

GCSE HISTORY: MEDICINE

SMART

REVISION



SECTION 1

(PLEASE NOTE THIS DOES NOT MEAN THIS WILL BE YOUR SECTION A IN THE EXAM)

DISEASE & INFECTION



PRE-HISTORY

Earlier than 3,000BC

RELIGION - SUPERNATURAL approach more IMPORTANT

- Believed spirits controlled world so they did not look further for OTHER causes of disease - Didn't know how the body worked or real causes of disease - no point finding out - spirits were in control! Holds back PROGRESS.
- Trepanning - perhaps to release evil spirits.
- Medicine man - relied on him for healing the tribe - direct contact with the spirits. Treatments based on magic, praying, chanting to appeal to the spirits so they would heal the patient.

SCIENCE/TECHNOLOGY???

- Bone/stone/wood - no metal so no surgery apart from trepanning.
- No WRITING so hindered spread of successful remedies BUT - treatments were passed on orally.

NATURAL REMEDIES WERE USED - Tree sap for burns, white willow bark for pain, found by trial and error. PLANTS/HERBS - many still used today, like DIGITALIS for hearts.

ATTITUDES

- SURVIVAL IMPORTANT - NOMADIC finding food - lacked TIME for considering real causes of disease

ANCIENT EGYPT

3,000BC—1,000BC

Living in cities/settlement DUE TO RIVER NILE - led to increased wealth and the rich demanded new skills e.g. metal, trained doctors & writing SO MEDICINE IMPROVES. BUT SUPERNATURAL NEVER GOES AWAY. Many gods e.g. Imhotep, Sekhmet.

RELIGION - SUPERNATURAL approach more IMPORTANT than NATURAL

- Believed GODS and spirits controlled world so they did not really look further for OTHER causes of disease. Used MAGIC (spells & charms)
- MUMMIES - but knowledge not shared by priests with doctors. Threw brains away. Couldn't improve physiology/cures as couldn't cut up organs.
- Doctors used a confusing mix of supernatural/natural remedies doctors used both on patients because they DID NOT KNOW THE TRUE CAUSES OF DISEASE! Used scarabs AND herbal remedies.
- Doctors not allowed to experiment - use papyrus recipes or could die!!!

SCIENCE/TECHNOLOGY???

- IMPROVEMENT - had writing (HIEROGLYPHS on PAPYRUS) & metal (bronze). Writing SPREAD IDEAS. Had Full Time doctors. Used OBSERVATION and wrote case studies
- River Nile led to first NATURAL THEORY - BLOCKED CHANNELS theory: channels (veins) BLED and PURGED patients to UNBLOCK the channels, naturally, using LEECHES or fish heads in warm water to make them vomit. Doctors used SUPERNATURAL & NATURAL together.

TRADE - led to OPIUM from China and wider variety herbs for remedies.

ANCIENT GREECE

800BC - 400BC

TURNING POINT - a more SCIENTIFIC APPROACH OF OBSERVING NATURE LEADS TO **THEORY OF FOUR HUMOURS**, BY **HIPPOCRATES**. SO MEDICINE IMPROVES. BUT the SUPERNATURAL NEVER GOES AWAY
- ASKELPIOS (god of healing) and ASKLEPION (temple)

SCIENCE/TECHNOLOGY/INDIVIDUAL

Natural approach more IMPORTANT than Supernatural

- Greek thinkers began to suggest **NATURAL** causes for disease. **FOUR HUMOURS** - liquids inside the body expand causing illness, according to seasons. So need to restore the balance e.g. by bleeding. Said GODS do not control disease. NOT CORRECT BUT LOGICAL. STEP IN THE RIGHT DIRECTION - seemed that medicine was on the correct path now.
- **HIPPOCRATES** - FATHER OF MEDICINE - Developed **CLINICAL OBSERVATION** - case studies in books meant that successful remedies can be passed on. Also **HIPPOCRATIC OATH** meant patients treated with greater respect.

RELIGION

- Supernatural never goes away - Asklepiions like health spas. Many believed Asklepios healed them in the temple. Did priests use NATURAL remedies as well as prayer? An example of SUPERNATURAL motives leading to positive outcome.
- Many still went there as a last resort, or because it was free at the temple. Gave votive offerings e.g. a hand/foot for the gods.

ATTITUDES

Prevention important - the REGIMEN of life = diet, exercise, personal hygiene. Hippocrates preferred to let nature take its course as disease is caused naturally. HE REJECTS MAGIC/SUPERNATURAL as so many things in nature can be PREDICTED e.g. seasons, tides - disease is part of nature. A complete Theory.

ANCIENT ROME

400 BC - 400 AD

AFTER SHORT PERIOD OF REGRESS (PATERFAMILIAS), the SCIENTIFIC APPROACH RETURNS WITH **GALEN**, WHO REDISCOVERS **HIPPOCRATES**. RELIGION and SCIENCE are still separated out but CO-EXIST

SCIENCE/TECHNOLOGY/INDIVIDUAL

Natural approach still more IMPORTANT than Supernatural

- GALEN builds on work of Hippocrates, THEORY of OPPOSITES - hot food - pepper - for a chill, cold cucumber for a fever
- GALEN important as Romans were distrustful of Greek doctors. He had to win them over
- BLEED and PURGE!!! Galen prefers a more hands-on approach to treatment. Said ALL humours were in blood, so bleeding patients made sense.
- Wrote so many books in arrogant style - everyone accepted his ideas. Said he was always right. Only wrote down his successes. This holds back real progress and doctors could have learned from his mistakes too.
- MIASMA THEORY - helped with preventing disease.

