

Local Flood Risk Management Strategy 2027 - 2037

Health Impact Assessment for Flooding

Flood Risk Management Team
v2
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Introduction

This document sets out the Health Impact Assessment for Flooding undertaken, alongside an Equality Impact Assessment, to support the creation of the East Sussex Local Flood Risk Management Strategy 2027 - 2037.

Purpose of strategy

Under the [Flood and Water Management Act 2010](#) East Sussex County Council has been classified as a Lead Local Flood Authority. Section 9 of the Act states “a lead local flood authority for an area in England must develop, maintain, apply and monitor a strategy for local flood risk management in its area”.

East Sussex’s current Local Flood Risk Management Strategy was published in 2016 and expires 2026. As such a new strategy is required to run from 2027 - 2037.

The purpose of the Local Flood Risk Management Strategy is two-fold; as a tool to support East Sussex County Council (ESCC) in its role as the Lead Local Flood Authority (LLFA) and to allow members of the public to understand the LLFA’s role and approach to flood risk management.

The strategy achieves this by:

- Undertaking a countywide assessment of flood risk to identify areas of focus for possible future flood risk management works.
- Setting the general approach the LLFA will take in managing flood risk through the creation of guiding principles, objectives and supporting measures.
- Supporting the creation of an ESCC Flood Risk Management Action Plan based on the findings of the assessment of flood risk and the strategy’s approach to flood risk management.

Overview

The Strategy’s assessment of flood risk considers multiple sources of flooding (rivers, the sea, groundwater and rainfall) and the number of addresses and area of critical roads located within areas considered to be at risk of flooding. This assessment allows every Lower Super Output Area across the county to be ranked from most at risk to least at risk of flooding. It also looks at the impact flooding could have on communities taking into consideration an areas likely ability to prepare and respond to flooding.

In addition to identifying those areas of East Sussex where flood risk management and community support may be more acutely required the strategy sets out the principles of flood risk management in East Sussex, and the objectives and measures required to achieve those principles.

Health Impact Assessment

Purpose

The aim of the Health Impact Assessment (HIA) is to clearly and openly identify and acknowledge any health and wellbeing challenges linked to flooding in East Sussex. It aims to aid in addressing any significant impacts the Local Flood Risk Management Strategy could have on health.

The objective is to ensure that any significant negative health impacts identified as part of the assessment are considered and, where possible, reduced as part of the strategy's approach.

The HIA identifies:

- The impacts flooding could have on health,
- those groups within the East Sussex population which could be more at risk of harm due to flooding, and
- where the strategy could be utilised to help manage and mitigate the negative health impacts of flooding, with a focus on more at-risk groups and the wider determinants of health.

Approach

The HIA has been framed around a definition of health and wellbeing that is holistic (physical and mental) and includes the social (wider) determinants of health and wellbeing.

The HIA was produced in time to allow the recommendations to be used when determining the flood risk management approach set out within the Local Flood Risk Management Strategy and in the strategy's future Action Plan.

Where appropriate the outcomes and recommendations of the assessment have been incorporated into the strategy's principles, objectives and measures. Some recommendations relate to how project specific communications and management should be approached, these shall be incorporated into the strategy's future Action Plan.

The Lead Local Flood Authority will be responsible for ensuring the recommendations of the HIA are considered and where appropriate incorporated into future project scopes and management. As part of the strategy's lifespan a mid-strategy review should be undertaken which evaluates the assessment of flood risk and identifies any addresses where flood risk management projects have reduced the risk of flooding.

Scope

The HIA has been undertaken for East Sussex, as defined by the East Sussex County Council boundary as of 2024/2025. This boundary correlates with the Local Flood Risk Management Strategy boundary, and all assessments undertaken in support of it.

The assessment is limited to the health and wellbeing impacts of flooding from rivers, the sea, groundwater, rain and public/ shared sewers. Whilst it is acknowledged that many of the impacts from alternative flood sources will be similar the assessment does not specifically consider flood risk from other sources such as internal/ private plumbing, drinking water supply and reservoirs. The HIA has assessed the sources of flooding included in the Local Flood Risk Management Strategy.

