

Biobank in UAE; Today and Future Vision

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Bio banks are estimated to generate \$27.54b worldwide revenues in this year 2020. However, this industry remains unwell explored or designed in the Middle East. The model of small distributed bio banks in UAE that related to hospitals or Universities make it less likely to start up governmental business model with revenue or adding significant value in health sector progressing. We are in need for a National Node as an entity, and owning a legal capacity, under UAE government umbrella. Only via this way, the health sector can be provided a technical solutions for efficient data sharing and protection of privacy all over the population in UAE. National tissue repository will advance the scientific status of the UAE by securing a unique place in the worldwide cancer and stem research map as we will be an affiliating to pan European activities, thus we can generate significant income through the global biotechnology market.

For cord blood, clients are offered the Future Health's Premium (volume reduced processing) storage method. Future Health is the only bank in the UK to have its own in-house serology and PCR laboratories which perform tests for infectious diseases on the donor's bloods. In addition to this, Future Health also uses flow cytometer to confirm the number of stem cells successfully stored within the sample. Future Health is also the only bank in the UK to perform viability testing on all cord tissue samples to ensure the cells are healthy and viable. To learn more about cord blood banking, visit Parent's Guide to Cord Blood Foundation Future Health will store for you multiple samples of cord tissue in separate cryogenic storage containers. These samples are frozen, ensuring that the whole tissue is available for use once treatments are available. In addition, Future Health will store an additional sample of cord tissue for quality control purposes. This sample is thawed, the cells extracted from the tissue and cultured. This is to ensure that we only store samples that contain viable (live) cells with the proliferation capability (ability to divide) required, to ensure they will potentially be suitable for use in treatments as and when they become available. The processes used by Future Health to store cord tissue have been shown to result in the banking of live cells. Future Health is currently undertaking further validation studies to prove that the cord tissue samples stored do contain MSCs which retain their ability to differentiate into different tissue types including bone, cartilage and fat after the samples have been frozen. Future Health is not able to guarantee that cord tissue stored contains stem cells and the number and quality of these cells.

In 1988, the first stem cell transplant using umbilical cord blood (CB) was performed to treat a pediatric patient suffering from Fanconi's anemia. Ten years later, the first CB transplant was carried out in the Arab world, and as the number of transplants continues to increase, the infrastructure for CB collection and storage has expanded. The establishment of CB banks has expanded rapidly over the past decade, fueled largely by promising advances in CB transplantations. The Arab world in particular is witnessing a

proliferation in CB banks, often preceding regulatory policies and public discussions. Despite varying economic and political priorities in the region, several unique factors, including fertility rate and disease incidence, relate especially to CB banking (Table 1). Most controversial are the for-profit CB banks that have found an enthusiastic—but arguably under-informed—clientele in Arab countries. In addition, research on public opinion is needed to help create strong national and regional policy frameworks for CB banking programs. These issues are tightly linked to the UAE's vision for the future and to the government's strategic plan," Dr Rashid bin Fahad said in his first formal media briefing, as part of a new government drive to have ministers regularly update the news media on their projects.

"Bio-security is one of the fundamental issues that have risen to the surface due to the level of economic openness in today's world and to the increasing cross-border commercial traffic," he noted, citing the incidence of mad cow disease and bird flu in recent years as examples of hazards that bio-security planning is meant to thwart. The first phase of the bio-security strategy will focus on updating a batch of existing plans and legislation, the minister noted, while the second and last phases will see all relevant government entities linked together, equipped with the human and logistical capital to pre-empt and counter bio-security threats. Exploring and preparing for the future are methods adopted by developed and emerging nations in their quest for excellence and leadership in global competition across various fields of human endeavour and civilizational progress. They achieve this by devising plans, policies and strategies that respond to reality and its challenges. In this way they create the future they seek and shape it according to sound scientific approaches and strict methodologies that leave no room for superstition or pseudo-science, and no margin for error or miscalculation. The field of future studies, which is concerned with exploring and shaping the future, has become an independent discipline in its own right, with scientific roots, methodologies and philosophy. It sees the future as a dimension of time that can be shaped and controlled, in contrast to the view held for many centuries that the future is something metaphysical or an inevitable fate. There has been a significant increase in the number of future studies, scientists and researchers at universities and scientific institutes. Several specialised think tanks and research centres for futures studies have also been established to explore the future and devise plans and policies to help governments take the initiative in enhancing the status of their countries, as well as the well-being and prosperity of their people.

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