WAR

- FOUR HUMOURS reached wider audience as his books travelled around the empire - e.g. Britain (So - WAR important too) FOUR HUMOURS very influential - and stuck for 1500 years

RELIGION

- Many gods - e.g. Salus, goddess of healing/epidemics. Many still believed gods had the power to send and cure disease.
- Built an Asklepion as were desperate to stop plague. (could not prevent plagues - still did not know the TRUE cause of disease)

Romans not any better than the Greeks. False theory was even more embedded as Galen had built it into a COMPLETE theory of DISEASE, ANATOMY & SURGERY.

MIDDLE AGES

400 AD - 1500 AD

SUPERNATURAL becomes more important than natural now.

Dark Ages shows progress is NOT CONSTANT

CHURCH says: Galen has ALL the answers! No need to research / learn anymore!

Rapid REGRESS when Romans left - the SCIENTIFIC APPROACH was LOST in the Dark Ages. GALEN'S books - destroyed in fighting among Anglo-Saxon tribes e.g. in Britain. Monks keep some books safe and continue to use 4 humours. CATHOLIC CHURCH becomes so powerful that RELIGION and SCIENCE no longer separated out. Church supports Galen AND BLOCKS CRITICISM/PROGRESS

WAR

- Regress - DARK AGES!!!! Doctors training stopped as too dangerous
- People return to Supernatural/superstitious remedies like BEZOAR stone and astrology
- Monks save Galen's books & continue treatments based on 4 Humours.

RELIGION

- HINDERS progress as Church blocks any criticism of Galen. Roger Bacon imprisoned - he criticised Galen - but UNIVERSITIES train doctors again
- It's because Galen said there was ONE GOD and the Church wanted people to respect ancient books (THE BIBLE was ancient book!)
- Caused medicine to STAGNATE (stop developing) for 1500 years
- Monks did some good things (monasteries, monks cared for the sick/dying - 1st time in history anyone trying to COPY Jesus) BUT NOT allowed to FIND CURES for LEPROSY, BLINDNESS, PLAGUE, MENTAL HEALTH PROBLEMS because Church taught that GOD sent them to punish sinners. BUT ARABS - Allah sent disease AS A CHALLENGE.
- Arab doctors like Rhazes (found difference between measles & smallpox) said SHOULD improve on Galen. Not many did though. Ibn Sina produced 1 million word textbook CANON of MEDICINE used in universities for hundreds of years - brought ALL ideas together.

RENAISSANCE

1500 AD - 1750 AD

The 1st STEP towards real change happened now! **Scientific method MORE IMPORTANT** that **SUPERNATURAL** - a **RETURN TO SCIENCE & OBSERVATION**. A time of **CHALLENGE**. Renaissance means **REBIRTH** of old Greek/Roman natural ideas after stagnation of the **MIDDLE AGES**. This only happened because **CATHOLIC CHURCH** lost some of its power. **ENQUIRY** beat **CONSERVATISM** but **NO NEW CURES!!!** Also, Paracelsus was chased out of town for burning Galen's books! Was still opposition to new ideas.

SCIENCE & TECHNOLOGY & ATTITUDES

- **Microscope** invented 1600's but seen as child's toy until 1800 - saw germs but not seen as important
- **PRINTING PRESS** invented, cheap/quick so ideas could spread easier
- **Attitudes of CHALLENGE**, rebirth of Greek **LOVE** of **LEARNING** like of philosophers. Education key. Catholic church criticised and opposed **BUT STILL PEOPLE WERE CAREFUL**. Harvey waited 12 years to publish his theory that disproved the 4 Humours.
- **NO NEW CURES** - all improvements were by Pare, Vesalius, Harvey. **GERM THEORY** is still a **LONG WAY OFF**.
- **PARACELSUS** chased out of town for calling Galen a liar etc.
- Charles II began the **ROYAL SOCIETY** for **SCIENCE** but he still touched for king's evil and 12 doctors killed him after a stroke, bleeding him in 1685
- **By 1700 - most doctors had rejected 4 HUMOURS** **BUT** still bled as no alternative and patients **DEMANDED** it.

RELIGION

- Still had power - people don't just give up their faith. Said Great Plague was caused by God or the Devil, used **ABRACADABRA** as a **MAGIC CHARM**.
- **USED SO MANY IDEAS** because they still did not know the true cause of disease - **GERMS!!**

INDUSTRIAL AGE

1750 AD — 1900 AD

JPKB EDF

WITHOUT THE NEW INVENTIONS OF The Industrial Revolution, GERM THEORY and CURES would have been much delayed. Germs are microscopic, move around and transparent. So, they are difficult to study and also, difficult to kill. Scientists needed: microscopes, glass sawn necked flasks, petri dishes, cameras and chemicals. They also need research teams and funding. War/ National rivalry led to Pasteur and Koch competing to study germs and find vaccines. CURES are the NEXT STEP—Ehrlich and Fleming.....

Traditional / false theories are defeated in 1864—MIASMAS and SPONTANEOUS GENERATION. Koch supports Pasteur. BACTERIOLOGY a new science.

SCIENCE & TECHNOLOGY/ SPECIAL TIME

- Essential Microscope improved—glass industry—better lenses.
- Industrial Revolution going to provide necessary glass, chemicals, new science of chemistry at this time.
- Scientific method—Jenner took 20 years before publishing his ideas on the smallpox vaccine. Pasteur and Koch devised ELEGANT EXPERIMENTS. Simple so any critics could copy, get the same results and be silenced!!
- Chemistry provided Koch's purple dyes so he could stain the germs

WAR

- Inspired Pasteur and Koch after the Franco-Prussian War—hated each other. RIVALRY spurred them on: Koch improved on Pasteur's GERM THEORY AND PROVED IT in HUMANS by isolating specific germs; Pasteur used Koch's anthrax germ to make a new VACCINE (he did 3 altogether)

INDIVIDUALS

Determined, dedicated, intelligent. **HUGE TURNING POINT!!!!**

GERM THEORY

WHY WAS GERM THEORY SO IMPORTANT? / A TURNING POINT / A BREAKTHROUGH?

