



Homes and Health Webinar Series

Protecting our Health in our Homes: Health Protection

Outline

- ▷ Introduction to health protection
- ▷ Homes and health overview
- ▷ Communicable disease in the home
- ▷ Opportunities
- ▷ Key messages

HEALTH PROTECTION



Role of health protection teams

Health Protection Teams are **regionally based** teams which provide **specialist public health advice** and support in response to public health incidents. These may include:

- ▷ **Outbreaks** (or cases) of infectious disease of a public health concern
- ▷ **Environmental** or chemical health hazards
- ▷ Public health **emergencies**

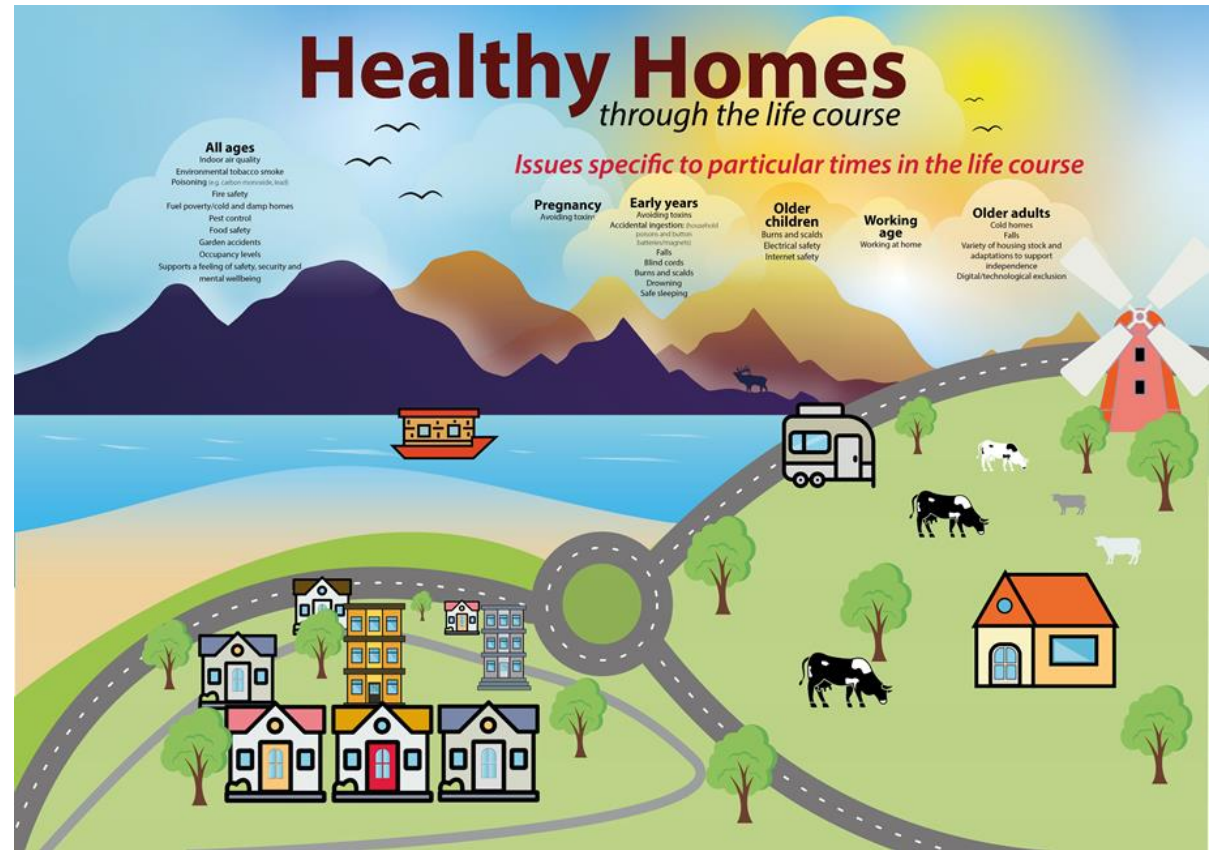
The aim is to reduce the impact of health problems on the health of the population.