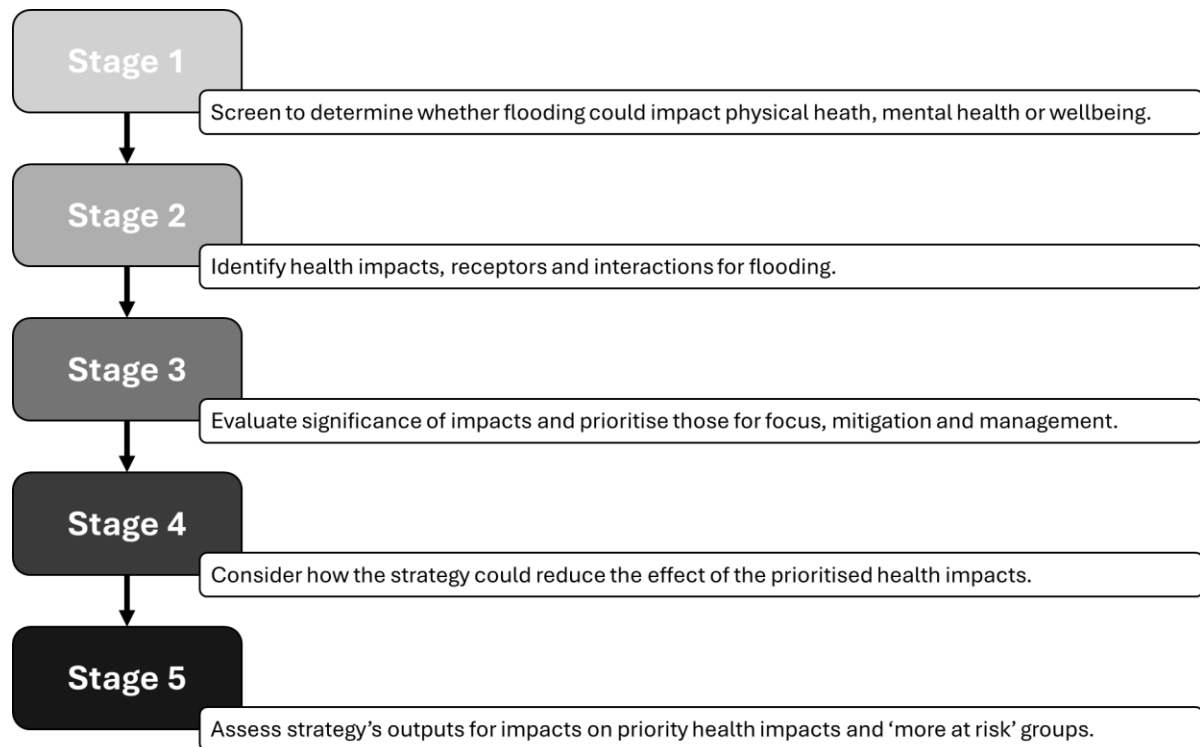
Methodology

The assessment has been undertaken by the Lead Local Flood Authority in consultation with East Sussex County Council's Public Health team to ensure it meets requirements and produces meaningful outcomes.

The assessment methodology (Figure 1) is a bespoke method, which considers the general health impacts of flooding before considering how the Local Flood Risk Management Strategy could positively impact any identified negative health impacts.

The method is based on the principles of Health Impact Assessments and utilises learnings from methods presented in Public Health England's Health Impact Assessment in Spatial Planning Guidance (Public Health England, Oct 2020) and The Department of Health's Health Impact Assessment Tools (Department of Health, Jul 2010).

The document presents the process and findings of each stage of the methodology in turn to ensure a clear presentation of process and findings.

Figure 1: Assessment methodology

Stage 1: Screening

The Local Flood Risk Management Strategy is not a planning document and will not produce specific planning policy or guidance. The strategy will however produce recommendations and guidance around the approach to flood risk management and engagement.

The Local Flood Risk Management Strategy project team engaged with East Sussex County Council's Public Health and Equality teams at the early stages of the project. Following this engagement, and in discussion with the project's stakeholder working group and governance board, it was considered that a HIA would likely enhance the outputs of the future strategy.

The screening approach is based on the screening questions set out by the Department of Health in their Health Impact Assessment Tools guide (Department of Health, Jul 2010).

Table 1: Screening

Screening Question	Yes*	No
Does, or is there potential, for flooding to have a direct impact on physical health, mental health or wellbeing?	X	
Does, or is there potential, for flooding to have an impact on social, economic and/or environmental living conditions that could indirectly affect health?	X	
Will, or is there potential, for the recommendations of the draft Local Flood Risk Management Strategy to have a direct impact on physical health, mental health or wellbeing?	X	
Will, or is there potential, for the recommendations of the draft Local Flood Risk Management Strategy to have an impact on social, economic and/or environmental living conditions that could indirectly affect health?	X	
<i>*A HIA will be required should an answer of YES be given for any question.</i>		

Stage 2: Identification of impacts, receptors and interactions

2a: Health impacts

Health impacts of flooding

The physical and mental health impacts of flooding are well known and well documented with flooding associated with both acute and long-term effects on health and wellbeing.

Acute, direct effects with flooding include:

- Drowning
- Physical trauma,
- Skin and gut infections from exposure to contaminated water, and
- Mental health impacts such as anxiety due to immediate effects of flooding such as damage to property, but also disruption, including access to basic needs such as employment, education, health services and wider facilities.

In addition, contaminated flood waters can increase the risk of the spread of viral, parasitic and bacterial infections even amongst populations not directly impacted by flood waters.

Longer-term direct effects can include:

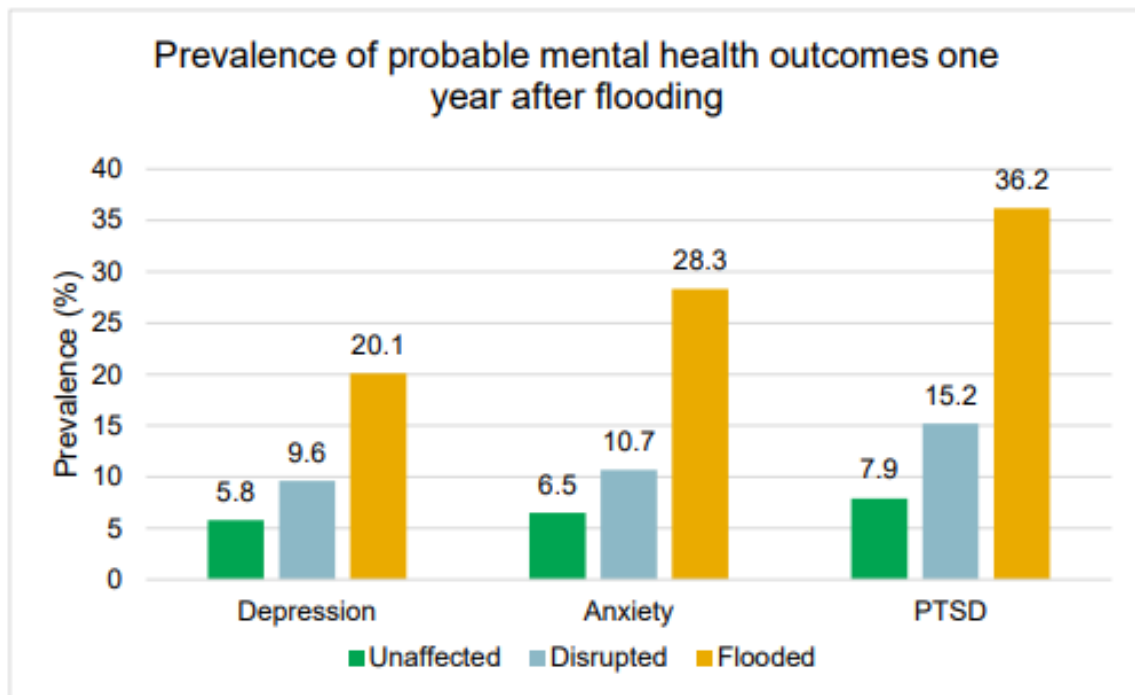
- Impacts to mental health, including on-going anxiety, depression and PTSD,
- Carbon monoxide poisoning due to inappropriate use of generators,
- Respiratory disease from mould and damp, and
- Rodent-borne disease.

