

The 'F' Diagram

The movement of pathogens from the faeces of a sick person to where they are ingested by somebody else can take many pathways, some direct and some indirect. This diagram illustrates the main pathways. They are easily memorized as they all begin with the letter 'f': fluids (drinking water) food, flies, fields (crops and soil), floors, fingers and floods (and surface water generally).

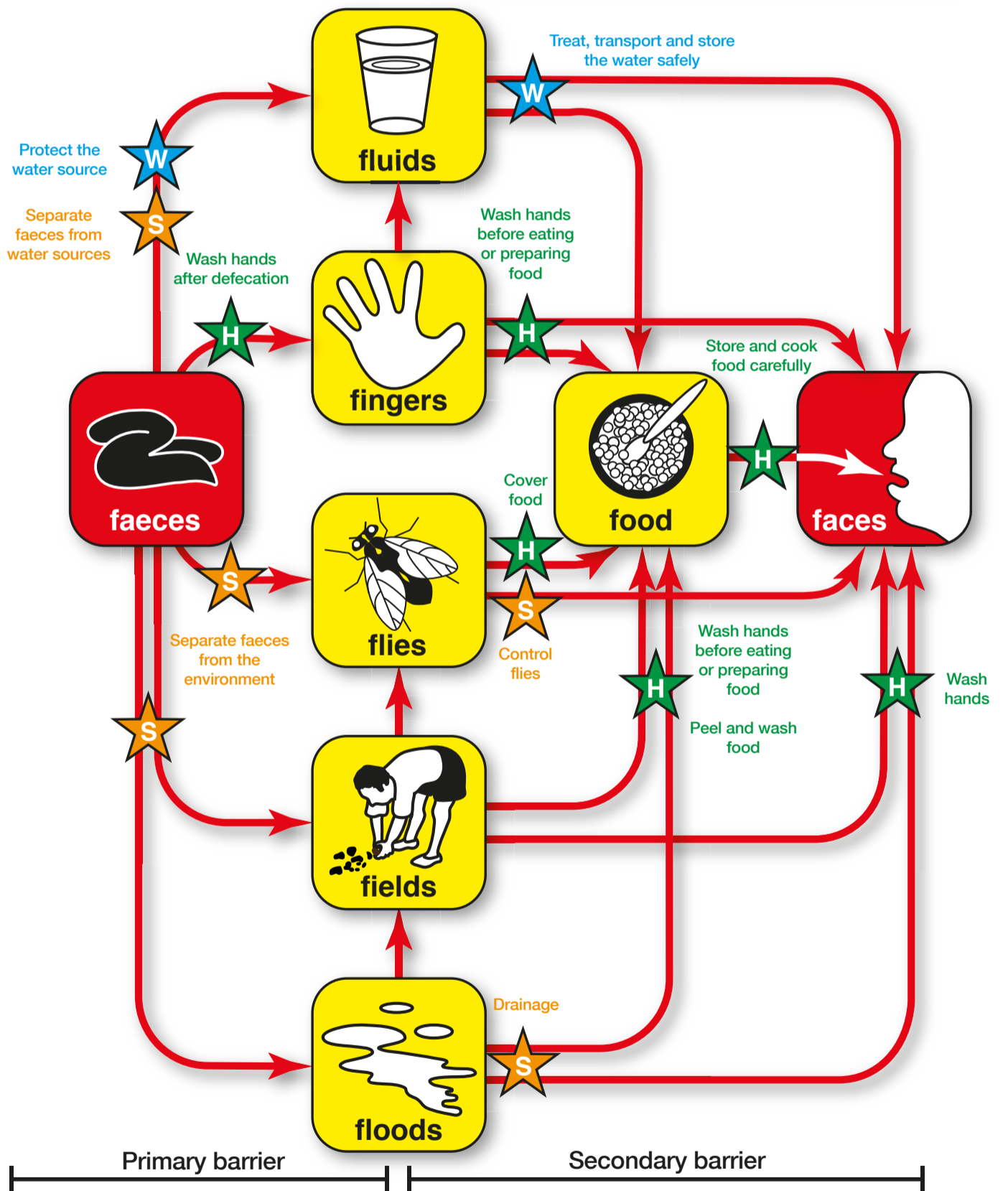
Poor hygiene practices, lack of adequate sanitation and unsafe or limited water supplies can contribute to the spread of preventable diseases such as cholera or typhoid. Understanding how pathogens (organisms that cause disease) are transmitted allows engineers and public health workers to intervene in appropriate ways to break the transmission cycle, saving lives and reducing unnecessary suffering.

Infectious faecal-oral diseases are spread when a susceptible person (or in some cases, an animal) ingests a pathogen that gives them the disease. The pathogen multiplies inside them and is subsequently found in their faeces.

Excreta-related water-borne diseases can be transmitted by any route which allows faecal matter to enter the mouth; the faecal-oral route. In 1958, Wagner and Lanoix identified the major means of transmission and produced what is now known as the 'f' diagram'.

W WATER
S SANITATION
H HYGIENE

Barriers can stop the transmission of disease; these can be primary (preventing the initial contact with the faeces) or secondary (preventing it being ingested by a new person). They can be controlled by water, sanitation and hygiene interventions.



Note: The diagram is a summary of pathways: other associated routes may be important. Drinking water may be contaminated by a dirty water container, for example, or food may be infected by dirty cooking utensils.

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