Too Much or Too Little:
The FDA in contemporary American society
• Dr. William McCarthy (History)
• Dr. Melody Kyzer (Health/Applied Human Sciences)
• Dr. Gregory Bechtel (Nursing)
• Dr. Sridhar Varadarajan (Chemistry)
• Dr. Steven Dworkin (Psychology)
• Dr. Greg Chandler (Biological Sciences)
• Dr. Robert Brown (Psychology)
• Dr. Patricia Turrisi (Philosophy and Religion)
William J. McCarthy
History
History of Science
Pre-modern medicine

- Witches, healers
- Herbalists
- Apothecaries
- Alchemists
Nineteenth century innovations

- Independent chemists
- Ether frolics
- Unregulated drugs
- Unregulated food
FDA

- Health/medical concerns
- Sanitation
- Government participation
Perception of drug companies

Dr. Melody Kyzer
Health/Applied Human Sciences
Perception of drug companies

- According to research by the Kaiser foundation:
- 91% of adults say that drug companies make an important contribution by researching & developing new drugs
- 70% agree that drug companies put profit ahead of people
- In 2004, for the first time ever, more adults said that drug companies do a bad job (48%) than a good job (44%)
- 69% of adults said that high profits are the most important reason for rising health care costs
Facts on Health Insurance Costs

• Health care spending is increasing at a rate 5 times the inflation rate
• Since 1995, the average rate of increase for prescription drugs was 15% per year between 95-01
• Co-payments for brand-name drugs that have generic equivalents jumped 62% to $26 from $16 while generics rose to an average of $9 from $8
• Drug spending in the US and Canada rose 11% last year to $230 billion
Pharmaceutical companies and health care in the US

• Direct marketing has created additional markets for pharmaceutical drugs
• Prescription drugs play a part in half of all adult’s daily lives
• Drug companies are making it harder to get prescription drugs from Canada and other countries.
Sidestepping the FDA: Clinical Trials in 3rd World Countries

Gregory A. Bechtel, MPH, PHD
Nursing
Overseas Testing

• An average of 4,000 people are needed to test a drug before a US release
• One day’s delay to the market is estimated at $1.3 million loss in potential sales
• With hundreds of drugs being developed each year, there is immense competition for test subjects
Why does Big Pharm conduct research in developing countries?

- Decrease cost and constraints of regulations (phase III & IV)
- Increase number of ‘naïve’ patients
- Increased morbidity/mortality of specific disease in which patient population could benefit
- Conducted for reasons of pure convenience
Big Pharma: R&D

• Only 10% of resources on R&D are oriented to 90% of the world’s burden of disease
  – 80% of the world drug market is in North America, Japan and Europe which account for only 23% of the world’s population
  – Pharma industries are concentrated only where proved profits are possible
  – Why should Big Pharma put money into “orphan diseases”?
Ethics and Big Pharma

- Pharmaceutical testing in third world countries raise questions about corporate ethics and profits on a frontier where drug companies wield enormous influence.
  - Stockholders in industrialized society
    - More interested in treatment than cure/prevention
    - Treatment for “orphan diseases” are expensive
  - International standards are hard to enforce
  - Companies use whichever country’s standards that best suit them in each case
Summary

Inequality

- Gap regarding standards of living and access to health care
- Participating in a clinical trial may constitute the only opportunity to have access to care
- The public of U.S. and Western Europe are most interested in “treatment” and cost containment; little public concern for the health and quality of life among the peoples of 3rd world countries
Why do Drugs Cost So Much?
A Pharmaceutical Industry Point of View

Dr. Sridhar Varadarajan
Chemistry
Current Costs:
Drug Discovery and Development

• The cost of drug development has risen markedly in the past 30 years.

• The average cost of developing a drug now exceeds $800 million!