1. **HELPED SURGERY 1ST**— Lister used it **FIRST** to actually help someone in 1867 to reduce infection in operations, used CARBOLIC acid to kill germs. More patients survived operations surgery better. 46%.....15% death rate.
2. **LED TO MORE VACCINES** — Pasteur now knew that germs caused disease so he used Jenner and Koch's ideas to find three more vaccines for chicken cholera, anthrax and rabies.
3. **HELPED PUBLIC HEALTH** — governments now could not ignore their responsibilities—they knew dirt did lead directly to disease so a **COMPULSORY 1875 PUBLIC HEALTH ACT** was passed and helped the **BIG CLEAN UP**, providing sewers etc. to stop germs causing disease.
4. **LED TO CURES...** Ehrlich's magic bullet and Fleming, Florey and Chain's penicillin and then more antibiotics....

WHY WAS GERM THEORY CRITICISED?

1. **MIASMA THEORY & BLEEDINGS**—BEEN AROUND A LONG TIME - DOCTORS **RESPECTED THEM AS IDEAS**—Florence Nightingale believed in MIASMA theory, worried germ theory would stop progress in public health—she was influential.
2. Seemed ridiculous— a tiny germ could not kill a man!???
3. Doctors disliked change—some still bled their patients to get rid of miasmas in blood in 1800's
4. Professional jealousy—they hadn't come up with it so criticised it!

REMEMBER MODERN MEDICINE IS NOT PERFECT THOUGH:

1. Antibiotics can't cure everything—there are **SUPERBUGS** like MRSA in hospitals
2. Cancer/ heart disease taken over from infectious diseases like cholera & TB. Governments try to prevent these problems by giving advice and banning smoking stopping **OBESITY**.
3. Many diseases cant be cured but DNA may be the answer e.g. genetics

MODERN AGE

1900—present day

Ehrlich, Fleming, Florey and Chain, Crick and Watson.

Germ theory was proved by Koch, 1870's, and THIS LED to PROPER CURES at last, BUT this did not happen overnight . In 1909 Ehrlich found the first cure, a dye, that directly killed the germ, the 1st MAGIC BULLET. This was followed over the next few years by SULPHONOMIDES, like the red dye PRONTOSIL, against several diseases. By 1944 the world had a miracle drug, PENICILLIN—1st antibiotic.

SCIENCE/ TECHNOLOGY/ INDIVIDUALS

- Ehrlich had a research team and funding from the German government. Painstaking experiment until Dr Hata found SALVARSAN 606. A cure for SYPHILIS had been found
- Fleming discovered the effects of penicillin in 1928 but gave up saying it didn't work in blood. Mould.

WAR/ GOVERNMENT/ INDUSTRY

- Florey and Chain (excellent scientists) took up the challenge in 1930's. Found it was a BROAD SPECTRUM — i.e. cured lots of diseases.
- Florey & Chain - succeeded but HELPED BY **SECOND WORLD WAR**. USA government offered them funding and the British government offered to help too. Chemical engineers built huge tanks to grow it in. US soldiers used it successfully in D-DAY LANDINGS 1944 to combat infection.

CRICK AND WATSON — DNA—1950'S - Individuals, science, technology...

the most fantastic discovery... probably... as we have not yet discovered its real potential to prevent disease, in babies before they are even born, by gene manipulation, or making blind people see using stem cells from embryos... so germ theory remains most important discovery at the moment.

SECTION 2

(PLEASE NOTE THIS DOES NOT MEAN THIS WILL BE YOUR SECTION B IN THE EXAM)

SURGERY

&

ANATOMY



PRE-HISTORY

NO REAL SURGERY - HELD BACK BY:

- RELIGION - SPIRITIS CONTROL THE WORLD
- TECHNOLOGY - NO METAL
- NOMADIC - NOT SETTLED - NO TIME TO DEVELOP SKILLS

SURGERY (BETTER THAN ANATOMY)

- TREPPANNING - SUCCESSFUL? BONE GREW BACK
- SET BONES IN MUD CASTS, USED MOSS TO ABSORB BLOOD

ANATOMY AND PHYSIOLOGY

- POOR KNOWLEDGE - no need or time. Nomadic so busy finding food etc.

ANCIENT EGYPT

SURGERY (BETTER THAN ANATOMY)

- External surgery - e.g. removed tumours. No internal. No way of stopping bleeding.
- TECHNOLOGY - had metal - BRONZE
- Used OPIUM - numbs pain
- Broken noses mended

ANATOMY/PHYSIOLOGY

- RELIGION not SCIENCE was the MOTIVE - Mummies - pulled out organs, named them all, but rushed, no study, priests not doctors. To preserve for AFTERLIFE, NOT SCIENTIFIC
- Poor physiology - threw brains away BUT knew about heart/pulse/channels

ANCIENT GREECE

PIB still not solved

SURGERY

- WAR - Surgeons could learn new skills
- DRAINED LUNGS
- AMPUTATED LIMBS
- USED OPIUM, and VINEGAR/ALCOHOL FOR WOUND. No anaesthetic

ANATOMY/PHYSIOLOGY (BETTER THAN SURGERY)

- **RELIGION** - Greeks banned human dissection
- **ALEXANDIA** was a place in Egypt where they cut up live humans, men like **HEROPHILUS** proved heart and brain control body. **Erasistratos** even thought heart might be a pump. This was later proved by Harvey.
- **ARISTOTLE** - greatest Greek philosopher/ scientist, dissected animals and suggested heart and brain most important organs in body but did not know why exactly. Galen later proved brain controls speech/movement through nerves.

