

THE FUTURE OF PHARMACEUTICAL CARE

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The increase in overall life expectancy in the United States and in other industrialized nations over the last 50 years is due, in part, to the explosion of knowledge and technology in healthcare, particularly with respect to pharmacological understanding of disease and the development of pharmaceutical agents to target those diseases. The scientific advances of the latter half of the 20th century have provided immeasurable improvements to the quality of life, particularly of Americans, in addition to this longevity. The next half century promises to only compound the benefits that we currently enjoy. Improved methods of early disease detection as well as an increased awareness of individual genetic variations in people hold significant promise for yet a continued expansion of the benefits healthcare and the pharmaceutical industry can provide. Yet, with all the immense value that current drug therapy holds, lurking just beneath the surface is a menacing truth that seeks to bring the advantages of all of these scientific advances crashing to the ground around us—pharmaceutical salvation, not in a spiritual sense but rather in a physical sense. The drug industry and academia have worked tirelessly developing strategies to identify causes of disease while simultaneously seeking to find cures or at least to provide symptomatic relief as a means of improving quality of life. While an honorable task and certainly worth all

of the money that has been invested over the last 50 years, many Americans have become dependent on these agents, to the point of throwing caution to the wind, especially in relation to prevention. The prevailing attitude is one of “there’s a pill for that!” While it is true that for many ailments, there is a pharmaceutical agent to treat it, the statement is presumptive. With the rapid development of treatment-resistant diseases, especially with respect to infective agents, we have now approached a time in which there is no longer a pill for that and the prognosis is potentially a bleak one. Over the course of the next few pages, my goal is to quickly examine where we have come and where we potentially are going with respect to overall human health and pharmaceutical therapy in general. Having completed those tasks we will address potential implications for the church and the role it can and should play in the health of its members.

The 1940s saw the development of penicillin as an effective method to fight infection with the onset of World War II. The excitement around its abilities led to the discovery of several of the major classes of antibiotics still in use today. For thousands of years, humans have used extracts of leaves or bark to treat everything from fungal infections of the skin to hypertension and countless other disorders. The 1960s and 70s ushered in the age of the pharmaceutical company. Scientists began to learn enough about the biology of the human body and the chemistry of the naturally occurring agents from nature, that they were able to make changes to these agents in order to improve their effectiveness and decrease their costs or to develop completely new drugs from scratch. This led to a literal flooding of the market with new pharmaceutical agents over the next 20 years. The result was effective treatments for diabetes, infections, pain, insomnia, gastrointestinal disorders, hypertension, heart failure, anxiety, epilepsy, depression, high cholesterol, inflammation, allergies, and asthma to name a few. Our understanding of the human body has grown tremendously over the last 50 years, yet much remains to be discovered and many diseases/disorders remain untreatable or incurable.

The next 50 years hold much promise in terms of pharmaceutical treatment and conquering of diseases that now plague us. The significant hindrance and potential Achilles' heel of the next phase of progress in drug development may just be patient attitudes about health. According to a report by the Centers for Disease Control and Prevention (CDC), in 1990, 10 states reported that less than 10% of their citizens were obese, while no state reported numbers higher than 15%. In 2010, according to the same report, no state reported numbers less than 20% and 36 states were above 25% with 12 of these states above 30%¹. The overall obesity rate in 2010 was 35.7% nationally or 90.5 million people (adults and children)². With an increase in waistline comes the potential for a host of debilitating, chronic diseases including Type 2 diabetes, heart disease, stroke, etc. Unfortunately for us, in cases where our health is in jeopardy, we turn to the drug companies for help rather than looking to modifications of lifestyle to help offset the negative effects of many of these disorders. In July 2012 the Food and Drug Administration (FDA) announced the approval of a new anti-obesity drug (Qsymia®), furthering the notion that the solution to America's obesity problem is a pill. While pharmaceutical agents are certainly of significant value to all of us, we cannot and must not place our overall health in the hands of drug companies or even doctors with no regard for personal accountability. I have only mentioned obesity-related disorders but this also applies to anti-anxiety meds to help us cope with the normal activities of life rather than learning the skills necessary to do so. The list goes on and on. While all of these drugs have vital roles to play, the idea of pill as savior must be put away, or we may find ourselves at a point in the future with no one or nothing to save us.

Despite where we are today, the future for pharmaceutical care is promising. The completion of the Human Genome Project and the furtherance of our understanding of the role of genetics in disease and genetic differences among individuals provide a great launching point for the development of novel therapeutic agents. Even now, significant effort is being placed on individualized pharmaceutical therapy based on genetic differences to help maximize

the effectiveness of current and future therapies. In addition, we will continue to make headway in the fight against cancer. In the future we may likely see the effective utilization of vaccines in high risk patients. Furthermore, as targeted drug delivery systems are developed, we may reach a day in which cytotoxic cancer drugs are delivered directly and selectively to the cancer cells themselves, thus alleviating the myriad of painful side effects associated with current therapies caused by the destruction of healthy cells. As computers become faster and our understanding of protein structure and function increases, we will likely see a vast improvement in the effectiveness and selectivity of many or most of the new drugs that meet with FDA approval. This alone would provide increased efficacy and a significant decrease in the side effect profile of the drugs of the future. Even with the great potential that the future of pharmaceutical agents holds, much of this may be lost unless we return to the old adage that “an ounce of prevention is worth a pound of cure.”

As we begin to prepare for the future, what role does the Christian or the Church have to play in the future of pharmaceuticals or pharmaceutical care? In Paul’s first letter to the Corinthian church, he reminds them that their bodies were the temple of the Holy Spirit (I Corinthians 6:19). He goes on to say in verse 20 that we are to glorify God in our bodies. This command is easily applied to the current situation. Our bodies are not our own. We were bought by the blood of Christ; therefore, let us care for them, being cautious of what enters our bodies. For in caring for our bodies, we glorify Christ. Let us not depend upon pharmaceutical agents and pharmaceutical companies unless absolutely necessary. Rather let us treat our bodies as though they belong to the Lord and in doing so we will honor the one who paid such a high price for us. Let us continually remind ourselves of the role that sin plays in sickness. Gluttony leads to obesity; guilt leads to anxiety. Certainly, there are exceptions. We understand the usefulness of cholesterol lowering agents, for example, in people with healthy body weights. These are cases in which we are truly thankful for the work of the academic and pharmaceutical industries. The call here, as we prepare to move

into the future, is for a return to personal responsibility and away from the reckless abandon that has managed to deliver us to a very precarious location. The church must lead the way and encourage others to follow before we find ourselves in a predicament that we may not be able to escape.

Notes

- 1 Centers for Disease Control and Prevention (CDC). Obesity Trends Among US Adults between 1985 and 2010. Web. 17 July 2012. <http://www.cdc.gov/obesity/downloads/obesity_trends_2010.pdf>
- 2 Centers for Disease Control and Prevention. Overweight and Obesity. Web 17 July 2012. <http://www.cdc.gov/obesity/data/adult.html>; bOgden, Cynthia L.; Carroll, Margaret D.; Kit, Brian K.; and Flegal, Katherine M. "Prevalence of Obesity in the United States, 2009-2010." CDC NCHS Data Brief No. 82. (2012). Web 17 July 2012. <<http://www.cdc.gov/nchs/data/databriefs/db82.pdf>>

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