

Arxcel

Excellence in Prescription Benefit Management

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Arxcel Services

Prescription Benefit Program Management

- Strategic analysis and solutions
- Evaluation and placement of PBMs
- Cost control initiatives
- Education in drug trends and industry events
- Customized solutions

Program Implementation

- Coordinate account implementation
- Employer and PBM liaison
- Coordinate member and account communication

Account Service

- PBM auditing
- Vendor management

CONTACT US:

Arxcel, Inc.
6400 Sheridan Drive, Ste. 206
Williamsville, NY 14221
(716)204-3393 phone
(716)204-3394 fax
www.arxcel.com
info@arxcel.com

The ArxExaminer

Examining issues and trends in the prescription benefits industry

1ST QUARTER 2008



SPECIAL TWO-PART SERIES: Examining Pharmacogenomics, Part 2

PHARMACOGENOMICS: Potential benefits...

There has been no simple way in the past “to determine whether people will respond well, badly, or not at all to a medication,” according to the National Center for Biotechnology Information. Millions of adverse drug reactions result annually.

But, that’s beginning to change, thanks to a new science known as pharmacogenomics.

Pharmacogenomics is the study of how an individual's genetic inheritance affects the body's response to drugs. This new science holds the promise that drugs might one day be tailor-made for individuals and adapted to each person's own genetic makeup, according to the U.S. Human Genome Project.

Three principal ways genetics affect drug performance include the individual’s ability to metabolize the drug, capacity to transport it through the body and the receptiveness of its target to the drug.

The benefits

HGP identifies these potential benefits of pharmacogenomics:

MORE POWERFUL MEDICINES

Pharmaceutical companies will be able to create drugs based on the proteins, enzymes and RNA molecules associated with genes and diseases. This will facilitate

This article is the second of a special two-part series examining pharmacogenomics and how this new science will bring change to health plans sponsors and their members. Part One can be found at www.arxcel.com in the 4th Quarter 2007 issue of The ArxExaminer.

drug discovery and allow drug makers to produce a therapy more targeted to specific diseases. This accuracy not only will maximize therapeutic effects but also decrease damage to nearby healthy cells.

BETTER, SAFER DRUGS THE FIRST TIME

Instead of the standard trial-and-error method of matching patients with the right drugs, doctors will be able to analyze a patient's genetic profile and prescribe the best available drug therapy from the beginning. Not only will this take the guesswork out of finding the right drug, it will speed recovery time and increase safety as the likelihood of adverse reactions is reduced.

MORE ACCURATE METHODS OF DETERMINING APPROPRIATE DRUG DOSAGES

Current methods of basing dosages on weight and age will be replaced with dosages based on a person's genetics --how well the body processes the medicine and the time it takes to metabolize it. This will maximize the therapy's value and decrease the likelihood of overdose.

ADVANCED SCREENING FOR DISEASE

Knowing one's genetic code will allow a person to make

See *Pharmacogenomics* next page

“Everyone has a PBM, everyone needs a PBM consultant.”

Pharmacogenomics, *continued*

adequate lifestyle and environmental changes at an early age so as to avoid or lessen the severity of a genetic disease. Likewise, advance knowledge of particular disease susceptibility will allow careful monitoring, and treatments can be introduced at the most appropriate stage to maximize their therapy.

BETTER VACCINES

Vaccines made of genetic material, either DNA or RNA, promise all the benefits of existing vaccines without all the risks. They will activate the immune system but will be unable to cause infections. They will be inexpensive, stable, easy to store and capable of being engineered to carry several strains of a pathogen at once.

IMPROVEMENTS IN THE DRUG DISCOVERY AND APPROVAL PROCESS

Pharmaceutical companies will be able to discover potential therapies more easily using genome targets. Previously failed drug candidates may be revived as they are matched with the niche population they serve. The drug approval process should be facilitated as trials are targeted for specific genetic population groups --providing greater degrees of success. The cost and risk of clinical trials will be reduced by targeting only those persons capable of responding to a drug.

DECREASE IN OVERALL COST OF CARE

Decreases in the number of adverse drug reactions, the number of failed drug trials, the time it takes to get a drug approved, the length of time patients are on medication, the number of medications patients must take to find an effective therapy, the effects of a disease on the body (through early detection) and an increase in the range of possible drug targets will promote a net decrease in the cost of health care.

...and barriers to overcome

Several of the following barriers will have to be overcome before many pharmacogenomics benefits can be realized:

COMPLEXITY OF FINDING GENE VARIATIONS AFFECTING DRUG RESPONSE

Millions of DNA sequence variations must be identified and analyzed to determine their involvement, if any, in drug response. Since multiple genes are likely to influence responses, obtaining the big picture on the impact of gene variations is highly time-consuming and complicated.

LIMITED DRUG ALTERNATIVES

Only one or two approved drugs may be available for treatment of a particular condition. If patients have gene variations that prevent them from using these drugs, they may be left without any alternatives for treatment.

DISINCENTIVES FOR COMPANIES TO MAKE MULTIPLE PHARMACOGENOMIC PRODUCTS

Most pharmaceutical companies have been successful with their one-size-fits-all approach to drug development. Since it costs hundreds of millions of dollars to bring a drug to market, will these companies be willing to develop alternative drugs that serve only a small portion of the population?

EDUCATING HEALTHCARE PROVIDERS

Introducing multiple pharmacogenomic products to treat the same condition for different population subsets undoubtedly will complicate the process of prescribing and dispensing drugs. Physicians must execute an extra diagnostic step to determine which drug is best suited to each patient. To interpret the diagnostic accurately and recommend the best course of treatment for each patient, all prescribing physicians, regardless of specialty, will need a better understanding of genetics.

Something to consider

Something that will have to be considered is which patient populations or what classes of drugs to target.

Since 50% of drug costs are typically

incurred by 96% of individuals with chronic and often multiple conditions and the other 50% are incurred by the other 4% who are relatively well and require acute care more often than not, the question

becomes do we focus on the chronically ill and try to improve outcomes, do we focus on the other 50% and combine genetic testing with other wellness programs that can combine to help them continue their relatively good health?



Mission Statement: We offer expert counsel, analysis and solutions that control prescription benefits to ensure quality pharmaceutical care that improves the health of our clients and their members.