• Spiraling costs threaten to make new drugs increasingly unaffordable to both consumers and drug development companies.
Drug Discovery

- Select a disease
- Select a target
- Develop a bioassay
- Acquire compounds
- Screen and analyze data
- Optimize the lead (synthesis)

Vioxx

Celebrex
Drug Development and Approval
Process and Timeline

Drug Development → Preclinical Testing, R&D → 30 day safety review → Clinical R&D Phase I, II, III → New Drug Application (NDA) Review

- Short-term animal testing
- Long-term animal testing
- Initial Synthesis
- NDA submitted
- NDA approved

- ? years
- 1 – 3 years
- 2 - 10 years 2 months - 7 years
- 3 - 20 years
Relative Costs: Drug Discovery and Development
Estimated Costs for Clinical Trials

<table>
<thead>
<tr>
<th>Research Phases</th>
<th>Expected cost/NCE (US $ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>15.2</td>
</tr>
<tr>
<td>Phase II</td>
<td>16.7</td>
</tr>
<tr>
<td>Phase III</td>
<td>27.1</td>
</tr>
<tr>
<td>Long-term animal tests</td>
<td>1.6</td>
</tr>
</tbody>
</table>
Factors Affecting Cost of Drugs

• Risk
  Scientific
  Regulatory
  Economic

• Protection of Intellectual Property (Patents)
  Therapeutic Competition
  Generic Competition

• Public Policy Issues
Closing Comments...

• The task of discovering and developing novel NCEs is unusual among business enterprises.

• Health care industry is subjected to a higher standard of performance.

• Overall time (and cost) from discovery to NDA approval is increasing due to the increased difficulty of drug discovery and the pursuit of more difficult therapeutic goals.

• Since 1960s the process of drug approval has been modified to improve safety and efficacy of drugs leading to an increase in the time taken and cost of bringing a new drug into the market.
Approval of New Drugs

Steven I. Dworkin, Ph.D.
Professor of Psychology
New Drug Approvals
Pre Clinical Trials

- *In vitro* studies
- *In vivo* studies
  - Use of standard animal models
    - Efficacy
    - Potency
    - Safety
    - LD determination
    - ED determinations
      - Therapeutic Ratio
    - Abuse Potential or Liability
      - Drug self-administration
Rodent Drug Delivery Environment
Clinical Trials

• **Introduction**
  – Before a pharmaceutical company can initiate testing in humans, it must conduct extensive preclinical or laboratory research.
  • Preclinical research typically involves years of experiments in animal and human cells. The compounds are also extensively tested in animals.
  • 100-300k compounds screens → 100-300 compounds → 1 or 2 lead compounds
  • Pharmaceutical company provides **selected data** to the Food and Drug Administration (FDA) with a requesting approval to begin testing the drug in humans.
  • This is called an Investigational New Drug application (IND).
  • Typically this is when the clock starts clicking and the PC has the next 11 years of exclusive patent rights.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Purpose</th>
<th>Subjects</th>
<th>Duration</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>how drug absorbed, metabolized, and excreted and</td>
<td>healthy volunteers (20 to 100), who are usually paid for participating in</td>
<td>several months</td>
<td>70 percent of experimental drugs pass this initial phase of testing</td>
</tr>
<tr>
<td></td>
<td>side effects over range of doses</td>
<td>the study.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td>determine relative safety of the new drug, and its</td>
<td>several hundred patients randomized trials, drug vs control often</td>
<td>several months to two years</td>
<td>33 percent of experimental drugs successfully complete both phase I and phase II studies</td>
</tr>
<tr>
<td></td>
<td>effectiveness.</td>
<td>blinded.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase III</td>
<td>provide drug company and the FDA with a more</td>
<td>several hundred to several thousand patients, most phase III studies are</td>
<td>several years</td>
<td>Seventy to 90 percent of drugs that enter phase III studies successfully complete this phase of testing</td>
</tr>
<tr>
<td></td>
<td>thorough understanding of the drug's effectiveness, benefits, and the range of possible adverse reactions.</td>
<td>randomized and blinded trials.</td>
<td></td>
<td>FDA approval for marketing the drug.</td>
</tr>
<tr>
<td>Phase IV</td>
<td>objectives: (1) studies often compare a drug with</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>other drugs already in the market; (2) studies</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>are often designed to monitor a drug's long-term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>effectiveness and impact on a patient's quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of life; and (3) many studies are designed to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>determine the cost-effectiveness of a drug therapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>relative to other traditional and new therapies.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Regulatory Requirements

