

## Significance of Regenerative Biologics Marketing in the Evolving Healthcare Landscape

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### Abstract

Technological advancement and research in the medical field have linked to introducing more effective and efficient medical interventions. The recent advances in biotechnology have led to the introduction of regenerative medications that can trigger the innate ability of the body to cure or repair itself. Such medical interventions come in handy, especially at this time characterized by increased incidence, death, and morbidity due to the high prevalence of chronic illnesses unable to be cured by the body's natural abilities. The increase in old-aged Americans has exacerbated this. Regenerative biologics have made possible things that were considered unachievable in the past. Despite these advancements, its implementation and impact are confined due to the lack of knowledge and awareness. This integrative literature review was conducted to evaluate the significance of regenerative biologics marketing in the evolving healthcare landscape. The literature search was conducted from PubMed and other health-related databases. A comparison followed by the derivation of themes and relationships was performed to convert the extracted data into systematic patterns and categories. Finally, the information from other data sources was arranged, coded, categorized, and a holistic conclusion consistent with the research problem. The finding of this review paper highlights the importance of creating awareness and marketing of the available regenerative biologics medications. Marketing would create patient awareness and make the medical interventions from regenerative medicine easy and accessible. This change will eventually reduce increased morbidity, hospitalizations, and deaths caused by diseases with no cure earlier.

**Keywords:** Regenerative, biologics, biotechnology, marketing, awareness, demand, healthcare

### Introduction

Several transformational technologies and new treatment methods have been introduced with the recent advances in biotechnology, potentially improving medical and health outcomes. Human bodies have the natural ability to heal themselves. Several body organs, tissues, cells, and structures like the liver, bones, and skin have the innate ability to heal or regenerate after a state of un-wellness (Travelli et al., 2020). Scientists have done significant research to capture the naturally occurring healing abilities for application in different medical interventions and conditions. This research is heavily influenced by medical conditions and chronic illnesses like cancer, diabetes, and osteoarthritis, with no easy cure. The high incidence and prevalence of genetic and chronic diseases have increased demand for better medical approaches as the current medical interventions only treat symptoms (Raghupathi & Raghupathi, 2018). Scientists working on regenerative medicine invest a significant amount of time searching and discovering therapies that could help trigger or support the body's self-healing abilities. Successful regenerative medical interventions or therapies potentially increase health outcomes, expand and maintain normal health and quality of life (Jaya Sanapati et al., 2018).

Regenerative medicine grew out of previous surgery, surgical implants, medical transplants, tissue engineering, and increasingly sophisticated biomaterial scaffolds. As a result, medical practitioners can cure untreatable diseases with regenerative biologics and restore inflammations, which could not be done previously by the body's innate ability to repair or medicine-based approaches. In addition, scientists now can acquire tissues and organs with regenerative properties and use them for human transplantation. Studies show that approximately one in every three U.S. citizens is a potential beneficiary of regenerative biologics. Moreover, health improvement regenerative biologics help restore health, reduce hospitalizations, shorten hospital visits, and reduce patient dependency on supportive care (Dzobo et al., 2018).

The combinations of technologies like regenerative medications with other medical interventions like drug use significantly improve health outcomes. The healthcare landscape has evolved substantially over the last

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decade. The introduction of telemedicine and other technologies into medicine has changed the traditional way of accessing healthcare services, especially during the COVID-19 pandemic. Currently, patients do Google searches and look for appropriate medical services using the available technology (Tabi et al., 2019). Healthcare marketing has therefore become an essential aspect of the health industry. Marketing is a significant aspect of helping healthcare professionals create markets for their products, provide value for their medical interventions, and improve their target market (Golchhin et al., 2021). Though marketing of healthcare products and services is not necessarily money-based, the importance of such services is based on the image of a healthier population and earlier detection of medical conditions, especially chronic illnesses.

Many individuals suffering from various health disparities have limited access to healthcare which includes access to healthcare services. Timely access to health services has a positive impact on health problems. A very high proportion of patients with late medical interventions access suffer from increased disease morbidity, hospitalizations, and record-high death prevalence (Orrell, 2018). Medical practitioners' postulate that access to timely healthcare has 70% significance in reducing the advancement of chronic diseases like cancer and diabetes. Marketing regenerative biologic health products will improve patients' awareness of the available medical interventions due to regenerative medical research and trigger their search for such services (Spinner et al., 2019). This change would consequently increase the use of the available regenerative medications, thus improving health outcomes, reducing hospitalizations, morbidity, and deaths from diseases treated by medical interventions from regenerative biologics (Hettle et al., 2017).

