

## **Position statement on support to manage risk for adults living with diabetes from COVID-19**

### **Key points**

- It is essential that governments across the four UK nations take account of the clinical data and the experiences of people with diabetes to inform policies and guidance, as lock-down measures are adapted or eased, to ensure all people with diabetes are protected and supported
- Recent data shows that some people with diabetes have a higher risk of mortality from COVID-19 and may benefit from enhanced protection, such as through shielding
- However, people with diabetes are all different, with different personal and health needs, and there should not be a blanket approach to shielding – which can have significant physical and emotional impacts
- Decisions around the support people need to stay safe should take into account an individual's circumstances and, crucially, be made consistently and through discussions with clinical teams
- This position statement makes recommendations about the factors to consider when assessing the individual risk of adults with diabetes in relation to COVID-19. It also makes recommendations about the action required to protect and support people with diabetes

## Why have we produced this position statement?

Since mid-March 2020, when measures were introduced across the UK to restrict transmission of COVID-19, many people with diabetes have been experiencing fear, confusion and frustration, causing considerable stress and anxiety. These feelings, along with the sedentary effects of lock down, have had a negative effect upon people's ability to optimally self manage their condition and has left them feeling more vulnerable and isolated.

People with diabetes, as a whole population, have been defined as "clinically vulnerable" in relation to Coronavirus (COVID-19). This means those living with diabetes are at higher risk of serious illness (or death) if they catch the virus and are more likely, therefore, to be admitted to hospital than someone without diabetes.

The clinically vulnerable group did not have access to the same support as those who are considered "extremely clinically vulnerable" (who were advised to shield). Guidance issued to date has often been unclear and inconsistent, and people with diabetes and their healthcare teams have been left in the difficult position of having to make individual judgements about their level of risk and the social behaviour they should adopt as a consequence.

People with diabetes are a large and heterogeneous group comprising all ages, ethnicities, different types of diabetes and different health status. A blanket ask of shielding without evidence would not be appropriate and up to now the evidence has not been sufficient to assess whether the risk is the same for all people with diabetes, or to indicate that all people with diabetes should be in the shielded group. Shielding advice is very restrictive and may be harmful to both psychological and physical health and so it's important to balance this against the individual level of risk. There needs to be greater flexibility in applying protections, support and services to meet the individual needs of those who may be at greater risk of poorer outcomes from COVID-19.

Recently, as restrictions in England started to be eased, more working adults with diabetes who had up until now been avoiding contact with others outside their home were expected to return to work and face a choice between their safety and their livelihood. Overwhelmingly, people with diabetes are seeking clarity and consistency of information and advice about the risks of COVID-19 for people with diabetes, so that they can access support and make more informed choices about how to keep themselves safe.

Diabetes UK, and others, have pressed for the UK government and devolved nations to ensure people with diabetes are protected and supported. We asked for the available data to be analysed in order that people with diabetes, and healthcare professionals, were better able to understand the risks and where action might be taken to mitigate their risk. Whilst there is still much we don't know, new data on the risk factors for mortality from COVID-19 in people

with diabetes have recently been analysed and presented (3, 4). These analyses were also sent, by NHS England, to the Chief Medical Officer (CMO) for consideration.

## How did we develop this position?

We have reviewed recently published papers, within an NHS context, which focus on the risk level of people with diabetes and death from COVID-19 (see appendix 1). This includes two recent papers made available on 20th May 2020 (3, 4).

We have reviewed and assessed calls to our helpline and support forums to identify key issues and themes. We have also drawn on a survey of over 5,000 people living with diabetes about their experiences and concerns since the beginning of the COVID-19 pandemic (see appendix 1).

We have sought the views of health care professionals and people with diabetes through our Council of Health Care Professionals (CHP) and Council of People with Diabetes (CPD) as well as other diabetes organisations, including the Association of British Clinical Diabetologists (ABCD), Primary Care Diabetes Society (PCDS) and JDRF – the type 1 diabetes charity. These organisations have endorsed our recommendations.

## What are we saying?

Assessment of risk from COVID-19 for someone with diabetes, and the support required, should be based on individual clinical and social risk factors and a collaborative decision making discussion. (See appendix 2 for some illustrative examples).

