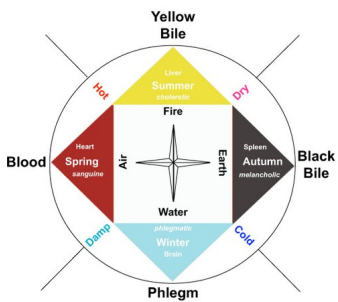






## Key Question 1: Causes of illness and disease c.500-present day

Medieval (Up to 1500)	Early Modern 1500-1800 ish!	Modern 1800 to the present day
<p><b>Four Main Causes</b></p> <p>Poverty                      Warfare</p> <p>Famine                      Accidental death</p> <hr/> <p>What did medieval people believe caused illness?</p> <ul style="list-style-type: none"> <li>• God</li> <li>• Bad smells</li> <li>• Supernatural</li> <li>• Four Humours, out of balance</li> <li>• Everyday life: childbirth, infant mortality, illness and early death viewed as inevitable</li> </ul> <p>Lack of hygiene, lack of clean water and sanitation in towns, no refuse collection.</p> <p><b>BLACK DEATH 1348</b>, Bubonic and Pneumonic plague</p>	<p><b>Lack of hygiene, lack of clean water and sanitation</b> in towns, <b>no refuse collection</b>.</p> <p>Regular outbreaks of plague; <b>Great Plague of 1665</b> was a particularly big outbreak.</p> <p>Beginning to make the link between dirt and disease.</p> <p>More measures to keep people segregated with the plague, belief it was caused by cats and dogs</p> <p><b>Plague doctor outfit</b>: beak: bad smells (miasma) caused plague and the waxy cloak was to make the 'venomous atoms' slide off. They were talking about germs but without knowing what they were or being able to see them...some improvement from believing it was God doing it...but many people still believed in Four Humours and God...</p>	<p>New industrial towns were grim places to live, dominated by overcrowding and lack of clean water and sanitation. <b>Industrialisation</b></p> <p>Contagious diseases spread due to <b>overcrowding</b> (typhoid, typhus, scarlet fever, tuberculosis)</p> <p>(Typhus caused by lice and ticks)</p> <p>New industrial hazards: <b>Phossy jaw</b> in match factories, machinery highly dangerous and caused injuries.</p> <p><b>Cholera</b>: First big outbreak <b>1831</b>. Waterborne disease, originated in India and spread along trade routes like the Black Death did.</p> <p>Typhoid: spread by contaminated water, food and faeces (pool!) Even Prince Albert died of it in 1861.</p> <p>20th Century:</p> <p>Spanish flu after WW1; 20-40 million people worldwide died, 280,000 in the UK mostly young men and women</p> <p>AIDS: First identified 1981, caused by a virus. By 2014 est. 40 million died of it, 40 million living with it (Spread by: unprotected sex, hypodermic needles, contaminated blood)</p>
 <p>The Four Humours</p>		

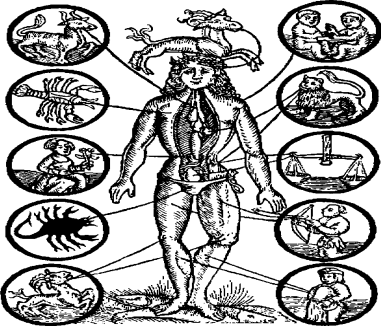
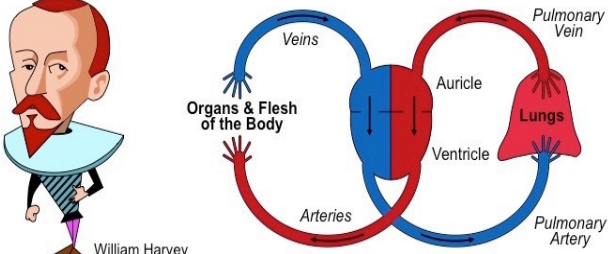
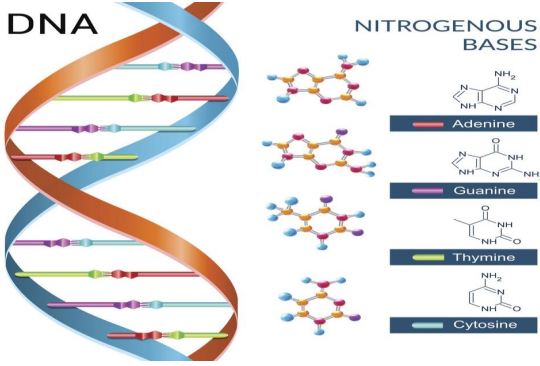
## Key Question 2: Attempts to prevent illness and disease c.500-present day