In addition to direct impacts on health flooding can result in secondary impacts to health due to loss of power or water supply, or a reduction in access to public services and health care. (UK Health Security Agency, 2023)

A national study undertaken by Public Health England into the mental health impact of flooding concluded floods have a “significant impact on the mental health of people whose homes are flooded as well as people whose lives are disrupted by flooding”. It also identified that the impact on mental health persisted for at least 3-years (the length of the study).

Data obtained as part of the study showed that one year after flooding participants of the study whose homes flooded had significantly higher rates of depression, anxiety and PTSD than those unaffected by flooding (Figure 2). (Public Health England, 2015-20)

Figure 2: Graph showing prevalence of mental health outcomes one year after flooding (Public Health England, 2015-20)



The same national study also identified direct correlations with worse mental health outcomes with:

- greater depth and duration of flooding,
- loss of utilities and difficulties accessing services,
- evacuation or displacement, particularly without warning,
- a lack of insurance, and
- repeated exposure to flooding.

The study identified that there was a need for support and interventions beyond the immediate aftermath of a flood event and that consideration should be given to the wider population in areas affected by flooding but not impacted directly. It also identified several factors which should be used to inform the development of interventions (Appendix A).

It states that the findings highlight the need for preventative interventions before flooding occurs, interventions during flood incidents and for a sustained period after flooding. It also states that interventions should include the identification of those at highest risk and targeting them but also community-wide services and interventions.

The British Red Cross's Water's Edge report looked to understand the preparedness, impact and recovery in socioeconomically disadvantaged communities.

This study collected information from people impacted by flooding in both rural and urban locations. The study identified the impact of flooding on people's

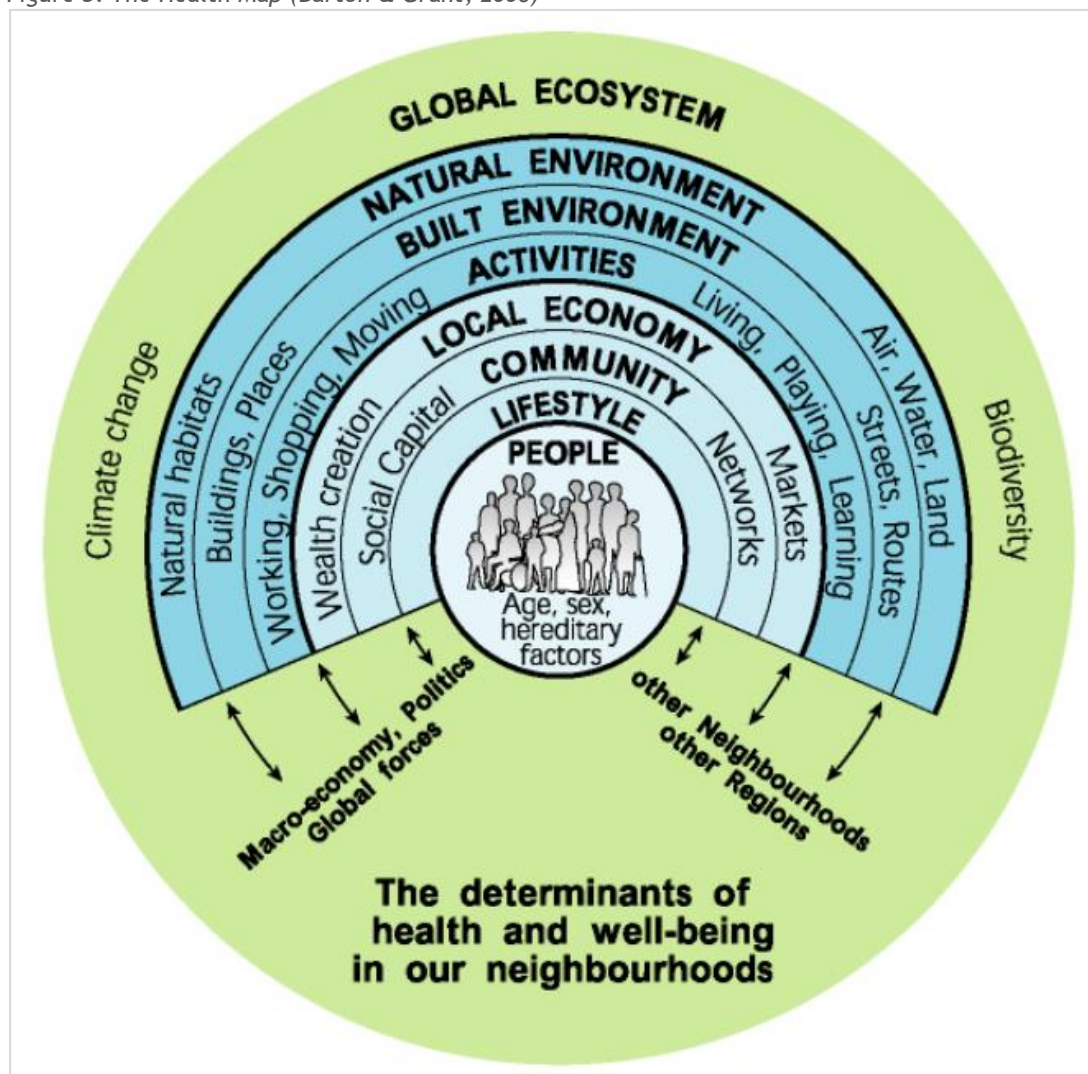
physical and mental health, highlighting an increase in respiratory issues due to damp and mould, and worsening depression and anxiety in both rural and urban locations (British Red Cross, 2025).