### Risk factors to use for assessment and discussion of individual need

These are the risk factors, relating to outcomes of COVID-19 and diabetes, which should be considered when conducting a clinical assessment of individuals. The research suggests that adults with type 1 diabetes are at 3.5 times the risk of death from COVID-19 and adults with type 2 and other forms of diabetes are at are at 2 times the risk compared to people without diabetes<sup>1</sup>. However, all risk factors should be taken into account in discussing an individual's risk.

**Age.** Both in the general and diabetes population, age is a considerable risk factor. As age increases so too does the risk of death from COVID-19. Risk of severe illness from COVID-19 increases with age and the risk is highest in those aged over 70. Risk starts to increase

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<sup>1</sup> It is important to note that considerably more people with type 2 diabetes are recorded as dying from COVID-19, which reflects not only the prevalence of type 2 diabetes in the older population compared to type 1, but also the considerably higher prevalence of type 2 diabetes in the whole population.

sharply from the age of 50 so those between 50 and 69 with diabetes also have an increased risk compared to those in younger age groups.

**HbA1c.** Suboptimal diabetes management, as measured by HbA1c, increases the risk of all diabetes complications and severe illness; COVID-19 is no exception to this. Risk increases as HbA1c does. For all types of diabetes risk increases from HbA1c above 58mmol/mol (7.5%) with an HbA1c over 87mmols/mol (10.1%) significantly increasing the risk of death from COVID-19. A recent HbA1c should be used to assess this (and missing HbA1c may be an indication that a review is required).

**Ethnicity.** People with diabetes from Black and Asian ethnicities have an increased risk of death from COVID-19.

**Complications.** People with diabetes complications, including those with end stage organ failure appear to have worse outcomes if admitted to hospital with COVID-19. This is particularly noted for those with kidney disease or heart failure. As kidney function deteriorates from eGFR 59 and below, the risk of severe illness from COVID-19 increases.

**BMI.** Whilst people who are seriously overweight (BMI of 40 or above) have been classified as clinically vulnerable in government guidance, people with diabetes and a BMI over 30 are at a significant risk of severe illness and death from COVID-19. People with a BMI under 18.5 are also at an increased risk.

## Recommendations

1. The UK government, scientific advisors and the NHS should develop a standardised approach for healthcare teams and others to assess an individual's risk from COVID-19

- Governments and the NHS should recognise that the risk of mortality for adults with diabetes is increased according to a combination of risk factors
- The combination of characteristics and blended risks at population level means that blanket shielding is overly restrictive for many individuals and not proportionate
- Primary care and diabetes healthcare professionals need to be supported to identify those at greatest risk in an effective and consistent way across the whole of the UK, and to account for other comorbidities that individuals might have
- It is vital that there is a standardised approach to assessing risk, and that individuals have the opportunity to discuss and understand their risk with their clinical team, to collaboratively identify support needs
- The UK government should produce accurate and clear information about risk and fast track the development of evidence based tools to support clinical teams to identify those at greatest risk and to have a 1-1 conversation to explore individual risks, circumstances and choices

2. Clinical teams should identify and contact people with diabetes over 70, and adults with diabetes who have other clinical indicators for increased risk, to discuss their risk and the support they need to keep themselves safe

- Primary care teams and diabetes teams should urgently risk stratify adults with diabetes based on their clinical risk factors and actively review those with clinical indications that suggest elevated risk for severe illness or death if they catch COVID-19
- Those identified, including all people with diabetes over 70, should be contacted to discuss their risk, how they can best be protected and the support they need
- Each risk factor must be taken into account and discussed alongside each individual's circumstances, with a collaborative discussion about how best to protect and support them
- The social circumstances of people with diabetes will need to be taken into account. For example, the risk of catching COVID-19 may be different between an individual who lives in a house with other people, who may be working outside the home or attending school, compared to someone who lives alone
- If shielding is agreed as the right option for an individual, the GP or clinical team should ensure that the person with diabetes knows how to access food and medication and protection in their employment – they should also have access to psychological support

- People should be supported to manage their blood glucose and weight to help reduce risk, where indicated. This may require the introduction of alternative diabetes medication, dose adjustment or a new approach to blood glucose monitoring, including home blood glucose monitoring for people with type 2 diabetes who have not been required to do this before, and some people may benefit from flash glucose monitoring
- Appropriate education and support should be given following any new diabetes intervention
- Any decision must be reviewed collaboratively and proactively, and new or emerging evidence should be considered along with any change in the individual's circumstances.
- Adults with diabetes should seek a review with their healthcare team if they are concerned about their risk.