<p style="text-align: center;">Medieval (Up to 1500)</p>	<p style="text-align: center;">Early Modern 1500-1800 ish!</p>	<p style="text-align: center;">Modern 1800 to the present day</p>
<p>Hippocrates (and his ideas were followed by Galen and into Medieval times) believed <b>keeping your humours balanced prevented disease (exercise, rest, diet)</b></p> <p>Romans believed in clean water (aqueducts) and cleanliness but these abilities and ideas were lost when Romans left.</p> <p><b>The Church:</b> Prevent illness and disease by living a Christian life and pray hard for forgiveness of sins (flagellants during Black Death)</p> <p><b>Black Death: other attempts to prevent: Fast, Far, Late</b> (actually spread it), avoid bathing as it opened the pores to the disease, avoid sex! Drinking vinegar and wine, bathing in urine. More realistic: King Edward III ordered the streets to be cleared of filth believing smells spread disease, avoiding the sick (boarding up houses, red cross on door)</p> <p><b>Alchemy, soothsayers, doctors:</b> Alchemists distilled vinegar thinking the 'medicine' they created would prevent disease ("Elixir of Life"). Medicines containing poisons were used to make you sick, believed this prevented disease. Wise women: collect plants, herbs, make and sell charms to prevent the spread of disease. <b>Apothecaries</b> made medicines too.</p>	<p><b>"Prevention is better than cure":</b> From late 18th century-early 19th century, a time for 'fads' like vegetarianism, giving up alcohol, fresh air and exercise became fashionable.</p> <p><b>Cold Water treatments:</b> 'Taking the waters' at spa towns like Bath and Harrogate, visiting the seaside. Drinking cold water to flush out impurities.</p> <p>Many deaths from 'child bed fever'. <b>Alexander Gordon 1795 recommended hand washing and clean clothes between delivering babies</b> but was criticised by other doctors (until Germ Theory proved him right...)</p> <p><b>Cause of scurvy</b> (lack of Vit C) amongst sailors found in 1753. <b>Prevented by drinking lime juice.</b></p> <p><b>Inoculation: Mary Wortley Montagu 1721</b></p> <p><b>Edward Jenner, 1796: The first vaccination to prevent smallpox.</b> Vaccination made compulsory by government in 1852.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	<p><b>Dr John Snow</b> proved cholera was water-borne in 1854 (and stopped an epidemic by <b>taking the handle off the Broad Street water pump...you know this!!</b>)</p> <p><b>19th century vaccines (2, 3 and 4):</b> 1880 Chicken cholera, 1881 Anthrax, 1885 Rabies (<b>Pasteur</b>)</p> <p><b>More vaccines</b> introduced since WW2.</p> <p><b>Polio 1955</b></p> <p><b>Measles 1963</b></p> <p>MMR 1988</p> <p><b>Hepatitis 1994</b></p> <p><b>Anti-malaria tablets</b> if travelling abroad etc</p> <p><b>Infant Mortality Rate has fallen</b> from 170 per 1000 in 1900 to 4 or 5 per 1000 today. Due to improvements in immunisation but also reducing poverty, school dinners, trained midwives and school nurses, etc</p> <p><b>Debate over MMR, 1998:</b> Dr Andrew Wakefield suggested it might cause autism and there has been less uptake by concerned parents. Must vaccinate 95% of the population or an epidemic can break out.</p>

