

**Direct-to-Consumer  
Advertising of Prescription  
Drugs—Review of Literature  
Relating to Population  
Subsets**

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# DTCA and Subsets of the Population

## Who are underserved populations?

### Groups studied in DTCA research:

- Elderly
- African-Americans, Hispanics, and other racial or ethnic minorities
- Lower income level
- Lower education level
- Lower English literacy

**Note:** Research on DTCA impacts on **children's health** is limited.

## Top 20 Pharmaceutical Products in Terms of Spending on Direct-to-Consumer Advertising in 2005

(from Donohue et al. 2007, Table 3)

Table 3. Top 20 Pharmaceutical Products in terms of Spending on Direct-to-Consumer Advertising in 2005

Drug	Company	Therapeutic Category	Spending <i>millions of dollars</i>	FDA Approval Date	Year that Campaign Started
Nexium (esomeprazole)	AstraZeneca	Proton-pump inhibitor	224	Feb. 2000	2001
Lunesta (eszopiclone)	Sepracor	Hypnotic-sedative	214	Dec. 2004	2005
Vytorin (ezetimibe-Simvastatin)	Merck/Schering-Plough	Cholesterol absorption Blocker-HMG-CoA Reductase inhibitor	155	July 2004	2004
Crestor (rosuvastatin)	AstraZeneca	HMC-CoA reductase inhibitor	144	Aug. 2003	2004
Advair (fluticasone and Salmeterol)	GlaxoSmithKline	Corticosteroid- $\beta$ -adrenergic-receptor agonist	137	Aug. 2000	2001
Nasonex (mometasone)	Schering-Plough	Corticosteroid	124	Dec. 1997	1998
Flonase (fluticasone)	GlaxoSmithKline	Corticosteroid	111	Oct. 1994	1995
Lamisil (terbinafine)	Novartis	Allylamine antifungal	110	May 1996	1997
Plavix (clopidogrel)	Bristol-Myers Squibb/Sanofi	Platelet-aggregation Antagonist	110	Nov. 1997	2001
Cialis (tadalafil)	Lilly ICOS	PDE5 inhibitor	110	Nov. 2003	2004
Wellbutrin XL (bupropion)	GlaxoSmithKline	Dopamine reuptake inhibitor-SNRI	108	Aug. 2003	2004
Singulair (montelukast)	Merck	Leukotriene D <sub>4</sub> -receptor Antagonist	105	Feb. 1998	1998
Lipitor (atorvastatin)	Pfizer	HMG-CoA reductase Inhibitor	93	Dec. 1996	1998
Ambien (zolpidem)	Sanofi-Aventis	hypnotic-sedative	88	Sept 2005	2005
Humira (adalimumab)	Abbott	Monoclonal antibody	88	Dec. 2002	2003
Imitrex (sumatriptan)	GlaxoSmithKline	Vascular 5-HT <sub>1</sub> -receptor agonist	82	Aug. 1997	1998
Viagra (sildenafil)	Pfizer	PDE5 inhibitor	80	Mar. 1998	1998
Neulasta (pegfilgrastim)	Amgen	G-CSF analogue	74	Jan. 2002	2002
Valtrex (valacyclovir)	GlaxoSmithKline	DNA polymerase inhibitor	72	June 1995	1996
Prevacid (lansoprazole)	TAP	Proton-pump inhibitor	71	May 1995	2000

# **U.S. Population Subsets**

## **U.S. Census 2006 American Community Survey**

**Adult U.S. population:  
75.4% (225,746,000) ≥18 years**

- **Elderly/Seniors**
  - **17%** (50,983,000) ≥ 60 years.
  - **6.1%** (18,293,000) ≥ 75 years.
  
- **Race, Ethnicity, and Language**
  - **66.2%** White (non-Hispanic or Latino)
  - **14.8%** Hispanic or Latino
  - **12.4%** Black or African American
  - **4.4%** Asian
  - **8.7%** speak English less than very well.

**(Census, 2008)**

**U.S. Population Subsets**  
**U.S. Census 2006 American Community Survey:**  
**225,746,000 people  $\geq$ 18 years**

■ **Household Income**

- \$15,000 - \$24,999-11.4%
- \$25,000- \$34,999- 11.2%
- \$35,000- \$49,999- 14.8%
- \$50,000- \$74,999- 19.0%
- \$75,000- \$99,999- 11.8%

■ **Median Household Income by Race**

- White \$52,375
- Asian \$63,642
- Hispanic or Latino \$38,747
- American Indian and Alaska Native \$33,762
- Black or African American- \$32,372