**3. Government policies and guidance must be based on the clinical evidence and routinely reassessed so that people with diabetes are receiving the best possible advice and protection**

- Current and emerging data should be used to inform government policies in all four nations, as lock-down is eased, to ensure people with diabetes are protected and supported
- UK government should look at the role of ethnicity in increasing risk of death from COVID-19 and use the findings of further research to take action to mitigate the risk
- UK government should explore the role of deprivation in increasing people's vulnerability to COVID-19 and ensure that action is taken so that everyone has access to the protection and support they need to minimise their risk now and in the future
- There is a need to ensure that those who have been shielding are able to access medical care as we come out of lock down and to have mental health and wellbeing support to live well
- UK government, health services and local authorities should take action to ensure that people who want to lose weight are supported to do so, through provision of appropriate weight management services
- For those at risk of Type 2 diabetes as well as those living with diabetes, the UK government and devolved administrations should act with urgency to implement proposals in obesity plans, working with the food industry to create an environment that better supports healthy living.



#### **4. There must be better protection and provision for people who are clinically vulnerable, including people with diabetes**

- As we move out of lock down, there is an urgent need to look at how to protect all adults with diabetes who are clinically vulnerable. This is because in parts of the UK, particularly urban areas and in workplaces, it is difficult to stringently social distance
- The development of a recognised standard COVID-19 risk assessment tool should be fast-tracked, making it possible to assess a person's individual risk based on different factors as soon as possible. A robust process will be required to ensure that the advice a person is offered from the use of this tool will inform decisions about their own safety in their workplace.
- Meanwhile people in the "clinically vulnerable" group, which includes those with diabetes, should have a right to stay working at home whilst there is still a risk of them contracting COVID-19.
- If an employer cannot facilitate this and the employee still has concerns about their safety, they should have access to fair remuneration, such as the option to be furloughed through an extension of the UK Governments' job retention scheme for those who are vulnerable from serious harm from COVID-19.
- The UK government and devolved administrations across the UK should ensure all existing guidance on employment protections and workplace assessments is communicated clearly, to both employers and clinically vulnerable people. This guidance should be robustly enforced, including the legal right for reasonable adjustments to be made.
- Employers should specifically consider the needs of the clinically vulnerable in workplace risk assessments and conduct individual risk assessments for clinically vulnerable employees. They should strongly consider individual clinical assessments conducted by the person's health care team
- People with diabetes who choose to restrict contact with those outside their home should have priority access to food delivery services provided through supermarkets or voluntary responder schemes.

#### **5. People with diabetes must be able to access health care and support**

- Diabetes teams and primary care services should provide support to all people with diabetes to manage their blood glucose levels and weight
- People with diabetes must be positively encouraged and supported to optimise their diabetes self-care both physically and emotionally, through the adoption of motivational approaches and compassionate, destigmatising language. For more information on language and diabetes see [our tool produced with NHS England](#).
- People diagnosed with diabetes whilst measures to control COVID-19 are in place are likely to feel very vulnerable and may be at risk of developing an adverse long-term

relationship with their condition. They should be identified by services and proactively offered additional support.

