Mapping Key areas of Medicine Renaissance to Industrial Revolution

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|  | The Renaissance and Scientific Revolution 1450-1750 | 1750-1900 Industrial Revolution |
| Ideas on the Causes of Disease | Through this period there was an increase focus on natural explanations. In the Renaissance, they looked to study and understand natural better and in the Scientific Revolution, tried to find empirical evidence to explain things. There was a decline in religious explanation of cause of disease by the end of the period, and a greater focus on ‘bad air’ and person to person spread of illness. However, there was no major new break through in understanding causes of disease in this period. Van Leuwenhoek had identified ‘animacules’ (micro-organisms) in the 1600s, but didn’t make the link between these and disease. | Up to the 1860s, the main explanation of the causes of disease was miasma (bad air) theory. However, there was also the idea of Spontaneous Generation Theory, which suggested that micro-organisms were created, spontaneously out of decaying matter. This was a stepping stone to Germ Theory, but got cause and effect the wrong way around. Germ Theory was developed in 1861, by Louis Pasteur. His breakthrough was helped by the development of better microscopes, and because he was being paid by businesses to research and investigate their problem2s. Louis Pasteur and Robert Koch furthered this development, by identifying the specific microbes. |
| Treatment | Treatment continued to be mainly humoural based- bleeding and purging. Adapting diets became very fashionable in the 18th century, as did visiting spa towns like Bath and Cheltenham. Herbal remedies were the medicinal treatment, although some new powerful herbs were brought from abroad, with the voyages to the Americas. One example was the chinchona tree bark which produced quinine, which used to prevent and treat malaria.  Prevention was seen as increasingly important, with avoidance of 1:1 contact with those who were ill- Such as the isolation, not touching goods and red crosses on doors during the Great Plague 1665. ‘Bad Air’ responses, such as carrying pomanders, filled with herbs and essential oils, were common. From 1720, inoculation for smallpox was used, a method brought from China via Turkey by Lady Wortley Montague.  Religious responses, such as prayer, were still used. | Prevention was further developed in this period. In 1799 Edward Jenner discovered that cowpox matter could be used to protect against smallpox; vaccination. In 1879, Louis Pasteur discovered that you could weaken the same disease to create a chicken cholera vaccine, which was safe and that this method could be used to develop vaccines for other disease.  Within this period, there was a change in treatments. Partly because of urbanisation, people couldn’t collect their own herbs, and there was more trade in towns. Cure–Alls developed which were sold, promising to cure lots of different conditions. They were sold by Quacks or in pharmacies. By the 1850s, these had become Patent Medicines, labelled and manufactured on a bigger scale, which the ingredients & name patented, eg Morrison’s and Holloway’s. At first these could contain dangerous ingredients, then legislation regulated contents. |
| Public Health | The authorities still took little responsibility for public health issues. Towns were overcrowded and there was only limited improvement in water supply and sewage problems. Cesspits were still used and water, if it was brought into towns was untreated and not fit to drink cold. Water projects were hindered by a lack of funding. Most people drank a very weak beer, instead. In times of epidemics the authorities did more temporarily. For example, during the Great Plague 1665, the mayor employed watchmen to stand guard outside the houses of the striken. Rules were introduced banning public gathering, closing theatres etc. Isolation hospitals were set up in the ports. | The government became more active. In the early 1800s they did little, as they believed in Laissez-Faire (leaving people to take responsibility for themselves.) However, with fear of Cholera and pressure from Chadwick’s Report 1842, the first Public Health Act was passed, 1848. This was not a compulsory Act for most, so its impact was limited. John Snow’s proof of the link between water and cholera and Germ Theory, put pressure on the government to do more. The compulsory 1875 Public Heath Act was passed, Bazelgette oversaw the engineering of the sewage network in London.Also government introduced compulsory vaccination eg Smallpox in 1852. |

Mapping Certain areas of Medicine Renaissance to Industrial Revolution

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|  | The Renaissance and Scientific Revolution | 1750-1900 Industrial Revolution |
| Training of Doctors | Training changed dramatically in this period. Centres of excellence emerged in Padua, Italy later in Edinburgh, Scotland. Students were increasingly allowed to thin for themselves. Dissection gradually became accepted, firstly demonstrated by the professors, later done by the students themselves. An empirical scientific approach of experimentation, observation, recording and analysing data, was developed.  However most people were still treated by untrained family members, Quacks and midwives. Barber-Surgeons and apothecaries were not well respected, having been trained as apprentices | In 1750 Hunter set up set up a surgery and obstetrics school in London, having been trained in Edinburgh. Training developed in the 19th century. In 1858, doctors had to have qualification and be registered with the authorities. Training centres emerged in London, such as St Thomas’ And St Bartholomew’s. These were not new hospitals, but became well know as good placed to train. Training was a mixture of reading and experience within hospitals. The training for nurses developed from the work of Florence Nightingale, in the 1850s and 1860s, who wrote books on the subject. The poor had some access to doctors at charitable out-patients’ sessions at the hospital. |
| Understanding of the body | There was a development of the understanding of the body in this period. During the Renaissance, Andreas Vesalius carried out significant dissections of humans and discovered that Galen was incorrect about several things, including the fact that the human jaw bone is one piece not two and that the septum in the heart does not have holes for blood to flow through. During the Scientific Revolution, William Harvey carried out meticulous research to discover how blood circulated around the body.  Knowledge and understanding of anatomy was aiding by the context of the time- It was a time of questioning. The body was seen to be like a machine, as pumps and clocks were being developed. The printing press meant ideas spread more easily. National Societies, like the Royal Society (for Science) were set up through which scientists shared ideas. | The understanding of the body became more detailed in the 19th century, in terms of the development of the understanding of the existence of cells.  The development of Chemistry, as a subject, in the Scientific Revolution, led to an understanding that the body functions mainly through a series of chemical reactions, in terms of breathing and digestion etc. The function of different organs became better understood.  Knowledge and understanding and new ideas became much easier to spread with the development of improved transport systems during the Industrial Revolution, such as the railway network and postal service. |
| Hospitals | Many medieval hospitals were closed down with the dissolution of the monasteries by Henry VIII in the 16th century. This meant a temporary drop in provision. In towns some hospitals were taken over by the town councils and other run on charity. There was little coverage across the country and mostly developed for surgical procedures. Contagious patients were not taken in by normal hospitals, but some asylums and places of care were set up. By 1750, there were more hospitals across the country, but what they did was still limited. | In the early 19th century cottage hospitals set up, usually run by charitable foundations, larger older hospitals existed in big cities. However, the rich would still be treated in their homes, due to the risks of infection in hospital. Specialist institutions were set up to care for lots of different conditions, usually founded by wealthy individual patrons. One area of development was the improvement of hospital care of the elderly and infirm within the workhouses. Louisa Twinning campaigned on this, when it was found that many of the inmates of workhouse were actually who they saw as ‘deserving poor’ |