## **Methodology**

The research methodology used for this study is an integrative literature review methodology. The integrative literature review methodology supports experimental and non-experimental research approaches and is primarily applicable in evidence-based practice studies in healthcare. To minimize potential research biases, the investigators applied well-defined article searching strategies that also helped ensure a rigorous literature review (Xiao & Watson, 2019). The study involved the use of already existing data and research; hence was secondary research. First, the research's effectiveness was ensured through summarization and narrowing down of the entire findings. This process helped in the second part of the research process, i.e., determining the most consistent, reliable, and relevant articles with the research topics. Any duplicate data was eliminated while doing a final comparison exercise. The final data was then analyzed to determine its consistency and whether or not it satisfied the research question (Snyder, 2019).

The literature search was done from PubMed and OVID databases as they are exclusively for medical research hence were relevant for this study. The databases also limited the yielding of irrelevant search findings by using relevant search terminologies and indexing. This technique also simplified the literature search process. The study also employed manual searches, which involved skimming reference lists of critical literature reviews to identify suitable primary research studies and the use of the Google search engine inclusion and exclusion criteria (Aveyard & Bradbury-Jones, 2021).

Based on the hierarchy of evidence, secondary integrative literature research falls under the level I characterized evidence of high quality and relevant information. Due to the existing biases in secondary research articles, the research emphasized primary research studies that provide first-hand information. Meta-analyses, Cohort studies, and intermediate studies are also believed to provide high-quality and reliable evidence and data and were therefore included in the literature review (Dodgson, 2017). Excluded literature included case studies and developmental studies, which produce poorly evidenced and unreliable information. Only cohort and randomized case studies were included as they supported triangulation and quickly identified differences and similarities (Galdas, 2017).

## **Marketing of Regenerative Healthcare Biologics**

Regenerative biologics focuses on regenerative medicine and therapies, the use of stem cells, engineering of body tissues, gene and cell therapies, translational medicine, and regeneration of body tissues. Regenerative biology is the scientific triggering of genomes, body cells, organs, tissues to initiate their renewal and restoration. The body has innate natural ways of regenerating and restoring body cells, tissues, organs, and cells are. The objective of regenerative biologics is to scientifically initiate such regeneration and restoration (Creighton & Kirschener, 2020).

There has been a significant increase in chronic illnesses like cancer, diabetes, and osteoarthritis. They fall among the most prevalent and costly diseases in America. Statistics show that about 45% of the American population suffers from at least one chronic illness (Arif&Adeyami, 2020). Chronic diseases also record the highest hospitalization rate, disability, reduced health outcomes, reduced quality of health, and mortalities.

According to the world health organization, 36 million deaths from the averagely recorded 57 million deaths annually are attributed to chronic illnesses. There have also been significant drivers of health care costs. Seventy-five percent of healthcare spending in the United States U.S is directed towards chronic disease. In addition, chronic diseases cause more than two-thirds of all mortalities in the U.S.

According to America's current demographics, about 10,000 Americans will turn 65 years daily between 2021 and 2029. The number of comorbidities is therefore expected to rise. The increase in aged Americans will subsequently increase chronic illnesses, weakened immunity, and other medical problems that come with old age. It is essential to identify those risks, acquire the correct data about the affected population, create actionable insight about patients, and increase access to healthcare services to successfully counter increased incidence and the effects of degenerative diseases (Zegeye et al., 2021). Success in managing chronic illnesses has consequently reduced early mortalities among the affected population. Increased incidence of chronic diseases and the scarcity of usable donor organs demand medical research and interventions to meet the growing unmet medical needs of the world's population. However, the current evidence-based medical interventions have proven inefficient in meeting the increased medical challenges and incidence of chronic illnesses (Beaglehole et al., 2007).

However, the medical advancements in regenerative medicine have introduced new concepts and ideas in managing and treating degenerative diseases and chronic illnesses. Regenerative biologics and regenerative medicine have transformed the management of degenerative diseases and acute medical conditions from palliation into cure instead of the beyond life-extending measures that characterize the management of chronic diseases as the last available option in treatment.

Regenerative biologics has introduced new and efficient medical interventions in treating acute and degenerative medical conditions. These include neo-organogenesis, amniotic membrane, and bone marrow transplants (Boyce &Lalley, 2018).