- Local diabetes services should ensure annual reviews are prioritised for those who have not achieved treatment target for HbA1c and those who did not attend their last scheduled annual review.<sup>2</sup>
- People with diabetes should feel safe when accessing care. Annual reviews should be delivered in a way that minimises face to face contact and the risk of spreading COVID-19 (e.g. through the use of technology, COVID minimal practices or other local arrangements which minimise contact, such as one stop shops).
- If urgent health care appointments cannot be provided through a remote consultation, people with diabetes may need access to patient transport, provided through the NHS or voluntary responder schemes, in order that they can reduce their contact whilst travelling.
- People living with diabetes should have access to emotional and psychological support through signposting, social prescribing and use of digital tools as required. This will be particularly important for those who are shielding, and those who are most vulnerable to being adversely affected by the economic ramifications of the pandemic (e.g. young adults). Where diabetes psychology staff have been redeployed to other areas of work (e.g. staff support), they should be deployed back to their original area of work

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<sup>2</sup> In England this forms part of the Phase 3 planning guidance and in Scotland Phase 2 of the COVID route map.



# Appendix 1: Evidence and analysis

## What the data tells us

### Introduction

Due to the nature of a novel virus, limited research had been conducted on its effects for people with diabetes in the context of the NHS. Doherty et al (1) published a report in April 2020, stating high numbers of in hospital deaths from COVID-19 in people with diabetes. Around the same time the Opensafely study (referred to as the Goldacre study (2) examined this in finer detail. Subsequently two further studies analysed data to refine details of these high rates of death (3, 4).

This review by the Director of Health intelligence and the Research Team at Diabetes UK reflects our understanding of the current research and provided the basis for our position statement. This is not peer reviewed.

### Key Findings

**Paper 1:** This paper looked at the clinical features of 16,749 people with COVID-19 in hospital settings between 6th Feb and 18th April 2020.

Of the 16,749 people in this study (1) less than 2% were under 18 years of age and the median age was 72, reflecting the evidence that severe COVID-19 largely affects the older population.

19% had 'uncomplicated diabetes' with about another 10% (figure not given) with diabetes and complications. This reflects the excess hospitalisation of people with diabetes compared with the general population. Of the group with 'uncomplicated diabetes' 27% had chronic cardiac disease, 9% had chronic pulmonary disease and 9% had both.

33% of the whole cohort died during the period of the study. The main factors associated with in-hospital death were age once adjusted for comorbidity (median age was 80) and existence of comorbidities (88% had a comorbidity). Those who were admitted to ICU had worse outcomes – with 45% having died following admission. For those who needed mechanical ventilation 53% died – though interestingly these were a younger cohort (median age of 61) which may suggest that clinical decisions are being made regarding the elderly frail and the benefit of ventilation vs the risk and likely outcome.

Older age decreased the chance of survival, after adjusting for comorbidities. Compared with someone aged 50 or less, those aged 50-69 had a four times greater risk of dying, a 9.5 times greater risk if 70-79 and a 13.5 times greater risk if over 80.

This study also recognised that obesity seemed to increase the risk of death – but this wasn't quantified. The study did find independent associations of advancing age, male sex, chronic respiratory (though not asthma), chronic cardiac and chronic neurological disease with in-hospital mortality.

**Paper 2:** This was the first paper to consider the impact of blood glucose control on mortality, splitting the patients into those with an HbA1c less than or greater than 58 mmol/mol (7.5%).

This paper (2) reviewed records of 17,425,445 adults between 1st Feb 2020 and 25th April 2020 with the outcome of death in hospital in England with confirmed COVID-19 infection. At this point there were 5683 deaths in this cohort.

Age was again a clear factor linked to mortality – with the overall cumulative incidence of COVID-19 hospital death at 80 days from the study start date being less than 0.01% in those aged 18-39 years, rising to 0.35% and 0.17% in men and women respectively aged 80 years and older. Those over 80 had a 12 fold mortality risk compared with those aged 50-59.

Obesity was also strongly linked with those with a BMI over 40 being more than twice as likely to die as those who were not obese.

Those from Black backgrounds had a 71% increased risk and those from an Asian background, a 62% increased risk compared with white people. This was also seen in those from lower quintiles of social deprivation, with those in quintile 5 having a 75% increased risk over those in quintile 1. Men were also twice as likely to die.

In this study people with well controlled diabetes had a 50% increased risk while those with HbA1c over 58 mmol/mol were 136% more likely to die compared to people without diabetes.