Multi-agency working

- ▷ Health Protection Teams
- ▷ Radiation, Chemical and Environmental Hazards (RCE)
- ▷ Environmental Health
- ▷ NHS Trusts – Clinicians and Healthcare Staff, Microbiology
- ▷ Local authorities
- ▷ Integrated Care Systems
- ▷ Emergency Services: Ambulance, Fire and Police

Health protection in the home

- ▷ Infectious disease
 - Diseases of public health concern
 - Outbreaks
 - Household contacts of people with disease
- ▷ Chemicals/contamination
- ▷ Environmental hazards

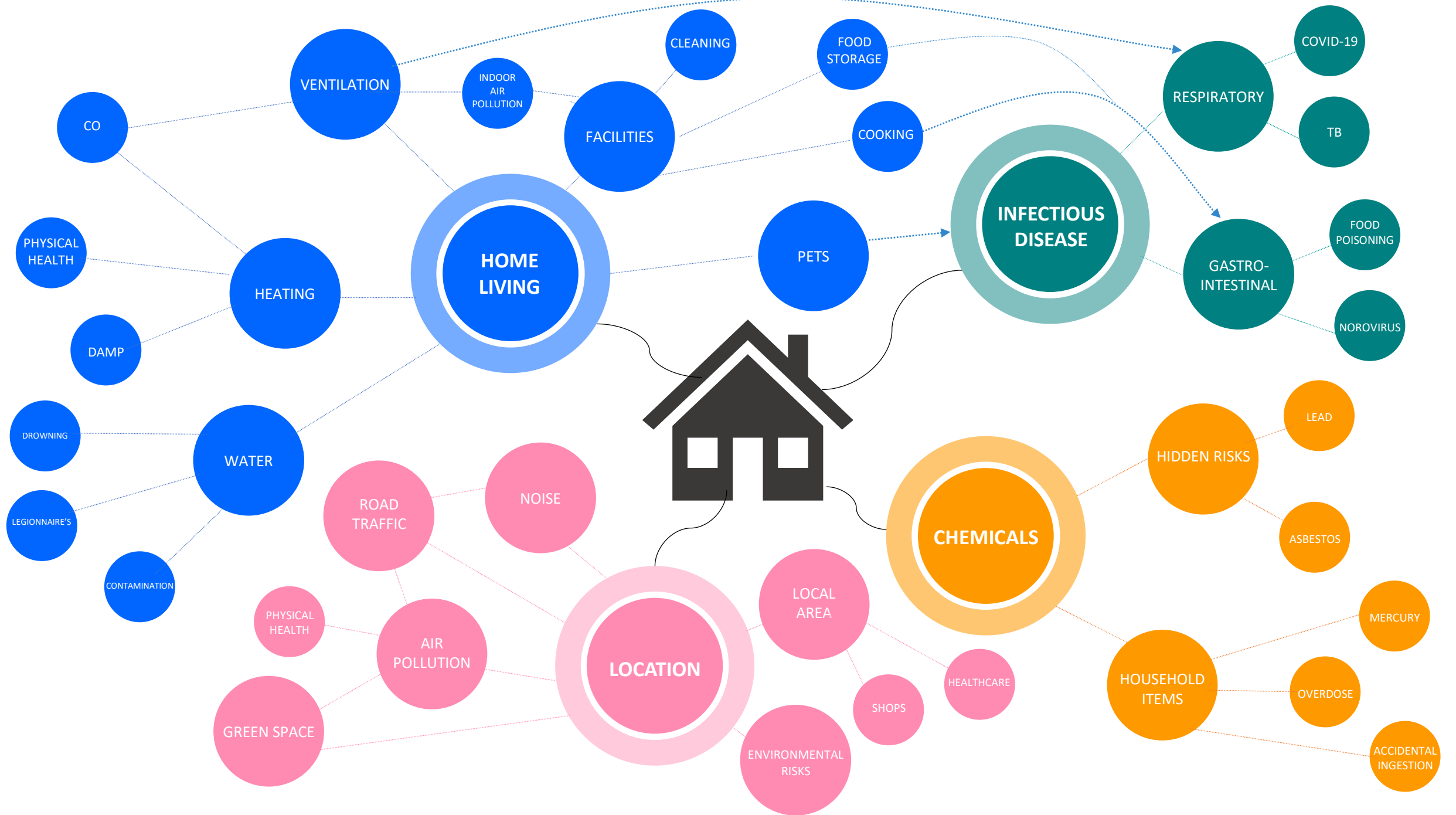


Home

- ▷ The home environment can differ significantly depending on the individual person or context – “home” will mean different things to different people
- ▷ Factors that may differ include tenure, location, size, facilities, layout, number of people, staff/support and permanence
- ▷ All of these elements may affect potential hazards and health protection issues

WHAT ASPECTS OF THE HOME CAN
HAVE AN IMPACT ON HEALTH?