Wider determinants of health

Health and wellbeing are impacted by factors outside of an immediate cause such as flooding. These 'wider determinants of health' incorporate physical determinants alongside broader determinants surrounding an individual and community's relationship to the wider area (sometimes known as the 'local human habitat'). Figure 3 shows 'The Health Map', a visual representation of the wider determinants of health and an individual's local human habitat.

Within the human habitat flooding falls under the natural environment. The health map highlights that the natural environment, including flooding, could directly impact the built environment, activities, the local economy, the community and lifestyle of an individual and the wider community.

Figure 3: The Health Map (Barton & Grant, 2006)



Public Health England's Health Impact Assessment in spatial planning guide builds on The Health Map and sets out the wider determinants of health and wellbeing outcomes (Table 2). Not all these wider determinants of health and wellbeing relate to flooding or flood risk management, those that do not have been presented in *red italics*.

Table 2: Wider determinants of health and wellbeing

Wider determinants of health and wellbeing Flood relevant determinants highlighted <i>(Public Health England, Oct 2020)</i>	
Access	Flood relevant determinants: • Local public key services and facilities • Green spaces and public realm <i>Non-flood relevant determinants:</i> • <i>Good quality affordable housing</i> • <i>Healthy and affordable food</i> • <i>Natural environment</i> • <i>Leisure, sport, recreation, play and physical activities within the environments</i>
Traffic and transport	Flood relevant determinants: • Links between communities • Community severance • Connections to jobs • Connections to services, facilities and leisure <i>Non-flood relevant determinants:</i> • <i>Accessibility</i> • <i>Access to public transport</i> • <i>Opportunities for active travel (cycling and walking)</i>

Wider determinants of health and wellbeing Flood relevant determinants highlighted <i>(Public Health England, Oct 2020)</i>	
Socioeconomic	Flood relevant determinants: • Local business activity • Community/social cohesions and access to social networks <i>Non-flood relevant determinants:</i> • <i>Employment, including skills development and training opportunities</i> • <i>Regeneration</i> • <i>Tourism and leisure industries</i> • <i>Community engagement</i>
Land use	Flood relevant determinants: • Sustainable and efficient land use in urban and/or rural settings • Quality of Urban and natural environments, such as air and noise pollution • Climate change impacts <i>Non-flood relevant determinants:</i> • <i>None</i>

2b: Receptors

The English National Study of Flooding and Health identified that individuals indirectly disrupted by flooding as well as those actively flooded could experience increased negative mental health impacts from flooding. As such the population scope of this Health Impact Assessment, and the East Sussex Local Flood Risk Management Strategy, has been defined as the residents and those that work within the boundary of East Sussex.

At risk groups

The English National Study of Flooding and Health conclude that the mental health impacts of flooding did not appear to impact any population group more than another. However, the UK Health Security Agency's advice for frontline responders in relation to flooding identifies that some groups are more at risk of health

effects due to flooding than others. These groups are:

- Older people
- People with pre-existing mental health conditions
- People with chronic illness, physical, sensory or cognitive impairments
- Children
- People in socioeconomically disadvantaged groups
- People with language and culture-based vulnerabilities
- People sleeping rough and experiencing homelessness
- University students
- Transient communities and people with no connection to a place or services
- People receiving complex healthcare interventions at home
- People living in rented accommodation

(UK Health Security Agency, 2023)

At risk groups in East Sussex

Baseline evidence has been obtained from the East Sussex in Figures website. This website was created by East Sussex County Council and brings together existing research and analysis resources from across the county (East Sussex County Council, 2024).

Older People

The mid-year 2024 population estimates state 26.6% of East Sussex's total population are 65-years or older. It is projected this will rise to 34% by 2038.

People with pre-existing mental health conditions

A self-reported wellbeing survey undertaken by East Sussex County Council in 2022/23 identified that 24% of respondents identified themselves as having high anxiety. This is just slightly higher than the 23% of respondents identifying high anxiety in surveys across England.

People with chronic illness, physical, sensory or cognitive impairments

The 2021 census identified that 20% of East Sussex adults identified as being disabled with their day-to-day activities limited in some way. A further 8% of the adult population identified as disabled but day-to-day activities were not impacted.

The same census also shows that 5.7% of the adult population self-reported as having bad or very bad health. Surveys undertaken by Sport England in 2023/24 identified that of the participants 63% of adults (18+) were classified as overweight or obese.

The East Sussex Annual Population Survey 2022/23 found that 24% of respondents reported having high anxiety.

Children

2024, mid-year population estimates state 16% of East Sussex's total population are 17-years or younger. It is projected this percentage will remain relatively consistent up to 2038.

People in socioeconomically disadvantaged groups

The Index of Multiple Deprivation (IMD) 2019 is the official measure of relative deprivation for every Lower Super Output Area across East Sussex, with a scale of 1 (most deprived) to 10 (least deprived). The IMD combines information from multiple factors of deprivation including income, employment, health and disability and living environment.

For the purposes of this report a Lower Super Output Area with a deprivation score of 1 - 5 has been considered to represent the potential for socioeconomic disadvantage. Based on this assessment 44% of the Lower Super Output Areas within East Sussex are in the bottom half of deprivation deciles.

People with language and culture-based vulnerabilities

The 2021 census identified that 96.3% of the population in East Sussex has English as their main language, with 0.6% of the population stating they could not speak English well or at all. The most spoken language excluding English in East Sussex was identified as 'Other European (EU)' with a total of 1.6% of the population selecting this option within the census. Due to the way data was gathered it is unclear whether the 1.6% of the population that selected this optional all spoke the same language or a combination of otherwise unlisted languages.