This study did have some overlap with some of the conditions in the shielding group. Other conditions may have been included (such as Cystic Fibrosis) but they have been grouped together with a variety of other conditions and therefore we can't be sure that the increased risk level is specific enough. Where we can these include:

- organ transplant – increased risk by 327% compared to people with no co-morbidities (number of patients 49)
- haematological cancers at any stage of treatment – increased risk between 88% and 252% (210)

Rates for the conditions in the vulnerable group were as follows, in decreasing order of risk:

- aged 70 or older (regardless of medical conditions): risk increased by 377% if 70-79 (1,560) and 1164% over 80 (2941)

- diabetes: risk increased between 50% (1,366) to 163% depending on control (794)
- chronic neurological conditions, such as Parkinson's disease, motor neurone disease, multiple sclerosis (MS), a learning disability or cerebral palsy: risk was increased by 146%. (313)
- being seriously overweight (a BMI of 40 or above): risk increased by 127% (257)
- chronic (long-term) respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), emphysema or bronchitis: risk increased between 11%-78% (2,185)
- chronic kidney disease: risk increased by 72% (2,541)
- a weakened immune system as the result of conditions such as HIV and AIDS, or medicines such as steroid tablets or chemotherapy: risk increased by 69% (36)
- chronic liver disease, such as hepatitis: risk increased by 61% (111)
- problems with your spleen – for example, sickle cell disease or if you have had your spleen removed: risk increased by 41% (23)
- chronic heart disease, such as heart failure: risk increased by 27% (2,049)

Although the percentage and numbers of deaths in people with diabetes seems high compared with other conditions, when looked at as a percentage of the whole population with diabetes in this study, it only makes up 0.14% so the overall risk of death is very low. This compares with 0.24% of the transplant population and 0.21% of the haematological cancer group but also 0.27% of people who've had a stroke, 0.26% of the over 80s and 0.23% of those with renal disease. What the paper doesn't tell us is what is the risk of a person with diabetes dying if they catch the virus, as we don't know how many people with diabetes have had the virus but survived.

**Paper 3:** This study (3) looked at a population of 61,414,470 individuals of whom 263,830 (0.4%) had a recorded diagnosis of type 1, 2,864,670 (4.7%) of type 2 diabetes and 41,750 had other types of diabetes (0.1%). Within this population there were 23,804 COVID-19 related deaths in hospital settings. One third occurred in people with diabetes: 7,466 (31.4%) with type 2 and 365 (1.5%) with type 1 diabetes. Other types of diabetes accounted for 69 (0.3%).

As well as age, sex, social deprivation and ethnicity as possible variables, they also looked at significant cardiovascular comorbidities (coronary heart disease (including MI and angina), cerebrovascular disease (including stroke and TIA) and heart failure.)

After adjusting for age, sex, ethnicity, socioeconomic deprivation and region, people with type 1 diabetes were at 250% the risk of in-hospital death with COVID-19, while people with type 2 diabetes had 100% the risk, compared to people without a diagnosis of diabetes. Further adjustment for diagnosed cardiovascular comorbidities attenuated these risks slightly but after adjustment, there was still an additional risk of 186% for people with type 1 diabetes and 81%

for those with type 2 diabetes compared to people without diabetes. This is still lower than the risk described in Paper 2 for organ transplant (327%) but similar to that of haematological cancers at any stage of treatment (up to 252%).

The authors point out that they didn't adjust for other factors, such as kidney disease, which is relatively common in people with diabetes and could partially mediate the higher risks seen. They also state that an excess risk of other infectious disease morbidity and mortality has previously been observed in type 1 compared to type 2 diabetes. The risk of developing pneumonia was reported to be 198% higher for type 1 diabetes and 58% for type 2 diabetes compared to the general population.

Age was the dominant risk factor for in-hospital death with COVID-19 and had a much greater influence on risk than diabetes status, sex, ethnicity or socioeconomic deprivation. Even with the additional risk associated with type 1 diabetes or type 2 diabetes, people under the age of 40 years with either type of diabetes were at very low absolute risk of in-hospital death with COVID-19

**Paper 4:** This paper (4) looked at 265,090 people with type 1 diabetes and 2,889,210 people with type 2 diabetes from the NDA and included ethnicity, diabetes control (HbA1c), age, deprivation, renal function and previous hospital stay for stroke or heart failure. As this used data from death certificates, it included all deaths from COVID-19, where this was included on the death certificate but was not limited to deaths in hospitals.