ANCIENT ROMIE

PIB still not solved

SURGERY

- HAD ARMY SURGEONS CALLED MEDICI, skilled esp. amputations
- Galen - a surgeon to gladiators
- USED OPIUM, and VINEGAR/ALCOHOL FOR WOUNDS.
- No anaesthetics NO INTERNAL surgery as NO WAY of STOPPING BLEEDING

GALEN AND ANATOMY

☺ GOOD THINGS

- Galen improved on Hippocrates who said anatomy unimportant
- Galen advised students to dissect apes as they were most like humans - helped because knew important to do dissections yourself. Vesalius later used this idea and proved Galen wrong!! (a shame that later in Middle Ages doctors ignored his advice told students to just read Galen's books as he has all the answers - no need to look at bodies!)
- GALEN said HAD to dissect HUMANS - said was KEY to everything! -he was right!
STUDY THE HUMAN SKELETON FOR YOURSELF (INSPIRED VESALIUS LATER)
- Did get plenty correct e.g. **Brain (pig experiment) does control the body and arteries carry blood as well as veins.**

BUT....☹

- **MADE MISTAKES** - could not dissect human bodies - so, PIGS/APES! Said logically, that blood moves across the heart through tiny holes in the septum. Said jaw in 2 pieces (it isn't) & there is no RETE MIRIBALE in human brain.
- People led to believe his incorrect theories as he wrote in such an arrogant way, said he was always right, only wrote down his successes - so people believed him.
- Said must be ONE designer, which appealed to CATHOLIC church later in Middle Ages - his ideas dominated medicine for 200 years & **HELD BACK PROGRESS**

MIDDLE AGES

PIB still not solved

SURGERY

- Mostly the same as before, trepanning & bleeding, amputating, some cataract removal by needles.
- Had surgery manuals, with pictures like WOUNDED MAN (below). One famous surgery book was written by Guy de CHAULIAC, called "GREAT SURGERY"
- SURGERY mainly low class - BARBER SURGEONS amputated limbs, pulled teeth, some more skilled.



ANATOMY

- **NOTHING CHANGED. NO PROGRESS.** Even though they could now cut up HUMAN bodies, they only tried to prove Galen was correct. CHURCH said - No need to do anything except READ Galen's book. Doctors did not get their hands dirty and assistants did actual dissection. Sacked if said Galen seemed wrong - doctors even said body must have changed since Galen's day!! GALEN HAD ALL THE ANSWERS, BACKED BY CATHOLIC CHURCH.
- In Renaissance later, Vesalius changed everything, used Galen's advice later - looked at bodies himself and DISPROVED Galen's views on heart, jawbone and rete mirabile...



← Mondino de Luzzi

RENAISSANCE

PIB still not solved

SURGERY - PARÉ 1540'S

- WAR - French army surgeon in FRENCH WARS - pioneered new surgical methods
 1. Treated gunshot wounds with EGG, ROSE WATER & TURPS instead of hot oil
 2. Stopping bleeding with LIGATURES (silk ties) instead of HOT CAUTERY IRON
- LUCK - HE RAN OUT OF hot oil ONE DAY
- HIS BOOK SPREAD IDEAS AND SHOWED OTHER SURGEONS:
 1. you could be more HUMANE
 2. IT WAS GOOD TO EXPERIMENT AND FIND NEW METHODS

* but... SILK TIES TOOK GERMS INTO THE BODY. Needed ANTISEPTICS 200 years in the future...

ANATOMY - VESALIUS - DIY anatomist! Wrote-Fabric of the HUMAN BODY in 1543

Respected Galen BUT discovered WAS WRONG in many ways - e.g. NO HOLES IN SEPTUM of heart. No RETE MIRIBALE, JAW in ONE PIECE.

IMPROVED on Medieval dissection - Said must not JUST read GALEN'S books, there is more to learn! Don't let assistant surgeon do it for you - YOU must look at the skeleton, as Galen himself said. Inspired others to find out more (like HARVEY) using own ENQUIRY, not books. BUT...HELPED no-one in his life time. Criticised!

PHYSIOLOGY William HARVEY - Heart a pump, fixed amount of blood circulates.

Wrote-ON MOTION OF THE HEART in 1628. Was at PADUA University. Called Father of Physiology. SCIENCE, COMMUNICATION, TECHNOLOGY - metal rods. Cut up FROGS **1st to produce - Complete theory of blood circulation.** Inspired by Vesalius who disproved Galen - Harvey took it further & proved how the blood travels around the body, going one way, not both, like Galen said. Disproved FOUR HUMOURS as there is a fixed (not an ever growing) amount of blood - Galen wrong - blood does not grow. He also still bled his patients, no alternative.

BRILLIANT - but helped no-one then. Only helped when discovered blood groups etc.

INDUSTRIAL AGE

PIB - Pain Infection Bleeding - SOLVED!

Pain=Simpson

Infection=Lister

Bleeding=Landsteiner

LED TO MORE AMBITIOUS OPERATIONS - 1ST
HEART SURGERY 1896!

There was a revolution in surgery - much SAFER now!!

KEY CHANGES TOOK PLACE AND BY 1880's SURGEONS RESPECTED INSTEAD OF HATED BY
SOCIETY.