Broad aspects of home and health

- ▷ The home environment has many aspects that can interact with health in both positive and negative ways
- ▷ There are a wide range of potential health hazards, such as:
 - Home location -> Air quality -> Respiratory disease
 - Living arrangements -> Spread of infection
 - Heating facilities -> Carbon monoxide
 - Pets -> Infectious diseases
 - Food preparation -> Gastro intestinal infection
 - Water facilities -> Contamination/disease



Broad aspects of home and health

▷ **Unhealthy** homes

- Cold, damp or hazardous

▷ **Unsuitable** homes

- Doesn't meet the needs of the household

▷ **Unstable** homes

- Does not provide a sense of safety and security

For children and young people



Unhealthy homes increase the risk of

- respiratory illness
- poor infant weight gain
- poor diet
- emotional and mental health problems
- physical injury and poisoning
- domestic fires



Overcrowded homes increase the risk of

- behavioural and mental health problems
- meningitis
- respiratory illness
- tuberculosis
- physical injury
- tobacco harm



Precarious housing increases the risk of

- emotional, behavioural and mental health problems
- low birth weight
- missing immunisations

Underlying health issues can in turn raise the risk of being homeless or living in precarious housing

Homes for people of working age



Unhealthy homes increase the risk of

- respiratory illness
- cardiovascular problems
- mental health problems



Overcrowded homes increase the risk of

- mental health problems
- respiratory illness
- tuberculosis
- tobacco harm



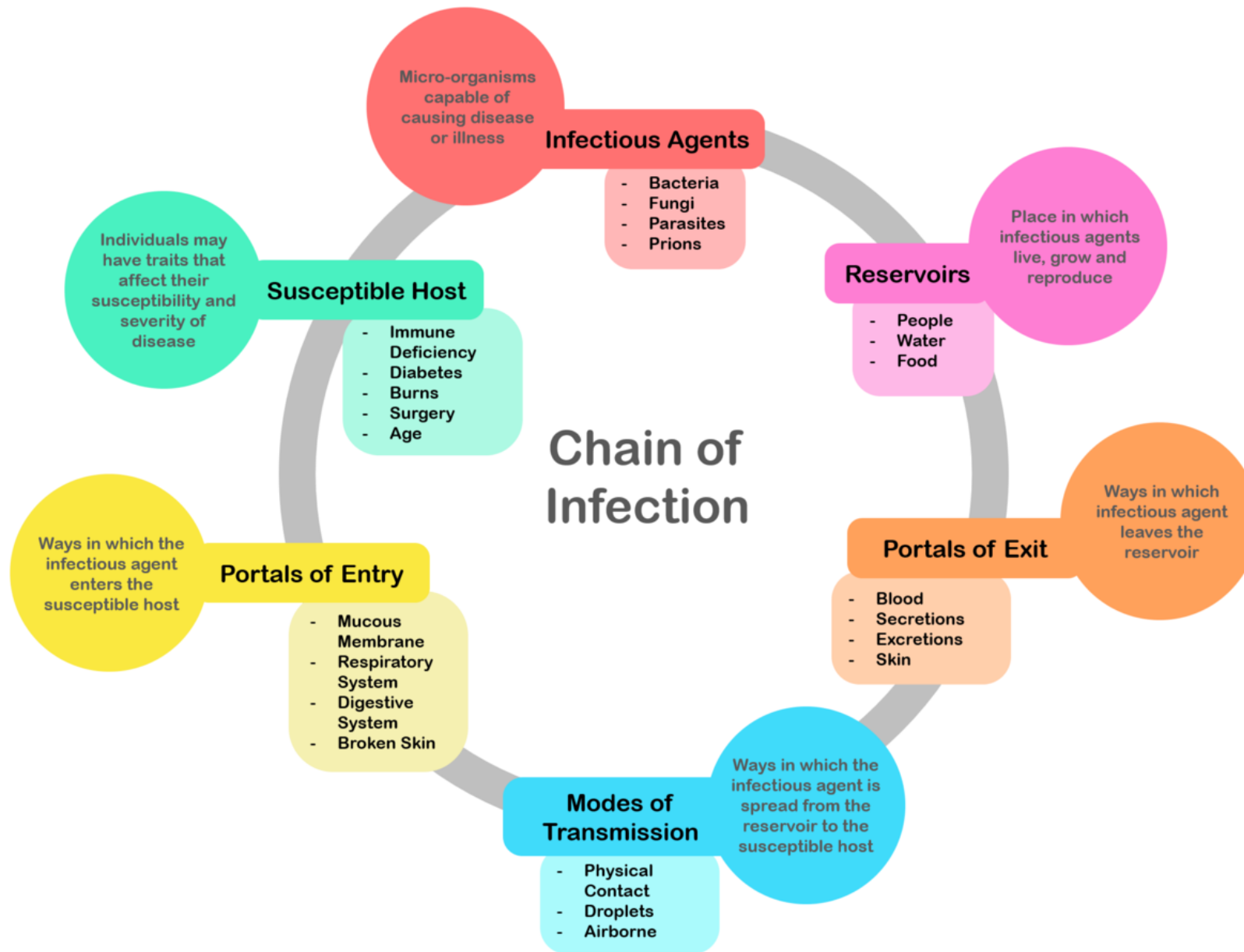
Precarious housing & homelessness increases the risk of