There were 418 deaths in people with type 1 and 9,377 deaths in people with type 2. Because this doesn't use comparator data, it can't tell us how much more likely someone with diabetes is to die than someone without diabetes but it can identify those at highest risk of death in both type 1 and type 2 diabetes.

Age was the main factor, with 39.7% of deaths in type 1 being in people aged over 80 and this rising to 55.7% in type 2. In people under 40 years of age, the number of deaths was less than 0.2%.

In both types of diabetes, about a third of deaths were in women, showing that men were at higher risk. Also social deprivation appeared to play a part with almost three times more deaths in the most deprived compared with the least in type 1 and twice as many deaths in type 2.

People from Asian and Black backgrounds with type 1 diabetes were 68% and 79% more likely to die, though this is less the case in type 2 diabetes, where there appears to be an increased risk of death mainly in Black people (63% increased risk) whereas the increased risk is only 9% in Asian people.

A quarter of the deaths in type 1 occurred in people with an HbA1c less than 58mmol/mol (7.5%) and deaths rose as HbA1c increased.

## Commentary

The studies all use different measures so there is no easy way to combine the findings to determine the level of risk.

The Goldacre paper (2) reports on the only study that compared different co-morbidities. From this study, comparing some of the shielded people with some of the clinically vulnerable groups, poorly controlled diabetes (over 58mmol/mol) came out as the highest risk of the vulnerable populations included in the study, which also was picked up in the Holman paper (4). For people with an HbA1c over 86 mmol/mol (10%) there was a 119% increased risk for type 1 and a 62% increased risk for type 2.

The main risk factor regardless of co-morbidity in all studies was age, with those over the age of 80 being particularly at high risk – but also true for those over the age of 70. Those over 70 are about twice as likely to die as those age 60-69 and fourfold for those over 80.

People with an HbA1c over 7.5 % could be at higher risk than some people currently advised to shield, and becomes even more likely as HbA1c rises, especially with a level over 10%.

For people with diabetes, from the evidence presented here, it would be impossible to work out what the absolute risk would be for specific combinations of co-morbidities. For example we couldn't tell exactly how much more or less at risk would be a white 70 year old, with average blood glucose control and early stage renal disease compared with a black 60 year old, with a very high HbA1c and a history of heart disease. If you factor in age, over 70/80 and poor control, over 86mmol/mol someone with diabetes would probably have a risk factor as high as someone who had had a transplant (and so on the shielded list). But this isn't a nice simple binary comparison, and other risk factors, such as ethnicity, quintile of deprivation or kidney function could also increase your overall risk.

## What people with diabetes told us

The Diabetes UK helpline had an unprecedented number of calls in the weeks following the lock down announcement and these are still at unusually high levels. People with diabetes were concerned about their safety and many chose to severely restrict their contact with people outside their home for their own protection. They are reporting problems getting essential supplies of food and medication, asking how to stay healthy and manage their condition whilst at home and, particularly since the beginning of May, there has been a significant increase in the numbers of people expressing concern about their safety in the workplace. People working in key worker roles during lock down reported that employers had



not been supportive in changing working practices to enable them to work at home or safely distance in the workplace.

### Diabetes UK survey

Throughout April 2020, Diabetes UK captured the concerns and experiences of over 5,000 people in a survey on the impact of COVID-19 which asked about access to food, healthcare and their employment situation. This found that many people with diabetes were having difficulties managing their physical and mental health and accessing the basic support they needed to do this, including food and medication. Nearly half (47%) had some problems or concerns with their healthcare. These included accessing medication, often because people were self-isolating or voluntarily shielding and not able to get to their pharmacy.