## Controlled Substances

<table>
<thead>
<tr>
<th></th>
<th>Schedule I</th>
<th>Schedule II</th>
<th>Schedule III</th>
<th>Schedule IV</th>
<th>Schedule V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Registration</strong></td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td><strong>Recordkeeping</strong></td>
<td>Separate</td>
<td>Separate</td>
<td>Readily retrievable</td>
<td>Readily retrievable</td>
<td>Readily retrievable</td>
</tr>
<tr>
<td><strong>Distribution Restrictions</strong></td>
<td>Order forms</td>
<td>Order forms</td>
<td>Records required</td>
<td>Records required</td>
<td>Records required</td>
</tr>
<tr>
<td><strong>Dispensing Limits</strong></td>
<td>Research use only</td>
<td>Rx: written; no refills</td>
<td>Rx: written or oral; refills Note 1</td>
<td>Rx: written or oral; refills Note 1</td>
<td>OTC (Rx drugs limited to M.D.’s order)</td>
</tr>
<tr>
<td><strong>Manufacturing Security</strong></td>
<td>Vault/safe</td>
<td>Vault/safe</td>
<td>Secure storage area</td>
<td>Secure storage area</td>
<td>Secure storage area</td>
</tr>
<tr>
<td><strong>Manufacturing Quotas</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>NO but some drugs limited by Schedule II</td>
<td>NO but some drugs limited by Schedule II</td>
<td>NO but some drugs limited by Schedule II</td>
</tr>
<tr>
<td><strong>Import/Export Narcotic</strong></td>
<td>Permit</td>
<td>Permit</td>
<td>Permit</td>
<td>Permit</td>
<td>Permit to import; declaration to export</td>
</tr>
<tr>
<td><strong>Import/Export Non-Narcotic</strong></td>
<td>Permit</td>
<td>Permit</td>
<td>Note 2</td>
<td>Declaration</td>
<td>Declaration</td>
</tr>
<tr>
<td><strong>Reports to DEA by Manufacturer/Distributor Narcotic</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Manufacturer only</td>
<td>Manufacturer only</td>
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<tr>
<td><strong>Reports to DEA by Manufacturer/Distributor Non–Narcotic</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Note 3</td>
<td>Note 3</td>
<td>No</td>
</tr>
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</table>
### DRUGS OF ABUSE / Uses and Effects

<table>
<thead>
<tr>
<th>Drugs</th>
<th>CSA Schedules</th>
<th>Trade or Other Names</th>
<th>Medical Uses</th>
<th>Dependence</th>
<th>Physical</th>
<th>Psychological</th>
<th>Tolerance</th>
<th>Duration (Hours)</th>
<th>Usual Method</th>
<th>Possible Effects</th>
<th>Effects of Overdose</th>
<th>Withdrawal Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>Substances</td>
<td>Illicit Heroin, Heroin, Crack, Black tar, China, Coke (Abuse term)</td>
<td>Home in U.S., Analytes, Antidote</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-4</td>
<td>Injected, smoked, inhaled</td>
<td>Vital signs, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>Substances II</td>
<td>Addicts, Opioids, Opiates, Codeine</td>
<td>Analytic</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-12</td>
<td>Oral, injected</td>
<td>Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
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<tr>
<td>Hydromorphone</td>
<td>Substances</td>
<td>Hydromorphone</td>
<td>Analytic</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-6</td>
<td>Oral</td>
<td>Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
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<tr>
<td>Oxycodone</td>
<td>Substances</td>
<td>Oxycodone</td>
<td>Analytic</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-12</td>
<td>Oral, injected</td>
<td>Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
<td></td>
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<tr>
<td>Codeine</td>
<td>Substances</td>
<td>Codeine</td>
<td>Analytic</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-4</td>
<td>Oral, injected</td>
<td>Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
<td></td>
</tr>
<tr>
<td>Other Narcotics</td>
<td>Substances</td>
<td>Narcotics</td>
<td>Analytic</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Yes</td>
<td>3-4</td>
<td>Oral, injected, smoked, inhaled</td>
<td>Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death</td>
<td>Seizures, cardiac arrest, respiratory failure, coma, death</td>
<td></td>
</tr>
</tbody>
</table>