Non-UK born residents have been included within this group due to the potential for culture-based vulnerabilities and isolation from surrounding communities. The 2021 census identified that approximately 10% of East Sussex's resident population were born outside of the UK.

People sleeping rough and experiencing homelessness

The Ministry of Housing, Communities and Local Government compile a 'single night snapshot' dataset obtained by local authorities annually over the autumn period. This snapshot data identified a total of 97 individuals rough sleeping in autumn 2024 (Ministry of Housing, Communities and Local Government, 2025).

A person does not need to be sleeping rough to be considered homeless, with the Housing Act 1996 defining a person homeless if they are either:

- have no accommodation available to occupy
- are at risk of violence or domestic abuse
- have accommodation but it is not reasonable for them to continue to occupy it
- have accommodation but cannot secure entry to it

- have no legal right to occupy their accommodation
- live in a mobile home or houseboat but have no place to put it or live in it.

(UK Act of Parliament, Housing Act 1996)

The total number of households in East Sussex owed a duty under the Homelessness Reduction Act in 2023/24 is reported to be 3,054 (of a projected total number of households in East Sussex in 2023 of 247,692, or 1.2% of East Sussex households).

University students

There are no universities located within the East Sussex boundary. However, two universities; University of Sussex and University of Brighton are located on the western boundary of the county within the Brighton and Hove Lead Local Flood Authority area.

This 'More At-Risk Group' has therefore been scoped out of the strategy.

Transient communities and people with no connection to a place or services

The strategy is focused on flood risk within East Sussex and has defined the population scope to residents and those working within East Sussex.

This 'More At-Risk Group' has therefore been scoped out of the strategy.

People receiving complex healthcare interventions at home

The number of people receiving complex healthcare interventions at home is unknown. However, the 2021 census identified that nearly 10% of the East Sussex population provided at least some unpaid care activities per week, with 3% providing more than 50-hours of care per week. This is suggestive of a demographic which requires additional support and may be receiving healthcare interventions at home.

People living in rented accommodation

The Valuation Office Agency states that there are 261,660 residential properties in East Sussex, of which 30.7% are rented (19.7% private, 11% social).

Work undertaken by East Sussex County Council using census information has determined the average household size across East Sussex is 2.19 people (East Sussex County Council, Jan 2024).

Utilising the average household size, it is estimated that 171,911 people live in rented accommodation across East Sussex.

Stage 2c: Interactions and impacts

At risk groups in East Sussex

Older People

Older people have been identified as being less likely to respond to flood warnings. This may be due to a lack of internet or mobile phone access, and /or a lack of technical knowledge around signing up for flood warnings. They may also be more reluctant or less physically able to leave their homes or utilise manually installed property level protection (UK Health Security Agency, 2023).

People with pre-existing mental health conditions

People with pre-existing mental health conditions may be more vulnerable to the mental health impacts of flooding. These mental health impacts may occur before, during or after a flood event (UK Health Security Agency, 2023).

People with chronic illness, physical, sensory or cognitive impairments

The UK Health Security Agency identified that people who are obese and have a body mass index over 40 may find it more challenging to evacuate in a flood event. They also identify that flooding can worsen or accelerate the deterioration of the health of people with chronic conditions.

Children

Studies have found that children impacted by flooding experience increased mental and behavioural problems.

People in socioeconomically disadvantaged groups

Flooding impacts all income groups, however in many areas the most socially vulnerable are in areas of greater flood risk. The impact of flooding is also compounded by differences in income and insurance uptake, which is generally lower in more socially vulnerable communities.

People with language and culture-based vulnerabilities

In general, advice surrounding signing up for weather and flood warning systems, and the warnings themselves are written in English. Therefore, people who face language barriers are less likely to receive and/or understand warnings. It is likely therefore that they will be less prepared for an event when it happens.

People sleeping rough and experiencing homelessness

Those that are rough sleeping, homeless and in temporary accommodation may be less familiar with the local area and be less aware of any flood risks. They may also be less able to access services and warning systems or services designed to support

residents following a flood.

People receiving complex healthcare interventions at home

Those received interventions such as receiving oxygen, dialysis or palliative care may face barriers to successfully and/or timely evacuation.

People living in rented accommodation

People living in rented accommodation may lack insurance coverage. They may also face obstacles in preparing for or mitigating the impact of flood events due to limits surrounding changes to a property and a lack of control surrounding property level protection installations.

Stage 3: Significance of impacts and prioritisation

Significance of impacts

Flooding is a geographically based hazard; however, the impact of a flood event on an individual or group will be influenced by multiple health, access and socioeconomic factors.

The HIA has therefore considered all flood relevant determinants identified during Stage 2.

Priority groups

Due to the geographical nature of flooding most 'more at risk' group are at no greater risk of flooding than the general population. The exception to this is the socioeconomically disadvantaged group with research identifying that flooding is more likely to affect those living in the most deprived areas of the UK (British Red Cross, Dec 2024).

As all 'more at risk' groups could be in areas of flood risk they are all at risk of the health impacts associated with flooding. All the 'at risk' groups have therefore been prioritised based on the number of people in East Sussex considered likely to fall within each group.

Table 3 prioritises the groups based on the estimated number of people in East Sussex which could be classified as within the group. Estimates of the number of people within each 'more at risk' group have been undertaken based on figures set out in '2b: Receptors' and, where necessary, an average household size of 2.19 people (East Sussex County Council, Jan 2024).

It is important to acknowledge that individuals may fall into multiple 'at risk' groups and as such the total estimated number of people cannot be used to estimate the total 'at risk' population in East Sussex.

Of the nine 'at risk' groups assessed five have been identified to include over 100,000 people. It also highlights that nearly 300,000 people are estimated to be living within areas of increased deprivation.