FACTORS—INDIVIDUALS, SCIENCE, TECHNOLOGY, COMMUNICATION, WAR

- By 1846 - American's using less effective anaesthetics. **WELLS** using ether. **MORTON** - laughing gas. Problems with **BOTH!**
- **1847 PAIN solved by SIMPSON, CHLOROFORM**, better than ether.
- **1867 - WHAT A HERO! LISTER** read Pasteur and applied to SURGERY. **CARBOLIC ACID, 1ST ANTISEPTIC** - killed germs. Reduced death rate 45% - 15% amputations. Lister **ENDED THE BLACK PERIOD of SURGERY**
- By **1890's** - sterilising tools, wearing gloves - William **HALSTED** believed surgeons **MUST WEAR RUBBER GLOVES** (invented them for his fiancée) He was excellent surgeon and a pioneer of ASEPTIC surgery
- **1895** - X-Rays discovered by **ROENTGEN**
- **1901 - LANDSTEINER** - solved problem of **BLEEDING** (transfusions) - discovered 4 main blood groups.
(Later - WW1 - found a way of storing bloody using sodium nitrate)

MODERN AGE

1900 - 1945 PROGRESS MAINLY DUE TO WARS

SURGEONS WILL TRY THINGS OUT THEY WOULD NOT NORMALLY DO, TO SAVE A SOLDIERS LIFE.

First World War 1914-18

1. SKIN GRAFTS - fighter pilots, burns
2. MOBILE X-RAY MACHINES - Marie Curie funded 14. Called them Petite Curies.
3. BLOOD TRANSFUSIONS – METHODS OF STORING/TRANSPORTING IT IMPROVED. SAVED LIVES
Separate blood cells from plasma so it doesn't clot.
4. EYE, EAR, NOSE, THROAT and BRAIN surgery developed as specialism. After the war, surgeons became consultants.

Second World War 1939-45

1. PLASTIC SURGERY develops further, with ARCHIBALD McINDOE and his GUINEA PIG CLUB
2. PENICILLIN - 1944 given to US TROOPS in D-Day landings
3. DWIGHT HARKEN - US Army surgeon - discovers heart operations are possible as he practises on rats to remove shrapnel from the heart. Discovers can touch the heart, and have 4 minutes before heart failure. Leads to great advances later e.g. heart transplants

HI-TECH SURGERY after 1950

- Laser surgery e.g. To restore Eyesight
- Micro surgery - computer imaging to magnify image, can reattach nerves of severed hand for example
- Keyhole surgery, means patients suffer less trauma and can go home in shorter time. Use endoscopes and fibre optics
- Scanners - MRI and CAT scans. Expensive though - funding an issue
- 1st Heart Transplant ever - 1967 - Christiaan Barnard, a South African surgeon operated on Lewis Washkansky, who lasted 18 days, but it proved it could be done.
- Gamma rays are used to sterilise tools now, since some germs do not die with heat treatment, e.g. CJD. Cheaper than disposable tools
- Not all perfect - mistakes are made, and super bugs like MRSA kill patients each year.

SECTION 3

(PLEASE NOTE THIS DOES NOT MEAN THIS WILL BE YOUR SECTION C IN THE EXAM)

PUBLIC

HEALTH



PRE-ROMAN

NO PUBLIC HEALTH BEFORE THE ROMANS

PUBLIC HEALTH is when GOVERNMENT takes RESPONSIBILITY for the health of the people. Progress is not constant. When the Romans left, the Dark Ages brought regress. After 1100 it started to improve a little but then the INDUSTRIAL REVOLUTION made things regress once more, as overcrowded factory towns caused increased disease and filth.

Governments gradually realised that they needed to CLEAN UP! (bring in SANITARY REFORM) In 1906 The Liberals realised that POVERTY had to be attacked, as well as germs!

So they started to move towards what we now call the WELFARE STATE. The Labour Party brought in the NHS in 1948 which HELPED life expectancy in BRITAIN rise from age 50 in 1900 to approx. 79 now. This is also due to better housing, surgery, benefits and new drugs.

You need to know why GOVERNMENTS started caring about Public Health again AND how OTHER FACTORS worked together - like WAR/INDIVIDUALS/SCIENCE & TECHNOLOGY to help or hinder progress.

PRE-HISTORY

- No Public Health, no “government” to organise it
- NOMADS (lived on the move) so never stayed in one place long enough OR lived in big enough groups for there to be a build up of waste
- Life expectancy - age 20-27 years

ANCIENT EGYPT

- Not PUBLIC HEALTH but rich kept clean and bathed - personal hygiene

ANCIENT GREECE

- PREVENTION better than cure. Believed in a REGIEME for life i.e. diet, exercise and personal hygiene. Looked down on people who were overweight. Olympic games - exercise important
- A few PUBLIC TOILETS. Refuse in the streets - filthy
- Asklepiions were like health spas with gyms, race tracks, baths etc.

ANCIENT ROMIE

Aqueducts, sewers, drains, public baths & toilets, public fountains, army style hospitals etc...ALSO - empire provided wide variety of food.

WAR / GOVERNMENT

- **ARMY**—Needed healthy soldiers to gain and keep an empire so - provided free/cheap facilities (e.g. Public baths, toilets...), even for poor
- **TAXES** - paid for by everyone
- **CENTRAL GOVERNMENT** - so could organise throughout empire
- **FACTILITIES** kept people happy in conquered countries like France & Britain

TECHNOLOGY

- Romans **GOOD ENGINEERS** - Skilled e.g. building aqueducts difficult

ATTITUDES

- **VERY PRACTICAL** - 'do-ers not thinkers' - good engineers
- **KNEW CURES NOT EFFECTIVE**, didn't trust doctors - **PREVENTION BETTER THAN CURE**, especially as Roman towns so big - **HAD** to clean up!
- Fitted in with **MISASMA** theory (smelly air) - logical
- **EMPIRICAL/LOGICAL** approach - e.g. built army camps away from swamps/did not drink dirty water, knew led to disease

STINGER!!!

- Poor people still lived in slums - threw rubbish onto the streets, couldn't afford to be connected to sewers etc. **BUT** at least they had access to clean water (fountains/baths)
- Disease spread around empire by soldiers. Unlikely to be really effective until knew about germs - which they didn't.

