SAGE CROSSROADS
Interview with Daniel Perry
Personalized Medicine

KYLE JENSEN: Welcome to SAGE Crossroads, the premier online forum on the issues of human aging. These podcasts feature lively discussion with the experts on the ethical, political, economic, scientific, and societal implications of aging related science. Thank you for listening.

I'm joined now with Mr. Daniel Perry. Mr. Perry is the executive director of the non-profit organization, the Alliance for Aging Research.

Mr. Perry, how is personalized medicine beneficial to the growing numbers in the aging population?

DANIEL PERRY: Well, I think we ought to first of all realize that the goal of personalized medicine goes far beyond older patients themselves. It has vast potential to improve healthcare, treatment, and quality of life for people of all ages. Because while we need to understand that while most drugs are intended to treat diseases for people who suffer from them, in reality, many drugs will only work in a small subset of patients that are taking them. We are all different genetically in things like how quickly we metabolize drugs or some other aspect of our unique makeup may mean the difference between benefiting from some drug, no outcome, or out right harm. But now, we are seeing with the rapid development of diagnostics at the molecular and gene level and increasingly the emergence of sophisticated tests that allow us to target therapies, this is the emergence of what so many people call "personalized medicine." In reality, at our present stage it amounts to more like less impersonal medicine. That is, one drug that is prescribed to millions of people, and everyone is taking the same drug. We are moving beyond that so called blockbuster model and beginning to refine them for some smaller populations. The first successes from this have come in the cancer area - very important new drugs, herceptin for breast cancer, tarciva for lung cancer, herbetux for colorectal cancer, and of course gleevec for chronic myeloid leukemia. These are drugs that in some cases are paired with a diagnostic tool, and all of them use markers to determine if they are having an effect. This has raised a lot of anticipation and hopes that in the next 5 to 10 years we may see up to 10% of the people with diabetes, heart disease, and maybe not in the too distant future, even neurodegenerative diseases like Alzheimer's and Parkinson's benefiting very much from these very targeted and specific medications. Some think 10-20% of drugs will fall into this category. It's something that can benefit people of all ages and it's something around which there is great excitement although there are tremendous hurdles that lie in the way as well.

KYLE JENSEN: What about those that are aging in the baby boom generation?

DANIEL PERRY: Older people, and when I say that I mean people from midlife on from 50 or 60, their chances of being diagnosed of a chronic life long chronic disease associated with aging doubles or triples every 10 years. This means that they are on far

more medications that younger people. Those medications have the potential to interact with one another as well as with over-the-counter prescriptions and nutricuticals. It sets up a high potential of damage or harm from all of these medications taken at the same time for diabetes, arthritis, heart failure, or whatever the condition may be. So older patients necessarily have a greater stake in more targeted drugs that will be more effective if they qualify for them because of the genetic test, and they will be less likely to face the very serious side effects that often lead to great harm or even death.

KYLE JENSEN: Tying this all together, the audience of SAGE Crossroads is made up of scientists, policy makers, and curious consumers. If there is one bold statement you could make to them regarding personalized medicine, what would it be?

DANIEL PERRY: Well I don't know how bold it is, but in essence it is that this is a development that grows out of our best scientific advances to improve the delivery of good health care through sophisticated, effective medications and older patients will benefit more than others. There are hurdles that lie in the way. Hurdles that are scientific issues, business issues, regulatory issues, reimbursement issues - all of these need to be resolved before a population with a rapidly aging population receives the benefit. So, my real message is, let's get on with it.

KYLE JENSEN: Thank you. On behalf of SAGE Crossroads, I'm Kyle Jensen.