiley.com/doi/10.1002/poi3.250> (Accessed 31 May 2023).

³ ONS (2022), *Mid-Year Population Estimates, UK, June 2021, table MYE2 – Persons*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/dataset/populationestimatesforukenglandandwalesscotlandandnorthernireland> (Accessed: 30 May 2023).

This is likely a conservative estimate, as:

- it assumes that no child under the age of 9 has ever seen pornography online; and
- we treat age groups as steps rather than as a continuum. For example it is highly unlikely that 10% of 10 year olds have seen pornography online. The true figure is higher at between 10% and 27% (the figure for 11 year olds).

Online dating apps or sites with terms and conditions stating they are 18+

Ofcom's Online Nation 2022⁴ survey lists the 15 dating apps or sites with the largest number of UK users between the age of 15 and 17.

Table 7: Child users of selected dating sites

Name of app/site	15 - 17-year-old users	Proportion of UK children aged 15 to 17
Tinder	213,200	9.3%
Hinge	113,300	4.9%
Shag	73,400	3.2%
Bumble	66,200	2.9%
Squirt	51,700	2.3%
Grindr	51,300	2.2%
Badoo	20,900	0.9%
Luckycrush	16,500	0.7%
Match	12,100	0.5%
Zoosk	8,000	0.3%
Seeking	6,900	0.3%
Pof	6,900	0.3%
Plenty Of Fish	5,700	0.2%
Secretbenefits	4,700	0.2%

Source: Ofcom (2022), ONS (2022), ICO Economic Analysis.

We are not able to find data on children under the age of 15 who use dating apps or sites and as such these figures should be seen as a minimum.

⁴ Ofcom (2022) *Online Nation interactive report*. Available at: <https://www.ofcom.org.uk/research-and-data/online-research/online-nation/interactive> (Accessed 31 May 2023).

Taking the most popular app or site, **we infer that at a minimum, 213,200 UK children are accessing online dating sites or apps.** The actual number is likely to be higher, although we are not able to accurately estimate this. This is because it is likely that some users are using multiple apps/sites and would therefore be double counted if the figures were summed.

Online gaming with a PEGI rating of 18+

We calculate the following proportions and number of UK children who played any games online in 2021.⁵

Table 8: Children who play online games

Age Group	Percentage who played online games in 2021	Number of children
3 to 4	18%	267,000
5 to 7	38%	882,000
8 to 11	69%	2,240,000
12 to 15	76%	2,407,000
16 to 17	61%	929,000 ⁶
Total	57%	6,726,000

Source: ONS, 2022, Ofcom 2022, ICO Economic Analysis.

Of the 20 top video games in the UK in 2021 by unit sales,⁷ our analysis shows 37% of all games sold have a Pan European Game Information rating of 18+.⁸ It should be noted that this does not include free games as data was not readily available to cover these. As such, the proportion should be viewed as indicative.

To estimate an upper end of the scale for the number of children who play 18+ video games online, we assume:

- that the proportion of top selling video games in the UK in 2021 that are 18+ is representative of all games, including free games;
- all game playing has at least some online element and that all users access the online element; and

⁵ Ofcom (2022) *Online Nation interactive report*, p.18. Available at: <https://www.ofcom.org.uk/research-and-data/online-research/online-nation/interactive> (Accessed 31 May 2023).

⁶ This figure is based on an estimate for 16 to 24 year olds.

⁷ Statista (2021) *Best-selling videos games in the United Kingdom in 2021, unit sales*. Available at: <https://www.statista.com/statistics/274072/most-popular-games-in-the-united-kingdom-uk-by-unit-sales/#:~:text=Top%20selling%20video%20games%20in%20the%20United%20Kingdom,%20%20602%2C24%20%209%20more%20rows%20> (Accessed 13 June 2022).

⁸ PEGI rates are used here for indicative purposes. It should be noted that they are not a robust measure of the data processing risks of the service.

- that children are no more likely to purchase and play 18+ games than the whole gaming population.

This suggests that **up to 2.5 million children could play 18+ games online** and as a result their personal data will be being collected.

We found some other evidence on the number of children who play 18+ online games, however, we were not able to confirm the robustness of the findings.⁹

⁹ For example: Virgin Media (2018) *Is it alright for my kids to do that?*. Available at: <https://news.virginmediao2.co.uk/archive/is-it-alright-for-my-kids-to-do-that/> (Accessed 31 May 2023).

Annex D: Familiarisation costs

This annex sets out the approach taken to estimate familiarisation costs for the guidance, which follows a standard approach drawn from previous impact assessments.^{10, 11}

As discussed in section 4.3, there is not enough available evidence to produce a robust estimate of the providers of ISS that would be expected to familiarise themselves with the guidance. We have instead provided an estimate of familiarisation cost per organisation to give some indication of the costs that organisations may incur.

For the purposes of the assessment we have made the simplifying assumption that each organisation or individual will read the guidance in its entirety once. This is not a recommendation on how organisations or individuals should familiarise themselves with the guidance, as this will differ on a case-by-case basis

Familiarisation costs per organisation

Drawing on impact assessment guidance¹², we have estimated the total time for reading the guidance at one hour and 12 minutes. This is based on a word count of around 5,500 words and a Fleisch reading ease score of 46.5.

Table 9: Estimate of the average time taken to read the guidance

Document	Word count	Fleisch reading ease score	Assumed words per minute	Estimated reading time (hr:mn)
Guidance and supporting materials	5,422	46.5	75	01:12

Source: ICO Economic Analysis, BEIS (2019).¹³

¹⁰ ICO (2021) *Data sharing code of practice – Impact assessment*. Available at: <https://ico.org.uk/media/2619796/ds-code-impact-assessment-202105.pdf> (Accessed 19 April 2023).

¹¹ ICO (2020) *Age appropriate design: a code of practice for online services – Impact assessment*. Available at: https://ico.org.uk/media/2617988/aadc-impact-assessment-v1_3.pdf (Accessed 19 April 2023).

¹² BEIS (2019), *Business Impact Target: Appraisal of guidance: assessments for regulator-issued guidance*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/609201/business-impact-target-guidance-appraisal.pdf (Accessed 21st June 2023).

¹³ BEIS (2019), *Business Impact Target Statutory Guidance*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776507/Business_Impact_Target_Statutory_Guidance_January_2019.pdf (Accessed 21st June 2023).

The impact of familiarisation on organisations can be monetised using data on wages from the ONS Annual Survey of Hours and Earnings.¹⁴

Making the conservative assumption that the relevant occupational group is 'Managers, Directors and Senior Officials', the 2022 median hourly earnings (excluding overtime) for this group is £23.25.

This hourly cost is uprated for non-wage costs using the latest figures from the Regulatory Policy Committee guidance,¹⁵ resulting in an uplift of 22% and an hourly cost of £28.35. We use the hourly cost and the simplifying assumption of one individual handling familiarisation for each organisation to establish a cost per organisation.

This results in a **cost per organisation of approximately £34.**

¹⁴ ONS (2022), *Annual Survey of Hours and Earnings*. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/ashe1997to2015selectedestimates> (Accessed 21st June 2023).

¹⁵ RPC (2019) *RPC guidance note on 'implementation costs'*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/827926/RPC_short_guidance_note_-_Implementation_costs_August_2019.pdf (Accessed 21st June 2023).