## Key Question 3. Attempts to treat illness and disease c.500-present day



<p style="text-align: center;">Medieval (Up to 1500ish)</p>	<p style="text-align: center;">Early Modern 1500-1800 ish!</p>	<p style="text-align: center;">Modern 1800 to the present day</p>
<p><b>Herbal medicines</b>, sometimes written down in books, sometimes included prayers to say while picking the herbs, sometimes closely guarded family secrets passed down from mother to daughter, etc.</p> <p><b>FOR DOCTORS:</b></p> <p><b>Bleeding and purging</b> (Four Humours)</p> <p><b>Urine diagnosis</b> (Vademecum, 'Carry with Me', a urine chart for medieval doctors (smell it, look at colour, taste it!))</p> <p><b>Zodiac chart:</b> showed which parts of the body were connected to different star signs, when was the best time to use surgery or treat the patient.</p> <p><b>Only rich people could afford to consult a trained doctor (also called a 'physician')</b></p> <p>OTHERS:</p> <p><b>'Quacks'</b> or unlicensed doctors selling 'cures' to make money.</p> <p><b>Barber-surgeons:</b> apprenticed and learnt on the job. Pull teeth, set broken bones, use leeches</p> <p><b>Apothecaries:</b> made medicines</p>	<p><b>Much continued the same</b> from Medieval times.</p> <p>Some doctors wrote in English not Latin in this period in an attempt to pass on more knowledge.</p> <p><b>Astronomy</b> still used</p> <p><b>New ingredients</b> which were discovered and supposed to heal were rhubarb and tobacco! (Some thought smoking a pipe of tobacco kept the plague away)</p> <p><b>More scientific approach</b> to medicine, careful observation of patients.</p> <p>New studies of mental illness: 'melancholy' and midwifery. Greater belief in prevention and therefore not having to consult a doctor.</p> <p style="text-align: center;"><u><a href="#">Dr Joseph Lister....Antiseptic Surgery...Modern Era 1865</a></u></p> 	<p><b>Simpson and chloroform:</b> Addressed the problem of pain in surgery, 1847 (Laughing gas 1799 and Ether 1846 tried prior to this)</p> <p><b>Queen Victoria used chloroform 1853</b> and it became acceptable.</p> <p><b>Black Period in Surgery 1847-1865</b> as doctors became more adventurous with operations leading to more deaths due to infection and blood loss.</p> <p><b>Joseph Lister, 1865, Antiseptic Surgery.</b> Deaths related to infection dropped from nearly a half of all operations to one sixth.</p> <p><b>Aseptic Surgery</b> (killing the germs before a patient is operated on) from late 19th century: steam sterilisers, protective clothing and rubber gloves.</p> <p><b>Marie Curie:</b> worked on radiation and paved the way for treatments for cancer as well as mobile X-Ray machines in WW1.</p> <p><b>First 'Magic Bullet' Salvarsan 606, Paul Ehrlich, 1910,</b> to treat syphilis, a serious STD</p> <p><b>Fleming (1928) and Florey and Chain (1940s)</b> worked on penicillin, the <b>first antibiotic</b>.</p> <p><b>Christian Barnard: First successful heart transplant, 1967, paved the way for more transplant surgery.</b></p> <p><b>20th century: chemotherapy:</b> another treatment for cancer.</p>