The Lead Local Flood Authority's role is strategic, working to help reduce flood risk within communities and helping individuals understand and prepare for flood events. Works and projects supported and/or undertaken by the LLFA must show a cost/benefit ratio which prioritises works that benefit the highest number of people. Therefore, for the purposes of this report, and in preparing the Local Flood Risk Management Strategy, those groups estimated to include over 100,000 people have been identified as priority at risk groups.

Table 3: 'More at risk' groups prioritised based on estimated number of people per group. Rank 1 - 5 considered priority for the purposes of this HIA.

Rank	Group	Estimated no. of people
1	People in socioeconomically disadvantaged groups	292,160
2	People living in rented accommodation	171,911
2	People with chronic illness, physical, sensory or cognitive impairments	157,047
4	Older people	149,195
5	People with pre-existing mental health conditions	134,612
6	Children	89,741
7	People with language and culture-based vulnerabilities	59,453
8	People receiving complex healthcare interventions at home	16,826
9	People sleeping rough and experiencing homelessness	6,785

Priority health impacts

The purpose of the Local Flood Risk Management Strategy is to identify areas of increased flood risk in the county and provide an outline of the approach the Lead Local Flood Authority will take to managing the risk and impact flooding has on the population.

The Lead Local Flood Authority's role is strategic, working to help reduce flood risk within communities and helping individuals understand and prepare for flood events. It does not provide an emergency response function during flood events which is provided by emergency services and other service providers.

Stage 4: Impact of strategy on health impacts

The national study into the mental health impacts of flooding outline in Stage 2a identified that the rates of anxiety, depression and PTSD were higher in flooded populations than those unaffected by flooding. It concluded that the increased rates in poor mental health impacted all population groups, with no priority group more impacted than another.

The national study also identified direct correlations with worse mental health outcomes across all participants with:

- greater depth and duration of flooding,
- loss of utilities,
- difficulties accessing services,
- evacuation or displacement, particularly without warning,
- a lack of insurance, and
- repeated exposure to flooding.

The strategy utilises a methodology which includes the identification of areas most at risk of flooding but also those areas where flooding could have the largest impact on communities and individuals.

The flood risk management strategy's principles, objectives and measures are focused on ways to reduce the impact of flooding by:

- Reducing the depth, duration or frequency of a flood.
- Considering the impact flooding could have on a community, even those that are not directly flooded, especially in relation to access to health care, work and education.
- Increasing awareness of those at risk of flooding of those risks and any mitigation or support they could utilise before, during and after a flood event.

The flood impact assessment has not only reviewed modelled flood extents but also considers:

- Deprivation.
- The vulnerability of buildings within flood extents, including the identification of key infrastructure such as utilities and public services.
- The risk posed to community connectivity, access to key services and impacts to the economy of flooded roads.

This methodology ensures any geographical areas of the county identified as being a priority for flood risk management incorporates and considers ways to mitigate against the wider impacts of flooding, including the impacts to health and wellbeing.

Stage 5: Assessment of strategy outputs

The strategy's guiding principles, objectives and measures inform how the LLFA engage with flood risk management across East Sussex. These have all been written with the aim of considering the wider health impacts of flooding alongside flood risk management priorities. They have been drafted in collaboration with the project's Technical Working Group and Governance Board, and in consultation with relevant technical stakeholders and Risk Management Authorities.

Table 4, Table 5, Table 6, Table 7 and Table 8 present an assessment of the draft principles, objectives and measures. This assessment aims to identify whether each element could have a direct or indirect positive, negative or neutral impact on wider determinants of health as well as mental health.

Table 4: Assessment of draft principles

Strategy output	Priority health impact	Wider determinants of health							Potential mitigation of negative impacts
	(+1 positive, 0 neutral, -1 negative)								
	Mental health	Access to public key services	Access to green space and public realm	Transport links between communities, connections to jobs and services	Socioeconomic		Sustainable land use in urban and rural settings	Quality of urban and natural environments	
					Local business activity	Community/ social cohesion			
Principle To actively collaborate and work in partnership with others, to promote and improve sustainable flood risk management and sustainable drainage across the county.	+1	0	0	0	0	0	+1	+1	N/A
	Increased visibility of flood and drainage management measures and integration into public open space raise public awareness and has potential to reduce anxiety around unknowns.						Use of sustainable flood and drainage design encourages the use of green engineering which allows multi-functional public open space to be utilised and prioritised within developments and retrofit schemes.	Use of sustainable flood and drainage design encourages the use of green engineering which allows multi-functional public open space to be utilised and prioritised within developments and retrofit schemes.	
Principle To focus flood risk management programmes on areas and communities identified as the most likely to be most negatively impacted by flooding both now and in the future.	+1	+1	0	+1	+1	+1	0	0	N/A
	Flood risk management works focused into areas where individuals are likely to be aware of previous flood events or their flood risk.	Consideration of the road network when determining Areas of Focus ensures that works directed to these areas also consider access to services.		Consideration of the road network when determining Areas of Focus ensures that works directed to these areas also consider access to services.	Areas of Focus determined based on several factors including the road network and non-residential building flooding ensuring direct impact of flooding is considered. Area of Focus also considered impact on key infrastructure such as electrical substations which would indirectly impact business.	Flood risk management works directed to areas where flooding could have the greatest impact on roads, services, and key infrastructure as well as homes will reduce the negative impacts flooding can have on community cohesion.			

Principle To support people to better understand their flood risk, be prepared for flooding, and adapt to changes in flood risk over time.	+1	0	0	0	+1	+1	0	0	N/A
	Increased understanding and awareness of flood risk and management/ mitigation measures which as the potential to reduce negative mental health impacts associated with unknowns around risk.				Increased understanding and awareness of flood risk and management/ mitigation measures which has the potential to reduce the direct and indirect impact on local business.	Increased understanding and awareness of flood risk and management/ mitigation measures across a community, allowing opportunities for community action and engagement.			

