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Visit to Pharmaceutical Firms

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Visit To Pharmaceutical Firms

by

Carol Kurtyka*

The annual junior class trip to drug houses began Sunday morning, March 2, 1975, at 7:00 a.m., when 56 students, two instructors, and two wives boarded two charter buses, taking them to places where few of them had ever been before.

The first two days were spent at Eli Lilly and Company in Indianapolis, one day at Abbott Labs in North Chicago, and the final day at the Upjohn Company in Kalamazoo, Michigan.

During this time through the use of tours, lectures, films, and panel discussions, each of the drug companies took their turn to explain to the class what they considered to be the most important aspects of their pharmaceutical divisions. These aspects varied in detail from company to company, but basically fell into four dimensions, these being research, manufacturing, marketing, and quality control.

Research is a very important part, if not the most important part of the pharmaceutical industry. The drug companies realize this, for on the average, 5-10% of all expenditures of the business are devoted to research. Also, it was noted that the quality of the facilities for research were far more sophisticated than were the facilities for manufacturing or marketing.

Getting a new drug on the market is by
no means an easy task. For each new drug, it takes an average of 4-10 years of research and anywhere from $1-7 million.

For each new drug product, many characteristics must be determined. The drug’s form (capsule, tablet, injectable, ointment, cream), toxicity, safety, clinical effectiveness, has (if pertinent), stability pattern, and residue it may leave, must be determined. Its compatibility with packaging materials and its ability to be manufactured economically are also very important. To determine all of these factors, many tests must be conducted. Three series of experiments—acute, subacute, and chronic—are run to determine toxicity alone.

To develop a human drug, tests in three animal species are required. Two of these must be non-rodents, the most common ones being the dog, and monkey.

Many animal drugs are spin-offs of human drugs and need only to be tested in the target species the company is seeking approval for, plus one rodent and one non-rodent species.

Not all research is directed toward specific products. Some of it is very basic work in such areas as anti-viral drugs, cancer drugs, metabolic diseases, antibiotic and vitamin structure determination, just to mention a few. However, all companies appear to restrict research studies to areas of their particular interests in the pharmaceutical market.

Most of the money in research is being devoted to developing new antibiotics, anthelmintics, and products along these lines. Little, if any, work is being done on veterinary biologicals, such as vaccines.

Manufacturing is the second dimension of the pharmaceutical industry. To those who have never witnessed mass assembly line production before, the tours through these areas were real eye-openers. Even though most of the drug companies allowed the workers to change jobs every half hour to every two hours, it was difficult to imagine how monotonous their jobs must have become, day after day. It was hard to swallow the fact that many of these workers have become rather dehumanized and are essentially appendages to the various machines. Those of us with a profession should be very thankful for the fact that we have a future ahead of us that consists of something more than putting four little boxes into a bigger box or checking to see that all the bottles in a row are properly stoppered.

The third dimension is marketing of the products. It was surprising to learn that all the drug companies had at least one line of products that is sold directly to the farmer. In some companies, almost their entire line is sold directly to the farmer. Ethical sales are strictly company policy once the federal regulations are met. One thing found that was hard to believe, was that out of one batch of product, some bottles are labelled for use by a licensed veterinarian only, while other bottles of the identical product are labelled for use by the general public.

Another interesting observation involved the business transactions between the various companies. One company would make the drug and sell it to the other company who would put their own label on it stating “made for” instead of “made by.”

Because of all the time and expense necessary to get approval of a drug for use in various species for different conditions, most drugs are only labelled for a few specific uses and only in one or two species. Employing these drugs in other instances is left entirely to the veterinarian. He is responsible for whatever adverse reactions may occur, as the drug companies will not stand behind him in an instance where the drug is not approved for that use.

There is a trend developing now toward specialization in drug production. This will tend to eliminate competition and may at the same time raise prices.

The fourth dimension of pharmaceutical industry is quality control, a term that was repeated over and over by the various companies. The user of the product must be assured of its purity and potency. All the products are inspected throughout the
manufacturing process, as the finished product, and some after a specific time in incubation. If there is any deviation from the standard for that product, that specific batch of product is usually destroyed, as too much time and expense would be wasted trying to recycle it.

Once a drug has received approval, its testing does not stop there. The older drugs must meet the approval of the new regulations or they will be removed from the market. There is a continuing challenge in finding ways to obtain greater yields and to improve products.

Tours such as these taken by the junior class are very important to these companies. This is exemplified by the fact that one of the companies has an entertaining budget of $1 ½ million/year spent giving tours to 11 veterinary colleges, 30 medical colleges, 65 pharmacy colleges, plus other individual groups. This company spent on the average of $100/person for this tour.

The companies consider these tours important enough to have the top leaders in each of the various departments talk to us directly or be available for questions during panel discussions or during attendance at the evening banquets.

The drug companies also meant for these tours to be fun and full of enjoyment. Free movie passes were provided, "places of interest" were recommended, and even a Playboy Club key was provided for those who so desired.

The meals were fabulous, almost to a point beyond the limits of most appetites. Each evening there was a happy hour followed by a six-course banquet.

Many new sights were seen by the students, from two camels in suburban Indianapolis to looking over Chicago at night from the 103rd floor of the Sears Tower, only two nights after seeing the movie "The Towering Inferno." Now that took real courage!

Numerous activities were indulged in, from "bolting" to ending up in the wrong bed, to dancing up a storm at "The Toppers."

The bus rides seemed to find most of the passengers either talking, playing cards, reading, or sleeping. The trip home seemed to find most of them doing the last—sleeping. The bus ride was by no means uneventful. It was full of excitement, from engine trouble, to getting lost, to arguing with a Vega over the road. One had to be prompt on this trip; if you were only three minutes late, you found yourself running behind the bus.

Drs. Beran and West, the two instructors who accompanied the students at the students' invitation, really appreciated this opportunity to break down some of the barriers that develop between the students and the instructors. Both of them felt that this was a very worthwhile and rewarding experience.

Those students who went, hope that next year's junior class can have 100% attendance, for this was an experience that most of them will not forget for many years to come.