MIDDLE AGES

REGREES in DARK AGES - WAR - sewers smashed, Roman engineers left, so no-one to repair sewers etc.

Some improvement in LATER MIDDLE AGES. BUT CENTRAL GOVERNMENTS (kings) DID NOT CARE about public health or education of doctors as they cared more about defending the country & KEEPING LAW & ORDER. FELT NO RESPONSIBILITY. SO - was left to LOCAL GOVERNMENT (town councils & mayors), the CHURCH and individuals to deal with dirty towns. No knowledge of germs.

THE LATER MIDDLE AGES 1100-1500 ad

RELIGION / THE CATHOLIC CHURCH

- **Monks in monasteries** kept clean, drains, toilets, fresh water. Looked after the needy. But only small, and in COUNTRYSIDE. Worse in the towns.
- Church opened hospitals, but shared beds (overcrowded). Most small. No doctors, only nuns and monks. Didn't accept people with infectious diseases or pregnant women. Did build LAZARS for lepers (leprosy) & plague hospitals. Monks believed should copy Jesus/care for the sick BUT NOT IF YOU HAD BLINDNESS, PLAGUE, LEPROSY, MENTAL PROBLEMS. SENT BY GOD AS PUNISHMENT FOR SINS. Could only CARE FOR them, not find CURES.
- Arab Leaders (CALIPHS) VERY different - built mental hospitals (MARISTANS) whipped people! Had hospitals with separate wards for men / women, gave sick pay, and even built public baths

LOCAL GOVERNMENT

- **Difficult** - animals everywhere, **HOUSES packed together. Streets not paved.** People didn't want to pay higher taxes for more rakers
- **MIASMA** made them think a good idea to clean the streets.
- BUT NO POLICE - so difficult to enforce the fines, stocks for urinating or dropping waste in the street. Butchers not allowed to throw blood etc. onto street. Had RAKERS to clean streets
- BUT - measures were REACTIVE NOT PREVENTATIVE. i.e. when plague arrived they started fining people again - too late. NO KNOWLEDGE OF GERMS. LOOK AT NOTES FOR BLACK DEATH!

INDIVIDUALS - Many kept houses clean, built toilets over river, reported people for breaking local laws. Mayor left money in will for public toilets to be built.

THE RENAISSANCE

THE GREAT PLAGUE 1665

People in the Renaissance LOOKED DOWN ON THE MEDIEVAL PEOPLE AS IGNORANT. THIS DIDN'T MEAN THEY RUSHED TO CLEAN THE STREETS THROUGH. GERMS WERE SEEN FOR THE FIRST TIME IN THE 1650'S BUT **no link** WAS MADE WITH **disease** SO PUBLIC HEALTH WAS **still not** IMPORTANT.

BUT - you were more likely to survive the GREAT PLAGUE in 1665 than the BLACK DEATH in 1348/9 😊 😊 😊 as town councils brought in new ideas to try to prevent it spreading e.g. quarantines.

How did they deal with the plague in 1665?

LOCAL GOVERNMENT

Passed the "plague orders" to enforce all these measures below:

- Quarantines - RED CROSS ON DOOR, WATCHMEN to make sure you stay locked in house. EXAMINERS and SEARCHERS to make sure you had the plague and lock you in.
- Dead to be buried only at night to stop spreading
- Plague hospitals for some
- Cannot leave the city without doctor's note saying you are free of plague
- BAD POINT - dog.cat killers employed - they did not know rats carried the plague and could be killed by the cats/dogs

PROGRESS since BLACK DEATH	CONTINUITY with BLACK DEATH	REGRESS
<ul style="list-style-type: none">• Plague orders• Quarantines• Doctors notes• Plague Hospitals• No flagellants spreading the disease around	<p>REACTIVE not PREVENTATIVE - streets filthy until plague arrived, then panicked into cleaning up</p> <p>No knowledge of true cause so used many remedies e.g. magical ABRACADADBRA, prey to God</p>	<p>Killing cats and dogs</p>

INDUSTRIAL AGE

See your character cards on Chadwick, Snow Farr and Hill

The Industrial Revolution was a time of huge change and Britain was transformed into a powerful, rich country. But the factory towns were OVERCROWDED and public health regressed. The Roman government had provided better Public Health as their government took responsibility. The British government believed in LAISSEZ-FAIRE which meant they thought it was wrong to interfere in the lives of individuals. A few individuals (e.g. Chadwick) worked hard to provide evidence there was a link between dirt, disease and poverty. They PUT PRESSURE on Government to act, so finally the government got involved and LED TO THE GREAT CLEAN UP of the 1800's

INDIVIDUALS

- CHADWICK - 1842 Sanitary Report - he proved there was a link between dirty and smelly slums and illness, he believed in the MIASMA theory so he said this led to illness. This made people lose their jobs and the TAXPAYERS had to pay for them. He said GOVERNMENT should reform Public Health by building sewers, drains and providing clean water supplies.
- He was backed up by the work of WILLIAM FARR - provided statistics
- DR JOHN SNOW 1854 - BROAD STREET PUMP - proved CHOLERA in dirty water BUT government ignored it until the next cholera outbreak.
- OCTAVIA HILL - 1875 - shamed MP's into building good "social housing"

GOVERNMENT/ATTITUDES/SCIENCE & TECHNOLOGY

- At first Laissez-Faire blocked change but when CHOLERA hit (4 main epidemics in early 1800's) they decided to listen to Chadwick and they passed 1848 PUBLIC HEALTH ACT. BUT - not compulsory ☹️ DIRTY PARTY e.g. in Sheffield - didn't build sewers & clean up as did not like CENTRAL GOVERNMENT telling them what to do!!
- Attitudes of rich, blocked reform, as poor were "lazy & deserved all they got"
- COMPULSORY 1875 ACT passed now realised RICH people could die of CHOLERA. Also - began changing minds in the GREAT STINK - it affected THEM!
- PLUS Pasteur and Koch used science to prove GERM THEORY, so couldn't ignore their responsibility now! DIRT AND DISEASE LINK PROVED!
- TECHNOLOGY - the necessary expert engineering knowledge - now available
- POLITICS helped - slum dwellers (men) got the vote 1867 & put pressure on MP's.