Table 5: Assessment of draft objective 1 and associated measures

Strategy output	Priority Health Impact	Wider determinants of health							Potential mitigation of negative impacts
	(+1 positive, 0 neutral, -1 negative)								
	Mental health	Access to public key services	Access to green space and public realm	Transport links between communities, connections to jobs and services	Socioeconomic		Sustainable land use in urban and rural settings	Quality of urban and natural environments	
					Local business activity	Community/ social cohesion			
	+1	0	0	0	+1	+1	0	0	
Objective 1 Climate resilient communities where resident’s work with, and are supported by, RMAs and other stakeholders to actively engage with and manage their own flood risk.	Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on mental health.				Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on business continuity and emergency planning.	Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on community cohesion as flood management groups are created and locals mix.			N/A

Measure 1.1 Raise awareness within communities across East Sussex of their flood risk.	-1	0	0	0	+1	+1	0	0	When increased flood risk is communicated to a community, opportunities and ways people can manage that risk should be presented alongside that information.
	Increased awareness of flood risk could create negative mental health impacts if not presented alongside ways for individuals to engage and manage risk.				Increased awareness of flood risk could allow businesses to engage with flood management project and prompt individual business continuity and emergency plans.	Increased awareness of flood risk could allow greater engagement in flood management projects and community action groups or projects.			
Measure 1.2 Support the creation of community Flood Action Groups in areas where flooding has been identified to have the greatest potential impact. Provide support and training to any Flood Action Group in East Sussex to allow them to help their communities engage with and manage flood risk and flood events.	+1	0	0	0	+1	+1	0	0	N/A
	Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on mental health.				Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on business continuity and response to flood events.	Flood Action Groups are formed and managed by local communities. The creation of these could have a positive impact on members but also the wider community.			
Measure 1.3 Focus ESCC’s flood risk management resources towards projects which provide the most significant impacts to at-risk communities.	0	+1	+1	+1	+1	+1	+1	+1	N/A
		Areas of Focus have been determined to identify where the impact of flooding is likely to be the greatest across East Sussex. The method used to identify these areas has directly or indirectly considered all the wider determinants of health. Therefore, any flood management works located within these areas will have a positive impact on flood risk and the overall health of communities.							

	+1	0	0	0	0	+1	0	0	
Measure 1.4 Where appropriate, encourage ESCC-led flood risk management projects to utilise project structures which incorporate community engagement and consultation.	Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on mental health.					Increased ownership and active involvement in identifying, understanding and managing flood risk could have a positive impact on community cohesion as people work together to achieve a goal, or run a Flood Action Group.			N/A

Table 6: Assessment of draft objective 2 and associated measures

Strategy output	Priority Health Impact	Wider determinants of health							Overall impact of output on health
	(+1 positive, 0 neutral, -1 negative)								
	Mental health	Access to public key services	Access to green space and public realm	Transport links between communities, connections to jobs and services	Socioeconomic		Sustainable land use in urban and rural settings	Quality of urban and natural environments	
					Local business activity	Community/ social cohesion			
Objective 2 Where cross-agency, cross-team collaboration and cooperation becomes business as usual, and relevant flood risk and project data is shared freely between agencies.	0	0	0	0	0	0	+1	+1	N/A
							Sharing project information between stakeholders allows additional opportunities for area greening and sustainable land use to be included within projects, and for those settings to provide positive flood benefits.		

Measure 2.1 Work with relevant internal and external stakeholders to: a) Identify early on where collaborative projects could deliver multiple benefits such as flood risk and drought management, community amenity and biodiversity improvements. b) Facilitate the creation of mixed-speciality multi-agency project teams to deliver collaborative projects.	0	+1	+1	+1	0	0	+1	+1	N/A
		Use of teams formed of multiple agencies allows different perspectives and knowledge about access needs to be shared and incorporated into projects at the earliest stages. Joint projects also allow access improvement works to be incorporated into wider flood management projects and vice versa.	Use of teams formed of multiple agencies allows different perspectives and knowledge about access and green spaces needs to be shared and incorporated into projects at the earliest stages. Joint projects also allow access improvement works to be incorporated into wider flood management projects and vice versa.	Use of teams formed of multiple agencies allows different perspectives, constraints and knowledge about transport requirements to be shared and incorporated into projects at the earliest stages. Joint projects also allow access improvement works to be incorporated into wider flood management projects and vice versa.			Use of teams formed of multiple agencies allows different perspectives, constraints and knowledge about urban or rural environment works to be shared and incorporated into projects at the earliest stages. Joint projects also allow public space improvement works to be incorporated into wider flood management projects and vice versa.		
Measure 2.2 Facilitate a central flood and development information hub to increase awareness of community scale developments/ projects where collaboration could bring multiple benefits. To be accessible by all ESCC teams and relevant external stakeholders.	0	0	+1	0	0	0	+1	+1	N/A
			Sharing knowledge allows opportunities for joint projects to be identified. Which also allow access improvement works to be incorporated into wider flood management projects and vice versa.				Sharing knowledge allows opportunities for joint projects also allow public space improvement works to be incorporated into wider flood management projects and vice versa.		

