**Opportunities of nanotechnology in medicine:**

As cited by Emerich and Thanos, Nanotechnology is on-going through explosive development and is expected to make revolutionary changes in the field of medicine. Miniaturisation or the making of smaller objects is found to provide cost effective and more rapidly functioning mechanical, chemical and biological components. Also, with nanometre sized objects, it possesses self-ordering and assembly behaviours that are different from macro-objects. This makes nanotechnology possible and with better understanding will lead to creating a better human life surely to be developed. The list of development and applications of nanotechnology in medicine is vast and diverse. However, new and effective medical treatments will surely be developed in the future. Such as the use of nanoparticles for diagnostics and screening purposes, artificial receptors, DNA sequencing with the use of nanopores, the use of targeted drug delivery, gene therapy, tissue engineering and many more.

**Applications on Diagnostics: Drug Delivery**

Nanomedicine is an ongoing project that is driven by medical research in modern society that has a focus on noninfectious diseases such as cancer. The health-care society are consistently looking for **opportunities**on how to enhance the healthcare services that introduces new diseases, being mindful of the costs involved and how effective a new technology will be with the initiative based on the healthcare demand. This allows the doctor to be able to monitor patient care through a remote setting which has changed remarkably with medical nanotechnology. This opportunity gives the patient the ability of being seen by a doctor without having to physically attend their appointment in hospital or a clinic.

Co-infections and drug-resistant pathogens is limiting the utility of current therapies and medical methods which is making combating of infections harder. These have a greater impact on developing countries and possess a huge threat to developed countries if the spread of infectious diseases is not controlled and stopped. Rapid and accurate identification of infections are crucial for stopping the spread of these infections. Therefore, recent development in nanotechnology will address this issue in diagnostics and development. The recent development of hypersensitive fluorescent nanoparticles can emit a strong signal to be captured even if it is just a single nanoparticle. Hence, preventing the spread of pathogens and saving the patient’s life itself. These nanoparticles encapsulate therapeutic agents and deliver them into the target site which also helps in boosting the immune responses of vaccinations and the efficacy of drugs for treatment. Another advantage of using nanoparticles for drug delivery is that depending on the type of polymer used, we can tailor the physical, chemical, and biological properties of the nano systems, hence creating a huge amount of possible nano vehicles that could be used for drug delivery. Not only that, but it is able to get through the brain-blood barrier which makes it a good candidate to possibly fight glioblastoma which is one of the most aggressive type of cancer in the brain.

**Applications on Tissue Engineering:**