1900 - TURNING POINT IN PUBLIC HEALTH

The preventative principle turned into the PERSONAL principle. This was now about attacking poverty and bringing in the welfare state. There was a slow, gradual SILENT REVOLUTION, changing people's hearts and minds. Most people had not wanted to fund social reform as they felt poor people were to blame for their own poverty due to being lazy. This did not happen over night.

BIG TURNING POINT - 1900 - GOVERNMENT realised needed QUICK ACTION to ATTACK POVERTY (being very poor) and bring in SOCIAL REFORM (improve society). They made new laws to help INDIVIDUALS who were needy;

Children Old People The Sick The Unemployed Men on Low Income

WHY DID THEY DO THIS?

WAR

- **1899 - BOER WAR** - EMBARRASSING. 40% of recruits unfit to join army. Took too long to beat South Africa
- GERMANY - a possible threat and THEY had a better social welfare system

POLITICS/POWER

- To get votes to stay in power - the new LABOUR PARTY was the party of the working people. Didn't want them to get into power.

STATISTICS

- BOOTH & ROWNTREE produced reports on London and York. Said 25% living BELOW the poverty line. This was INFLUENTIAL because they were poor EVEN THOUGH they had a job! So low income was an issue. Booth mapped where the most poor lived. He thought it would be 25% but London was 35%
- INFANT MORTALITY RATE - shocking! 163 babies in every 1000 dying before the age of 1. change needed fast!

INDIVIDUAL

- DAVID LLYOD GEORGE - dedicated and inspirational. Genuinely wanted to help the poor lead better lives. Health Minister in liberal Government. Later, was Prime Minister. Forced through changes that led to the welfare state we have now.

LIBERAL SOCIAL REFORMS

1906-1914

THE BENEFITS 😊 😊 😊

1. **MAIN THING!!! THE 1911 NATIONAL INSURANCE ACT.** Helped low paid men with compulsory insurance for all low income-workers had to pay 4p, employer paid 3p and government paid 2p. Then got in return:
 - Sick pay of 10 shillings a week for 26 weeks
 - Unemployed benefit of 7 shillings per week for 15 weeks
 - Saw a doctor for free
2. HELPED **children** with the 1906 Education Act - **free school dinners** & 1907 - free medical inspections in schools. By 1914, 150,000 children were getting one good meal a day.
3. HELPED **elderly** with **1908 Old Age Pensions Act** - for ALL people over 70 years of age. 5 shillings a week. Kept many old people out of the workhouse.
4. HELPED **unemployed** by setting up Labour Exchanges in the 1909 Labour Exchange Act - By 1914, 1 million people were being employed through the labour exchange
5. **Schools for Mothers** set up - 1907 - how to keep children healthy
6. To pay for it all, brought in **PEOPLES BUDGET** in 1909, taxed the very rich - they were unhappy...finally passed in 1910.

THE NEGATIVES 😞 😞 😞 - NOT EVERYONE AGREED!

1. 1911 N I Act - women had no help. Also low paid men paying their STAMP and a tax - paying twice? Also - Sick/unemployed men pay wasn't enough to live on. Should poor people even have to pay anything?
2. Conservatives said - if you allow people to expect state benefits they will do nothing for themselves
3. Free school dinners - not compulsory - some councils did not provide free meals
4. Rich - did not want to pay higher tax for the People's Budget
5. Pension - was refused to people who had never been able to work during their life
6. Doctors angry about government telling them how to organise their job.

THE INTER-WAR PERIOD

1919-1938

GOVERNMENT - the new Prime Minister David Lloyd George wanted homes for heroes & other reforms. The SILENT REVOLUTION was developing well.

THE POSITIVE SIDE

1. **COUNCIL HOUSES** David Lloyd George (Prime Minister now) wanted to build “homes for heroes” and a “land fit for the heroes” the government set itself a target of building half-a-million decent homes by 1933.
2. **MINISTRY OF HEALTH** set up to coordinate prevention AND government concerned about **CURE** now!!! E.g. TB hospitals, maternity clinics...
3. **Free school milk** for poor children and **Old Age Pensions** if you were 65 (age had gone down) This was 1920's
4. **1934 - wanted women to have same as men in 1911 NI Act**, so brought in a **MEANS TEST** - married couples took a hated means test to prove they don't have any money (could get 24 shillings a week)...AWFUL!!!

BUT - INTER-WAR LIBERAL REFORMS NOT EFFECTIVE ENOUGH - People still living in poverty by 1938 - WHY? ☹️ ☹️ ☹️

THE NEGATIVE SIDE

1. the **MEANS TEST** - hated, unpopular so many poor people did not bother
2. **THE 1930'S GREAT DEPRESSION** - 3 million people unemployed so money had to be taken from housing & health projects so unemployment benefits could be paid out. Also, workers could not keep up their NI payments
3. **CONSERVATIVE GOVERNMENTS** - did not agree that the state should issue benefits & control health and welfare so whenever they got into power they **UNDID** Liberals' plans - Prime Ministers like BALDWIN took away central control and made a chaotic muddle of 3 areas:
 - GOVERNMENT controlled unemployment insurance
 - CHARITIES organised hospitals
 - LOCAL COUNCILS did school meals etc...