Many of those (key workers) who were working outside the home (43%) were not getting support from employers to change their working arrangements so that they could feel safe. A survey in May 2020 found that two thirds of people (67%) working outside of home with diabetes don't feel safe in their workplace. Concern was expressed that people with diabetes were not included in the UK government's list of "shielded" groups in order that they would then have stronger protection with regards to employment, and priority access to food and pharmacy delivery services.

People reported general issues with self-management of their diabetes while staying at home, with restricted ability to exercise and eat their usual diet causing difficulties in managing blood sugar levels.

"With stress I'm getting hypos a lot."

– Person with type 1 diabetes, North West.

"My blood sugars are continually higher as routine/foods all up in the air."

– Person with type 1 diabetes, London.

Around a third (31%) reported difficulty getting food delivery, which they required because they did not feel safe going to out shops or in a supermarket – this was described as "the weak point in social distancing". People were also concerned about being able to access the healthy food they wanted and needed to manage their diabetes with 18% saying that this was an issue for them.

The most common response when asked what Diabetes UK could do to help people with diabetes to alleviate their concerns, was clarity and consistency of information and advice about the risks of COVID-19 for people with diabetes.



“More specific information needs to be available. This would include figures regarding how many of those with underlying health conditions who have sadly died, and which groups of underlying conditions.”

- Person with type 1 diabetes, South East

“The evidence – if any – that people with diabetes are even more susceptible to worse version of virus - and what’s the evidence?”

- Person with type 2 diabetes, South East

“Clear information on the specific impacts Covid-19 could have on those with type one diabetes, and how we can specifically minimise our risk outwith the normal guidelines.”

- Person with type 1 diabetes, Scotland

“The information has been unclear and conflicting at times about what risk group we are in and therefore if we are entitled to ask to work from home etc.”

- Person with type 1 diabetes, South East.

## Appendix 2: Examples:

- i. 65yr old retired south Asian man with type 2 diabetes, BMI:33, HbA1c 50mmols/mol, reducing kidney function. As this person has multiple risk factors a discussion regarding his social behaviours would be beneficial. These risk factors include his age, his ethnicity, his diabetes and his BMI. He will need to continue to stringently social distance as his risk level is higher than a similar man without diabetes. He may require further social support to reduce his exposure at supermarkets and public places (eg collecting prescriptions) depending on his current social support.
- ii. 73yr old white woman with type 2 diabetes, BMI: 29, HbA1c 55mols/mol. Regardless of co-morbidities or complications (although if present the risk is increased) this person should be encouraged to shield and provided with the support equal to those in the shielding group. However, if she feels that her social behaviours and circumstances are such that she has limited contact with others she may decide not to shield, and understanding and support should still be given.
- iii. 52yr old black man with type 1 diabetes. BMI: 28, HbA1c 89mmols/mol. Known cardiovascular risk due to family history. Previous DKA admissions. Reduced kidney function. This man has struggled with his diabetes management in the past and his risk of severe illness or death from COVID-19 is greater than some people without his medical history. His risk factors include his ethnicity, his diabetes, his HbA1c and his presence of current kidney function. A conversation regarding his social behaviour is required and support to shield should be offered.

## References

1. Docherty, AB et al. Features of 16,749 hospitalised UK patients with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol. BMJ Online 28.04.2020. (Not peer reviewed)
2. The OpenSAFELY Collaborative (referred to as the Goldacre Paper).  
OpenSAFELY: factors associated with COVID-19-related hospital death in the linked electronic health records of 17 million adult NHS patients. BMJ Online 07.05.2020. (Not peer reviewed)
3. Barron, E. et al. Type 1 and Type 2 diabetes and COVID-19 related mortality in England: a whole population study. Lancet Diabetes and Endocrinology online. (Not peer reviewed)  
<https://www.england.nhs.uk/publication/type-1-and-type-2-diabetes-and-covid-19-related-mortality-in-england/>
4. Holman, N. et al Type 1 and Type 2 diabetes and COVID-19 related mortality in England: a cohort study in people with diabetes. Lancet Diabetes and Endocrinology online. (Not peer reviewed)  
<https://www.england.nhs.uk/publication/type-1-and-type-2-diabetes-and-covid-19-related-mortality-in-england/>