- physical and mental health problems
- alcohol and drug misuse
- suicide
- tobacco harm
- tuberculosis

Underlying health issues can in turn raise the risk of being homeless or living in precarious housing

INFECTIOUS DISEASES AND HEALTH HAZARDS





Gastrointestinal diseases

- ▷ E. coli, Listeria, Salmonella, Campylobacter, Norovirus

- ▷ Factors to consider
 - Food sources
 - Food preparation
 - Facilities
 - Hygiene
 - Risk groups



Respiratory diseases

- ▷ Tuberculosis, COVID-19, influenza

- ▷ Factors to consider
 - Living arrangements
 - Facilities
 - Ability to isolate
 - Hygiene
 - Ventilation



Chemicals and poisoning

- ▷ There are different ways chemicals in the home can cause harm to health
- ▷ Some chemicals may be related to existing elements of the house such as lead (Pb) or asbestos
- ▷ Other chemicals in the home may cause harm with accidental ingestion or overdose
- ▷ Factors to consider:
 - Pica
 - Ability to manage hazards



Environmental hazards

- ▷ **Indoor air quality** can be affected by many factors including heating, cooking, damp, smoke, chemicals, incense and cleaning products
- ▷ Contamination with harmful **chemicals** can occur from external sources, such as land or water
- ▷ The impacts of other environmental hazards such as flooding, and other extreme events, may also be affected by properties of the home

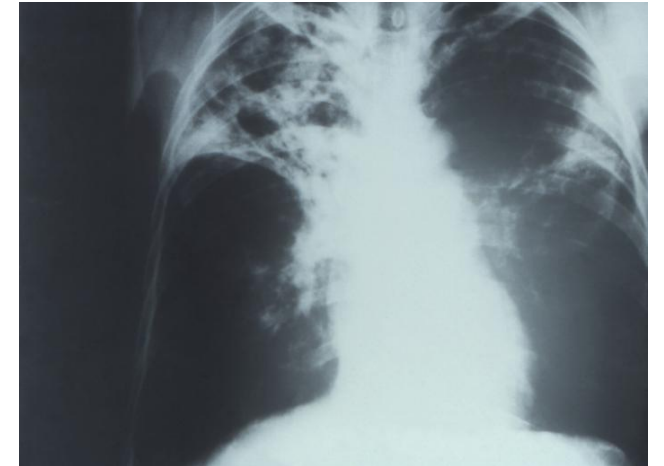


CASE STUDIES



Case Study 1

- ▷ M presents to A&E with a fever and persistent cough with blood stained sputum
- ▷ PCR for COVID-19 was negative
- ▷ Chest X-ray suggestive of pulmonary Tuberculosis
- ▷ Sputum samples confirmed the diagnosis



WHAT FACTORS RELATING TO M'S
LIVING/HOUSING SITUATION MAY
BE IMPORTANT TO CONSIDER?