#### Depressants

| Gamma Hydroxybutyric Acid | Substances | GH, GBL, Liquid Ecstasy, Liquid X, 3-Methoxyhexylone, Rohypnol® | Home in U.S., Analytic | Moderate | Moderate | Poor | Yes | 3-6 | Oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
| Benzodiazepines | Substances | Benzodiazepines | Analytic | Moderate | Moderate | Poor | Yes | 3-6 | Oral, injected | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Stimulants

| Cocaine | Substances | Methamphetamine | Analytic | Moderate | Moderate | Poor | Yes | 3-6 | Oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
| Methamphetamine | Substances | Methamphetamine | Analytic | Moderate | Moderate | Poor | Yes | 3-6 | Oral, injected | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
| Methylenediphtherine | Substances | Methylenediphtherine | Analytic | Moderate | Moderate | Poor | Yes | 3-6 | Oral, inhaled, smoked | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Hallucinogens

| MDMA and Analogues | Substances | MDMA | Analytic | None | None | Moderate | Yes | 4-6 | Oral, smoked, inhaled | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
| LSD | Substances | LSD | Analytic | None | None | Unknown | Yes | 8-12 | Oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Cannabis

| Marijuana | Substances | Marijuana | Analytic | None | None | Unknown | Moderate | Yes | 2-4 | Smoked, oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
| Tetrahydrocannabinol | Substances | THC | Analytic | None | None | Unknown | Moderate | Yes | 2-4 | Smoked, oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Anabolic Steroids

| Testosterone | Substances | Testosterone, Nandrolone, Oxandrolone, Dianabol, Androsterone, Primobolan | Analytic | None | Unknown | Unknown | Unknown | 14-28 days | Injected | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Inhalants

| Inhalants | Substances | Inhalants, Glue, Paints, Solvents, Aerosols, Freons | Analytic | None | Unknown | Unknown | Unknown | Variable | Oral, injected | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |

#### Alcohol

| Alcohol | None | Alcohol | Analytic | None | Unknown | Unknown | Unknown | 1-3 | Oral | Seizures, respiratory depression, delirium tremens, increased blood pressure, vomiting, headache, agitation, convulsions, coma, possible death | Seizures, cardiac arrest, respiratory failure, coma, death |
Issues

- The New Drug War (non-US markets)
- Involvement of Pharmaceutical Companies
- Involvement of Interest Groups
- Role of advisory panel
- Role of FDA officials
- Publication and disclosure of negative findings
- When things go wrong?
  - Cox-2 inhibitors
- Media
  - Steroids
  - Alternative Medications
Stevia vs. Sugar, and the FDA: Why Interfere?

Dr. Greg Chandler

Biological Sciences
Why use Stevia instead of sugar?
"The incestuous relationship between government and big business thrives in the dark."

-Jack Anderson
Protection of the Public Interest: Proactive, Reactive, Inactive, Retroactive, and/or Radioactive

Robert T Brown, B.A., Ph.D., O.J.T.
A Reactive Step: “Muckrakers” and the 1906 Federal Food and Drugs Act

Muckrakers:

- Samuel Hopkins Adams (1905) *The Great American Fraud*
- Upton Sinclair (1906) *The Jungle*

Reaction: Federal Food & Drugs Act, 1906
A Retroactive Step

• 1911 Supreme Court ruling: 1905 Act only prohibited false claims about *ingredients* of medicines.

• Drug companies free to make false claims.