The new concepts of regenerative medicine have as promising key components in medicine and surgery. Regenerative biologics assure reduced hospitalizations, improved quality of life, and reduced incidence of chronic and degenerative illnesses. Regenerative biologics use the newly found knowledge on the natural body processes of organogenesis and healing and triggers self-renewal of body tissues. Apart from establishing biological repair processes, regenerative medicine reinstates the normal functioning of body organs and promotes argument. Regenerative biologics has also introduced tissue grafts and engineering organs. Medical practitioners have ascertained regenerative medicine's positive impact and usefulness in the hospital setting (Chien & Stogicza, 2021).

Despite the potential benefits of regenerative biologics, applying the same into practice has faced several challenges. The first challenge that has met the mass introduction of regenerative biologics into medical practice is skepticism. Many questions have arisen regarding the quality of cells and ethical or religious issues. Stem cells used in regenerative medicine have been deemed heavily manipulated, artificial, synthetic, or laboratory-made. Different religions have also campaigned against regenerative biologics and organ transplants as competing with God. This lack of knowledge about regenerative science has affected the application of biologics into practice and reduced its impact. Sufficient marketing of regenerative medicine and how the manufacturing processes are carried out will increase knowledge about the medical interventions and scientific methods involved, increasing demand for the product and services. Nevertheless, The increased prevalence of chronic illnesses and degenerative diseases demands regenerative biologics to help the affected population.

Marketing regenerative biologic for medical interventions improves access to such services (Kemp et al., 2017). Access to quality healthcare services is a significant health issue in the United States. Untimely access to medication increases medical emergency cases in the U.S. Delayed access to healthcare services negatively affects health outcomes due to diagnostic and treatment delays. Most cases of delayed access to medical services are attributed to a lack of awareness of the available medical services. This situation has dramatically affected the implementation and application of regenerative medicines in medical practice. Marketing the available regenerative biologics medication will improve the population's awareness of such services and trigger their demand. It is estimated that 88% of patients who seek medical services start with search engines. Therefore, marketing regenerative biologic health services makes the population aware of them (Chu et al., 2018).

## Discussion

Regenerative biologics aim to scientifically trigger innate reformation and repair of body tissues, cells, and organs. Though the body has a natural way of repairing or regenerating injured or unhealthy body tissues or organs, several infections and diseases cannot be restored by the natural body functions. Patients suffering from end-stage diseases and highly prevalent chronic illnesses are constantly waiting for life-saving therapy (Lapteva et al., 2018). Current medical interventions and treatments have proven inefficient and unrealizable in managing acute diseases. Most of the available medications like drugs aim to increase the longevity of life rather than treat them. Regenerative biologics have proven valuable and feasible in treating some of these illnesses. The increased

prevalence of chronic disease and the postulated increase in the elderly population signify an increase in chronic diseases and demand for regenerative biologics medical services. However, there is an existing gap between supply and demand for such organs and services offered by degenerative biologics.

One of the challenges is the lack of awareness among the sick population on the available treatments. This situation has led to increased disease morbidity, incidence, and mortalities due to such treatable diseases. It is, therefore, vital to make the sick population aware of such treatments through marketing. Many patients suffering from chronic illnesses are affected by untimely access to medical health. Marketing regenerative biologics treatment for such chronic diseases will consequentially increase their demand. Since most regenerative biologic therapies are based on research and are not common among the more significant population, skepticism exists regarding their efficiency (O'Donnell et al., 2019). It is therefore essential to make people aware of the benefits of such medical interventions through marketing.

### Limitations of the study

Most of the research used in the study was conducted by a limited number of researchers, which increases the chances of investigator predilection. The data obtained from the study were evaluated for reliability and validity through a critical appraisal process. Since different research articles with varied study designs were used, it wasn't easy to ascertain the suitability of comparing such studies.

### Conclusions

In conclusion, regenerative biologics is essential in improving healthcare and health outcomes (Van Bokkelen, 2021). The increased incidences of chronic illness that cannot be repaired or formed by natural body processes demand regenerative healthcare. Though its efficiency in treating chronic diseases has been proven, a gap still exists between their production and demand. The major challenge is the lack of awareness and knowledge about such medical interventions. This gap has potentially led to increased hospitalization, morbidity, and deaths due to limited access to the right medical care. Marketing the available regenerative biologic medication and therapies option will increase public awareness on the same and increase their demand. This will potentially increase help outcomes and quality of health.

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