Table 7: Assessment of draft objective 3 and associated measures

Strategy output	Priority Health Impact	Wider determinants of health							Overall impact of output on health
	(+1 positive, 0 neutral, -1 negative)								
	Mental health	Access to public key services	Access to green space and public realm	Transport links between communities, connections to jobs and services	Socioeconomic		Sustainable land use in urban and rural settings	Quality of urban and natural environments	
Local business activity					Community/ social cohesion				
Objective 3	0	0	+1	0	0	+1	+1	+1	N/A
Where multiple stakeholders incorporate climate resilient design and partnership resourcing as standard.			Climate resilient design often incorporates nature-based solutions, allowing more, improved and multipurpose green spaces and public realm			A practice of climate resilient design can increase public realm areas in a community and makes them usable for more of the year, increasing areas where the community can gather. Green spaces and public realm areas are actively managed allowing quality spaces and well-maintained natural elements.			
Measure 3.1	+1	0	+1	+1	+1	+1	+1	+1	N/A
Provide support for other ESCC services and external stakeholders on how to incorporate climate resilient flood risk management and/ or sustainable drainage into their plans, strategies and projects.	Supporting others to incorporate flood management and sustainable design can protect team members mental health by reducing anxiety around use of unknown techniques and methods.		Supporting others to include climate resilient flood management and sustainable drainage allows a wider range of projects to incorporate the elements of these techniques which positively impact the wider determinations of health.						
Measure 3.2	+1	+1	+1	+1	0	0	+1	+1	N/A
Facilitate regular and open stakeholder communication with the view of increasing awareness of climate resilient design and encouraging the sharing of lessons learnt.	Regularly communicating and sharing lessons learnt with partners allows for more open dialogue and relationship building. This can help reduce anxiety or stress associated with working in areas outside of a person’s expertise.	Supporting others to include climate resilient flood management and sustainable drainage through communications, trainings and sharing lessons learnt allows a wider range of projects to incorporate the elements of these techniques which positively impact the wider determinations of health.					Supporting others to include climate resilient flood management and sustainable drainage through communications, trainings and sharing lessons learnt allows a wider range of projects to incorporate the elements of these techniques which positively impact the wider determinations of health.		

Table 8: Assessment of draft objective 4 and associated measures

Strategy output	Priority Health Impact	Wider determinants of health							Overall impact of output on health
	(+1 positive, 0 neutral, -1 negative)								
	Mental health	Access to public key services	Access to green space and public realm	Transport links between communities, connections to jobs and services	Socioeconomic		Sustainable land use in urban and rural settings	Quality of urban and natural environments	
					Local business activity	Community/ social cohesion			
Objective 4 Where opportunities to embed and enhance flood risk management, flood alleviation and climate resilience in all development across the county are encouraged and supported by relevant planning policy and guidance.	0	0	+1	0	0	0	+1	+1	N/A
			Due to the nature of flood management and climate resilience techniques encouraging them to be incorporated into new development could result in better designed and/or larger green space and public realm.				Due to the nature of flood management and climate resilience techniques encouraging them to be incorporated into new development could result in better designed and/or larger multi benefit green space and public realm.		
Measure 4.1 LLFA to engage with all future planning policy consultations received from Planning Authorities and the Mayoral Authority relating to their flood risk management and sustainable drainage policies and guidance and encourage these to be regularly updated.	0	+1	+1	+1	+1	0	+1	+1	N/A
		Ensuring the LLFA engages with the planning policy creation process ensures policy creators have the most up to date information on flood management and sustainable drainage design. This should ensure planning policy is written to reflect current best practice, which includes consideration of wider determinants of health during a flood event.						Ensuring the LLFA engages with the planning policy creation process ensures policy creators have the most up to date information on flood management and sustainable drainage design. This should ensure planning policy is written to reflect current best practice, which includes consideration of wider determinants of health during a flood event.	

Measure 4.2	0	0	0	0	0	0	0	0	N/A
Provide regular flood risk management and sustainable drainage training opportunities for Planning Authority staff to increase awareness and understanding across the planning system.									

Recommendations for future flood management

The strategy will inform how flood management is approached across East Sussex for its lifetime. Projects proposed across the area will be included on a Future Action Plan, from which suitable projects can be brought forward to implementation.

Any flood management project brought forward, onto the Future Action Plan, will need to show alignment with the strategy's principles and that it works towards meeting at least one of the objectives and/or measures.

Where resources allow, project implementation should be based on the fulfilment of as many of the below priorities as possible. Where multiple projects could qualify for implementation, these priorities should be considered a hierarchy, with higher priority items listed above lower priority items.

1. Those considered viable, and where funding can be secured.
2. Those located within Priority Areas.
3. Those that meet the greatest number of the strategy's objectives and/or measures.
4. Those that are designed to reduce the depth, duration and/or frequency of flooding in areas at risk of flooding.
5. Those that increase flood resilience within a community, including an increase in a community's ability to prepare for flooding.

The Future Action Plan may include flood management projects proposed, and to be led, by any Risk Management Authority, Stakeholder or Non-Government Organisation operating in East Sussex. Inclusion on the Future Action Plan does not set an expectation of the Lead Local Flood Authority managing or funding a project but does show intent of their involvement in the project should it be brought forward.

Conclusion

The Health Impact Assessment has identified that all principles, objectives and measures proposed as part of the Local Flood Risk Management Strategy are likely to have positive impacts on health and wellbeing apart from the measure to raise awareness of flood risk.

It has been identified that increasing awareness of flood risk can result in a negative impact on an individual's mental health. National research suggests that this negative impact can be reduced by providing support and information on how to reduce risk.

The potential impact on mental health and ways to reduce that harm should be considered when communicating flood risk to the public, especially those within 'at risk' groups. For example, when communicating to a community of their increasing flood risk, opportunities and ways people can manage that risk should be presented alongside that information.

Appendix A

Factors associated with worse mental health outcomes

- Flood related factors
 - depth and duration of flooding,
 - persistent flood-related damage in the home such as mould,
 - loss of utilities,
 - reduced access to health and social care services, and
 - disruption to work and education.
- Response related factors
 - displacement after flooding, and
 - the amount of warning of displacement (less warning = greater negative impact).
- Secondary stressors
 - financial difficulties,
 - concern about the health of members of the family including pets, and
 - the loss of personal items.
- Insurance related factors
 - not having household insurance, or
 - insurance issues for those with insurance.

Extract from The English National Study of Flooding and Health, Summary of the evidence generated to date (Public Health England, 2015-20)