Case Study 1

▷ Current home/accommodation

- Own home
- Hostel
- Prison services

▷ Contacts

- Shared areas – need to screen contacts

Case Study 2

- ▷ B attends A&E with headache, fever, sensitivity to light and a non-blanching rash
- ▷ B is diagnosed with meningococcal disease and started on antibiotic treatment



WHAT FACTORS RELATING TO B'S
LIVING/HOUSING SITUATION MAY
BE IMPORTANT TO CONSIDER?



Case Study 2

▷ Current home/accommodation

- Own home/overcrowding
- University

▷ Contacts

- Antibiotics
- Vulnerable
- Immunisation

Case Study 3

- ▷ S presents to their GP with stomach pain and bloody diarrhoea
- ▷ Stool samples are taken which confirm a diagnosis of E.coli 0157 (Shiga toxin producing E coli)



WHAT FACTORS RELATING TO S'
LIVING/HOUSING SITUATION MAY
BE IMPORTANT TO CONSIDER?



Case Study 3

▶ Home

- Cooking facilities/food storage
- Hygiene
- Events – buffets, BBQs

▶ Contacts

- Risk groups

OPPORTUNITIES: MAKING A DIFFERENCE



Making Every Contact Count

▷ **Immunisation**

- Childhood and adult vaccination
- Consider reminders and advice around vaccination – relevant in many different contexts

▷ **Transmission of infectious disease**

- Housing conditions/overcrowding
- Appropriate referrals

▷ **Specific advice**

- Exclusion advice for gastrointestinal infection

Making Every Contact Count

▷ **Severity of disease**

- Cold house/fuel poverty
- Recognising vulnerable groups
- Appropriate referrals

▷ **Poisoning**

- Those with identified poisoning: recognise potential sources in the home
- Those at risk: consider the risk of poisoning, e.g. those with pica

Discussion and next steps

▷ **How can we raise awareness?**

- Health and the home

▷ **What services are available?**

- Nature of services/support
- When to refer, how to refer and who can refer

▷ **What work is already being done?**

▷ **Does policy/ strategy need to change?**

- Who in your world needs to be influenced to do this?

SUMMARY



Key messages

- ▷ **Infectious diseases** or **chemical hazards** are some of the risks to health as a result of home hazards
- ▷ There are many ways in which the home or living situation can present hazards to health, with many **home factors having complex interactions** in affecting health: **multi-agency working** can be of significant value
- ▷ There are **opportunities for professionals** working across different areas and organisations to **recognise the potential** for home-based health hazards and **provide information** or advice

References

- ▷ **Public Health England. Improving health in the home** [Improving health through the home - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/improving-health-through-the-home) 2017
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- ▷ British Lung Foundation. **Indoor air pollution:** <https://www.blf.org.uk/support-for-you/indoor-air-pollution/about-indoor-air-pollution> 2021
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- ▷ Yorkshire and Humber Public Health Network. **MECC Link:** [MECC Link - Simple signposting to better health and wellbeing](https://www.yorkshireandhumberphn.org.uk/mecc-link) 2022

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- ▷ Image (Houses): http://www.freeimageslive.co.uk/free_stock_image/terracedhousesjpg
- ▷ Image (Cat): <https://freepngimg.com/thumb/cat/22473-5-siberian-cat.png>
- ▷ Image (Chain of Infection): https://upload.wikimedia.org/wikipedia/commons/thumb/8/8e/Chain_of_Infection.png/998px-Chain_of_Infection.png
- ▷ Image (BBQ): Lukas <https://www.pexels.com/photo/barbecue-bbq-black-charcoal-1309068/>
- ▷ Image (Asbestos): https://global-geography.org/attach/Geography/Europe/Cyprus/Pictures/Troodos/Asbestos/ZY0805_Asbest.jpg
- ▷ Image (Burning wood): https://cdn.openphoto.net/volumes/mike/20140316/openphotonet_IMG_7756.CR2.jpg [Cropped for presentation]
- ▷ Image (TB Chest X-ray): https://s3.amazonaws.com/static.wd7.us/4/4d/Pulmonary_Tuberculosis_X-ray4.jpg
- ▷ Image (Man): https://freesvg.org/img/rejon_Person_Outline_3.png
- ▷ Image (Woman): https://openclipart.org/image/2400px/svg_to_png/21972/rejon-Person-Outline-4.png
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- ▷ Infographic: Improving Health in the Home GOV.UK 2017