## Key Question 4. Advances in Medical Knowledge c.500-present day

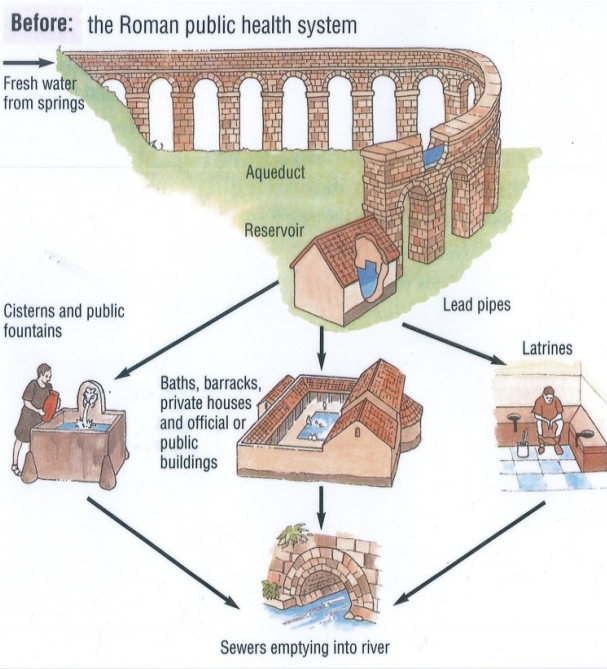
Medieval (Up to 1500ish)	Early Modern 1500-1800 ish!	Modern 1800 to the present day
<p><b>Key Ideas:</b></p> <p><b>(From Ancient Greece and Rome) Hippocrates: The Theory of the Four Humours</b> (4 Humours in the body and if they were balanced you were healthy). <b>Galen</b> continued Hippocrates ideas. Also said dissection was important and improved knowledge of <b>anatomy</b>. Listened to a <b>patient's pulse</b> (still done today) <b>These ideas dominated into Medieval times...about 1400 years!</b></p> <p><b>Alchemy:</b> Early chemistry, trying to turn base metals into gold and find an 'Elixir of Life' to make you live forever!</p> <p><b>Astrology:</b> Zodiac Chart/Star signs. Studied position of the stars before carrying out certain operations or bleeding.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p><b>Church:</b> Set up universities to study medicine from</p>	<p><b>Renaissance... literally means rebirth (of interest in the ideas of Ancient Greece and Rome)</b></p> <p><b>A time of questioning of old ideas!</b></p> <p><b>Andreas Vesalius:</b> Fabric of the Human Body 1543 Changed knowledge by correcting Galen on about 200 points (incl. human jaw bone and 'no holes in the septum of the heart')</p> <p><b>Ambroise Pare:</b> Works on Surgery 1575. Developed ointment (rose oil, turpentine, egg yolk) to treat gunshot wounds instead of cauterising oil, and tied blood vessels with ligatures instead of cauterising them.</p> <p><b>William Harvey:</b> On the Motion of the Heart, 1628, fully explained circulation of the blood.</p> <div style="text-align: center; margin: 10px 0;">  </div>	<p><b>Louis Pasteur:</b> Germ Theory 1861. First person to establish link between germs and disease</p> <p><b>(Robert Koch:</b> Science of Bacteriology. Discovered germs which caused TB (1883), cholera (1884) and later plague, pneumonia, blood poisoning etc. Dyes discovered to stain and then photograph germs. <b>Paul Ehrlich</b> was one of his students who improved his knowledge and developed first 'Magic Bullet'.</p> <p>New scientific knowledge could cure disease!</p> <p><b>Wilhelm Rontgen:</b> X-Rays 1895. (paved the way for ultrasound, MRI and PET and CT scans.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p><b>Watson and Crick:</b> Discovered the structure of DNA in 1953. Paved the way for the fight against genetic diseases.</p>



## Key Question 5. Developments in patient care c.500-present day

<p style="text-align: center;">Medieval (Up to 1500ish)</p>	<p style="text-align: center;">Early Modern 1500-1800 ish!</p>	<p style="text-align: center;">Modern 1800 to the present day</p>
<p><b>The Church and monasteries:</b> played a role in patient care though dominated by praying for the soul rather than actual treatments. Hospitals provided <i>hospitality</i> not treatments. Made patients comfortable. If they were seriously ill, not admitted, as interfered with the business of praying and religious services</p> <p><b>Infirmaries :</b> Looked after the old and ‘infirm’.</p> <p><b>Leper hospitals</b> for those with leprosy</p> <p><b>Almshouses:</b> medieval equivalent of care homes for the old, but also helped widows and young children.</p> 	<p><b>Voluntary charities</b> from mid 16th century as Henry VIII closed monasteries resulting in a drastic decrease in patient care.</p> <p><b>Royal hospitals</b> set up in London (St Bartholomew’s, St Thomas’s etc) from royal funds</p> <p><b>Endowed voluntary hospitals</b> outside London: local councils petitioned the King to ask for funds when the monasteries shut.</p> <p><b>Industrial Revolution</b> lead to some individuals getting very rich and some like Thomas Guy a rich printer set up Guy’s Hospital in London</p> <p>In this period more hospital evolved into places where surgery took place, as well as looking after the poor sick, and dispense medicines.</p> 	<p><b>Big increase in the number of hospitals in the 19th century;</b> increasing city populations required big general hospitals to be set up. (1800: 3000 patients in hospital, 1851: 7600)</p> <p><b>Specialist hospitals</b> like maternity and ear, nose and throat set up, but conditions were poor.</p> <p><b>Florence Nightingale</b> and the professionalisation of nursing: Became famous improving hospital conditions in the Crimean War. Reduced death rates</p> <p>On return to England, a public fund was set up and raised £50,000. FN set up an <b>Nursing School in 1860</b> at St Thomas’s Hospital and wrote <b>Notes on Nursing in 1859</b>. in 1850 there were no trained nurses, by 1900: 68,000</p> <p>Hospitals expected to be clean, have fresh air, warmth, light, appropriate diets</p> <p><b>Mary Seacole and Betsi Cadwaladr:</b> both nurses in Crimean War who did hands-on work, using their own money.</p> <p>Government attitudes changed in early <b>20th century: welfare and social reforms to reduce poverty (Liberal gov 1906-1914)</b>, National Insurance Act 1911</p> <p><b>Beveridge Report 1942:</b> 5 Giants (Want, Squalor, Ignorance, Idleness, Disease)</p> <p><b>Lead to the NHS 1948: First time the medicine of ordinary people changed: FREE FROM THE CRADLE TO THE GRAVE.</b></p> <p><b>Increasing financial demands</b> on the NHS since then: rebuilding of hospitals in the 1960s, increasing cost of caring for an ageing population, increasing need as medicine becomes more sophisticated.</p>