• Adams renewed exposés about false advertising; AMA published volumes of *Nostrums and Quackery*, beginning in 1912; & FDA itself displayed some products legal under existing law which a reporter dubbed "The American Chamber of Horrors."
Another Reactive Step

• In 1937, a drug company marketed Elixir Sulfanilamide, an untested sulfa drug intended particularly for children.

• Containing a highly toxic chemical similar to antifreeze, it killed 107 people, mostly children.

• Public outcry led to 1938 Food, Drug & Cosmetic Act
FDA Proactive Coups & Their Reactive Consequences

• In 1962, Thalidomide, a sleeping drug, was found to have teratogenic effects. In Europe 1000s of babies were born with severe limb defects, most notably phocomelia.

• FDA refused to license thalidomide in U.S.

• FDA refusal aroused support for stronger drug regulation: Kefauver-Harris Drug Amendments (1962).

• FDA & Laetrile (“miracle cancer cure”): The never-ending story
Another Retroactive Step

• Early 1990s: Congress considered increasing FDA enforcement powers & making advertising unfounded nutritional/therapeutic claims illegal.

• Reacting, health-food industry and political allies urged Congress to protect consumers' “freedom to choose dietary supplements.”

• Result: Dietary Supplement Health & Education Act (DSHEA, 1994) which defined dietary supplements as a separate regulatory category & liberalized information sellers could distribute.

• Public’s protection to choose reduced its protection from misinformation and fraud.
Will Mandated Inactivity & Retroactivity Lead Protection of Public Interest in 2005 to Resemble that in 1905?

• Apparent shift in Congress from protection of public interest to protection of industry interest.

• Sea silver USA The Leader in Foundational Health

• Innoculations - The True Weapons Of Mass Destruction
What Concerned Adams, AMA, & FDA:
Some 1900-1990s “Quackery & Nostrums”
And finally, the Radioactive….

• Banbar, "cure" for diabetes; Lash-Lure, eyelash dye that blinded many women; Radithor, radium-containing tonic the Wilhide Exhaler, which falsely promised to cure tuberculosis and other pulmonary diseases.

• But That’s Not All, Folks….
Excess Electricity?

CHIROPRACTOR GRANSAULL'S
ROAD TO HEALTH

DIRECTIONS
1. Fasten expansion grounding clamp to a radiator or water pipe. Use a screw driver. Keep away from electrical fixtures and wiring. Do not use during a thunder storm.

2. Sit comfortably and place BARE FEET on copper plate.

3. As no two people are alike the length of time for keeping the feet on the plate varies with each individual. For those who are very ill it is necessary to use it for several hours every day. For those who are well half an hour per day should keep you so. For curing necks and wrinkles 2 to 3 hours per day for 2 to 4 months depending on severity of condition.

EXPLANATION
Since there can be no function with less than two NEURONS (brain cells) and they must be of opposite poles it is natural that the body be grounded if it is not to be made ill by the very force which keeps it alive.

Living on wooden floors and wearing shoes insulates us from the earth so the electricity that is supposed to flow out remains in the body, poisoning it and making us sick.

The "Road to Health" has proved its worth. Use it every day to keep well and look years younger.

Price $5.00
POSTPAID ANYWHERE

CHIROPRACTOR GRANSAULL
452 WEST 25TH STREET
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Tel. Walrus 4-8665
Going Bald?

KREML
STOPS HAIR LOSS • REMOVES DANDRUFF
RELIEVES ITCHING SCALP
STIMULATES THE GROWTH OF HAIR
NORMALIZES EXCESS DRYNESS OR OILINESS

Kreml is endorsed by
"THE VOICE OF EXPERIENCE"
Tune in National Broadcasting System-
WEAF Red Network... see your daily
newspaper for local station and time.
Got Asthma?