THIS WAS CHAOS!!!

SECOND WORLD WAR

1939-1945

The SILENT REVOLUTION was speeding up by the Second World War. Well off people needed to be convinced that poor people deserved assistance/benefits. The War brought a feeling of **TOGETHERNESS** that helped overcome the view that poor people should be blamed for poverty & unemployment. War a CATALYST for change.

WAR worked with other FACTORS like INDIVIDUALS and GOVERNMENT to bring about change

WAR / GOVERNMENT

1. Feeling of **TOGETHERNESS**/increased awareness - Rich people now met poor people from slums e.g. men fought together, women met in food queues... understood what poverty was all about...softened hard attitudes
2. **EVACUATION** - rich people now aware of what being poor really meant - lice, habits, clothes...**SHOCKED!**
3. **FREE HOSPITAL TREATMENT** - if got hurt in bombing raids, no charge, people got used to it - was expected **AFTER** the war as well. Government had to respond
4. **RATIONING** - poor people actually did better on rations - expected **MORE** after the war was over...
5. **GOVERNMENT** involving itself in nation's public health more & more - people accepting it. E.g. Campaigns "Coughs and Sneezes spread diseases" to make people use handkerchiefs...etc...
6. The Government had to offer hope of a better life after the war to keep up public morale - something worth fighting for... **THIS LED TO THE 1942 BEVERIDGE REPORT**, which was an investigation into the nations health 100 years after Chadwick's Sanitary Report.

SEE NEXT PAGE FOR BEVERIDGE REPORT

BEVERIDGE REPORT

1942 (During Second World War)

So, the war put pressure on the government to offer a better life for people. During the war Britain had a COALITION GOVERNMENT (all parties shared government) and The Labour Party (the Party for poorer people) had a bit more power now. So they asked a **CIVIL SERVANT / INDIVIDUAL - WILLIAM BEVERIDGE** to conduct a survey into the nation's health. His BEVERIDGE REPORT of 1942 was going to lead to the welfare state (exactly 100 years after Chadwick's Sanitary Report)

Beveridge identified 5 GIANTS that were preventing people from living decent lives. It was a BEST SELLER... he recommended a WELFARE STATE, which would provide **social security, free health care, free education, council housing and full employment. The LABOUR PARTY brought in all his recommendations after 1945. People were ready now because of everything that had been happening since 1900.**

The 'Giant'	The Solution he recommended
DISEASE	A free national health service for ALL
WANT (poverty caused by low/no income)	Social security i.e. benefits
SQUALOR (bad housing)	Council Houses
IDLENESS (unemployment)	Aim for FULL employment
IGNORNACE (poor education)	Free/good education for all - THE 1944 EDUCATION ACT reorganised schools

There had been NO FULL PROGRAMME like this to help ALL people "FROM THE CRADLE TO THE GRAVE" - POOR MUST NOT be BLAMED FOR BEING POOR. He said - "BREAD FOR EVERYONE BEFORE CAKE FOR ANYONE."

For 1st TIME he said ALL workers should fund a welfare state from their wages. **Everyone should pay NATIONAL INSURANCE** (not just the poorest workers) Then - **ALL COULD BENEFIT FROM IT, NOT JUST THOSE WHO WERE WORKING** i.e. old people and children can get help. "DUKES & DUSTMEN" GET THE SAME. This was about **PREVENTION AND CURE.**

N.H.S. 1948

(The National Health Service / Welfare state)

Winston Churchill was admired by all for “winning the war” but he got voted out. 100 years after Chadwick 1st shattered laissez faire with the 1848 Public Health Act most of the British public wanted poverty to end.

People didn't trust CHURCHILL to introduce the ideas in the Beveridge Report, so voted for the **LABOUR PARTY** instead in **1945**—**CLEMENT ATTLEE** - new LABOUR Prime Minister

ATLEE - aimed to build up a WELFARE STATE. One important part of this was the NHS. He got tough ex-miner **Beven** to win the doctors round.

Over the next 6 years the government made changes that still form the basis of our welfare state today. The Labour government said that the state had a responsibility to EVERYONE, not just the very poor. Facilities were to be for ALL, whether you were a “duke or a dustman”.

GOVERNMENT

1. Said now - ANYONE entitled to BENEFITS as they will ALL pay into National Insurance scheme, not just poor working men any more. So - Passed **1946 NATIONAL INSURANCE ACT** - ALL WORKING PEOPLE PAY NATIONAL INSURANCE - not just the poorest. THIS ENTITLES **ANYONE** TO BENEFITS when they can't earn money e.g. PENSION, SICK PAY ...
2. **1948 - the NATIONAL HEALTH SERVICE** introduced, 5th July. Beven battled with the doctors but won in the end (see character card for Beven)
3. Could get FREE medical care—e.g. dental, surgical, maternity.
4. NHS - some say is now at breaking point? Others say it is to be proud of.

THE N.H.S. NOW!

What has **GOVERNMENT** done in more recent years?

Think - how have science and technology/individuals helped too?

- 1960's - Old Hospitals rebuilt
- From 1970's - single issue campaigns e.g. healthy eating, to improve education/prevent obesity. Smoking proved scientifically to be dangerous - all packets labelled smoking can kill.
Now - smoking ban in pubs/public places.
- 1992—HEALTH of the NATION campaign sets 5 standards for cancer care, AIDS etc.
- 1998—24hr phone service (NHS DIRECT) - easier access out of hours
- 1999 - “NICE” set up to ensure medical excellence in NHS
- 2011 - Conservative government proposing big changes to allow GP's to run surgeries as profit making organisations. Many say this is a move too far away from what it is meant to be. Others say the NHS need reforming.