## Key Question 6. Developments in public health and welfare c.500-present day

<p>Medieval (Up to 1500ish)</p>	<p>Early Modern 1500-1800 ish!</p>	<p>Modern 1800 to the present day</p>
<p><b>Very smelly towns and cities</b>, no disposal of waste, <b>night soil men</b> removed human waste (poo!) from privies and dumped it into rivers...Shitebrook in Exeter!</p> <p>Attempts were made by councils to clear waste but often unsuccessful, latrines were often over rivers and likely to flood.</p> <p><b>Outbreaks of plague (Black Death)</b> due to rats from <b>1348</b>, often worst in summer months, between a third and a half of all people in Europe died.</p>	<p><b>Many outbreaks of plague</b> through 16th/ 17th centuries, eg 1563, 1603, and the <b>Great Plague of 1665 (80,000 dead in London)</b> when attempts were made to clean up streets and ‘kill mice and rats’ (Aberdeen 1647)</p> <p><b>Henry VII (1485-1509)</b> passed a <b>law forbidding slaughterhouses</b> from within town and city walls (butchers threw the entrails and muck into already polluted rivers)</p> <p><b>Henry VIII passed an act of parliament allowing towns to raise taxes to build sewers (1532) but few places did.</b></p> <p><b>Beginning to make the link between dirt and disease</b> but cities growing fast and impossible to keep clean.</p> <p>After Great Fire of London 1666, act of parliament passed to rebuild London, widen streets and build with stone and tiles to reduce fire risk, etc, and 1690, an act to pave and clean the streets.</p>	<p><b>Industrialisation</b> lead to rural to urban migration. Cities increased in size, leading to <b>overcrowded living conditions</b> for the urban poor.</p> <p><b>Government attitude of laissez-faire</b> (‘leave it alone’) meaning in early 19th century they didn’t get involved in public health.</p> <p>Average age of death in Manchester in 1842 was 17.</p> <p><b>Outbreaks of cholera from 1831</b> (52,000 dead in 1848)</p> <p><b>Edwin Chadwick:</b> Convinced most people were poor due to poor health not idleness. <b>Report ‘On the Sanitary Conditions of the Labouring Population’ 1842. John Snow proves cholera is in water in 1854.</b></p> <p><b>First Public Health Act 1848:</b> Not compulsory. Councils could build sewers, provide clean water and clear refuse if they wanted to raise tax to do so. <b>1875 Second Public Health Act</b> forced councils to do this = real breakthrough in PH. New sewers for London from 1858 (Bazalgette)</p> <p>Individual acts to improve health of workers from rich industrialists like Titus Salt</p> <p><b>20th Century: Boer War identified problem that many volunteers were unfit to serve in the army.</b> Infant Mortality Rate very high. Reports by Charles Booth (1889 London; 35% of people in ‘abject poverty’) and Seebohm Rowntree (1901 York; nearly half the population lived in poverty)</p> <p>Some improvement after WW1: <b>Homes for Heroes</b> (but only half of promised 500,000 new homes built) Some new council housing for rent but Great Depression slowed this.</p> <p><b>Destruction of WW2 meant new homes and slum clearance</b> had to happen (Labour gov 1945-51 built 1 million houses)</p>
 <p><b>Before: the Roman public health system</b></p> <p>Fresh water from springs</p> <p>Aqueduct</p> <p>Reservoir</p> <p>Lead pipes</p> <p>Latrines</p> <p>Baths, barracks, private houses and official or public buildings</p> <p>Cisterns and public fountains</p> <p>Sewers emptying into river</p>	<p><b>20th Century continued!!</b></p> <p><b>Clean Air Act 1956</b>, New Towns like Harlow in 1960s, blocks of flats to clear slums</p> <p><b>21st century: Government campaigns about unhealthy lifestyles, fitness drives and healthy eating (obesity epidemic)</b></p>	