HIMROD
MEDICINAL CIGARETTE
FOR TEMPORARY RELIEF
OF THE PAROXYSMS OF
BRONCHIAL ASThma

STRAMONIUM (ALKALOIDS TOTAL 0.24%):
SALTPORE: ANISE OIL & CEDAR OIL

A PRODUCT OF
HIMROD MFG., CO.
Brooklyn 1, N. Y.
ESTABLISHED 1869
DIRECTIONS ON BACK

24 CIGARETTES
NO TOBACCO
NO NARCOTICS
Got Any Problem?

IT IS THE SIMPLE SEED FROM WHICH YOUR SUCCESS GROWS

LET US SHOW YOU HOW AND WHY YOUR OWN GOOD SENSE MAKES RADIO-ACTIVE SOAPS AND TOILET PREPARATIONS (THEY ARE IT) SO WHAT IS CLAIMED FOR THE MOST SKILLFULLY ADVERTISED ARTICLES IN OUR LINE.

IT PUTS NEW LIFE INTO YOUR SYSTEM, OR ANY DESIRED PARTS OF YOUR SYSTEM (THE HAIR, COMPLEXION, THE HANDS, FEET, ETC., ETC.)

THIS MAY BE LEARNED BY TRYING THE FREE SAMPLES OF IT OFFERED BY WIDE-AWAKE DEALERS, OR TO BE HAD FROM US DIRECTLY.

THIRTY-SIX YEARS OF UNINTERRUPTED SUCCESS, OUR UNBROKEN REPUTATION, EARNED BY FAIR DEALING GUARANTEE SATISFACTION IF YOU DEAL WITH THE OLD RELIABLE MAKERS OF IT.

IT SHARES THE BEST OF PERSONS AND THINGS. THE PROPERTY OF INCREASING IN VALUE THE MORE YOU KNOW ABOUT IT. YOU WILL FIND IT PAYS TO CORRESPOND ABOUT IT WITH US.

GEO. A. SCHMIDT'S (ITCO'S) 236-238 NORTH AVE., CHICAGO.

THE RADIANO-ACTIVE SOLAR PAD

DIRECTIONS: Charge the Pad by exposing to Direct Sunlight from three to five minutes. When Direct Sunlight is not available, or when the Sun is obstructed by clouds, give the Pad an exposure of six to ten minutes. After this exposure, apply the Pad to the affected part by means of the cord. Adjust the cord by passing them over the back of the Pad through the eyelets. The RADIO-ACTIVE SOLAR PAD may be worn either externally or on the underwear. When wearing next to the skin a piece of muslin or other light material may be placed between the body and the Pad to protect the Pad from soiling.

MANUFACTURED BY
THE RADIANO APPLIANCE CO.
LOS ANGELES, CAL.
Hurting? Can’t Sleep?

MORPHINE
New Home Treatment
Send Stamp for Book of Information
DR. QUAYLE'S SANITARIUM, MADISON, OHIO. Dept. Q

CHLORODYNE
AMERICAN
ALCOHOL 52 PER CENT
Each fluidounce contains:

MORPHINE HYDROCHLOR. 27.8 GR.
CHLOROFORM 46 MINIMS
TINCT. CANNABIS 46 MINIMS
Peppermint Oil 11/2 minims
Tinct. Capsicum 11/2-2 minims
Hydrocyanic Acid, diluted 9 minims

Directions—10 to 20 minims in a wine-glass of water, to be repeated in three or four hours, if necessary.

Made in U. S. A. by
SHARP & DOHME
PHILADELPHIA - BALTIMORE
Some Recent Problem Meds
No Claims to Treat Disease?

Hot Dog! “Romance in a bottle - NIAGARA” is in! Works in 20 min. Lasts 4 hrs. $6.50 a bottle

Coming down with something? Get on XLEAR, UMCKA, Olive Leaf extract caps and Moducare.

Ipriflavone - Stops bone loss! Start rebuilding bone today!


Paula's HEALTH HUT, INC.
3405 Wrightsville Ave 791-0200
Open Mon.-Fri. 9:30am-6pm, Sat. 9am-6pm

WLM MORNING STAR, WED 2 MAR 05

Family talking.
Lastly, Petering Out: Give Me that Old Time Viagra...
Thank You

Any Questions?