**U.S. Population Subsets**  
**U.S. Census 2006 American Community Survey:**  
**225,746,000 people  $\geq$ 18 years**

- **Education Level (over 18 years)**
  - **16.2%** non-high school graduate
  - **30.7%** high school graduate
  - **24.6%** Bachelor's degree or higher
- **Poverty Rate and Median Income by Education (over 25 years)**
  - **23.7%** non-high school graduate—**\$18,123**
  - **11.5%** high school graduate—**\$26,123**
  - **4.1%** bachelor's degree—**\$45,221**
  - **3.1%** graduate or professional degree—**\$59,804**

## **Comparing underserved populations with the general population:**

- What data have been reported regarding DTCA and U.S. consumers?
- What data have been reported regarding DTCA and underserved populations?
- Are there differences in exposure to, attitude toward, comprehension of, and behavior in response to DTCA?

# Exposure to DTCA

## General Population

- **96%** percent report having seen at least one DTCA (Prevention, 2004).
- **83%** saw DTCA in previous 12 months (Murray et al., 2004).

## Population Subsets

- **93%** of subjects  $\geq 60$  years have seen at least one DTCA (Prevention 2004).
- **88%** of subjects  $\geq 60$  years have seen DTCA on TV (Marinac et al. 2004).
- **90%** of subjects  $\geq 50$  years have seen a DTCA (Barrett, 2005).

# Exposure to DTCA

## General population

- **91%** have seen or heard some type of DTCA (Kaiser, 2008).
- **81%** have seen or heard a DTCA for prescription drugs in the past 30 days (Consumer Reports, 2008).

## Population Subsets

- **76%** of African-American patients\* in doctors' waiting rooms had seen a DTCA in previous two months (Allison-Ottey et al., 2003).

\*sample was 91% African-American, 5% Hispanic

# Behavioral Response to DTCA— Talking to Physicians

## General Population

- **32%** of DTCA-exposed consumers talked to a physician about DTCA drug; **8.3%** of exposed consumers asked for a prescription (Prevention, 2004).
- **12%** of exposed subjects talked to physician about information in a DTCA (Murray et al., 2004).

## Population Subsets

- **27%** of DTCA-exposed subjects  $\geq 60$  years talked to physician about DTCA drug; **4.1%** asked for a prescription (Prevention, 2004).
- **18%** of exposed subjects  $\geq 50$  years asked physician for DTCA prescription (Barrett, 2005).
- **5%** of subjects asking physician about DTCA drug were  $\geq 75$  years. They were less likely (**OR=.58**) to make RX requests than other groups. (Datti and Carter, 2006).

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scheduled a physician visit in response to DTCA (Murray et al., 2004).

- **32%** of exposed subjects (29.1% of all) asked physician about the specific drug they saw advertised (Kaiser, 2008).

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- **58%** of high school non-graduates scheduled a physician visit in response to DTCA (Murray et al., 2004).

# Behavioral Response to DTCA— Talking to Physicians

## General Population

- **31%** of DTCA-exposed patients asked physician about DTCA drug (Datti and Carter, 2006).
- **33%** of subjects who had a question for their physician were prompted by a TV ad, **19%** by a print ad (Aikin et al., 2004).

## Population Subsets

- **c. 29%** of African-American patients\* in doctors' waiting rooms said they had once asked physician for DTCA prescription (Allison-Ottey, et al. 2003). \*sample was 91% African-American, 5% Hispanic.
- Odds of African-Americans requesting a DTCA prescription were **58% higher** than survey counterparts (Datti and Carter, 2006).

# Physician Responses to Patient Requests

## General Population

- **84%** of direct DTCA prescription requests granted by physicians (**7.0%** of all DTCA-exposed subjects), (Prevention, 2004).
- **50%** of patients discussing DTCA drug were given a prescription—**25%** for DTCA drug, **25%** for another drug. Equals **10.9%** of all DTCA-exposed subjects (Prevention, 2004).

## Population Subsets

- **5%** of subjects receiving a DTCA prescription were  $\geq 75$  years. (Datti and Carter, 2006).
- **51%** of patients  $\geq 50$  years requesting DTCA drug (**8.3%** of all subjects  $\geq 50$  years) were given prescription by physician (Barrett, 2005).

# Physician Responses to Patient Requests

## General Population

- **58%** of high school graduates and higher requesting DTCA-inspired "intervention" received what they requested (Murray et al., 2004).
- **63% of** white subjects requesting DTCA-inspired "intervention" received what they requested (Murray et al., 2004).

## Population Subsets

- **29%** of non-high school graduates requesting DTCA-inspired "intervention" received what they requested (Murray et al., 2004).
- **30%** of non-white subjects requesting DTCA-inspired "intervention" received what they requested (Murray et al., 2004).

# Physician Responses to Patient Requests

## General Population

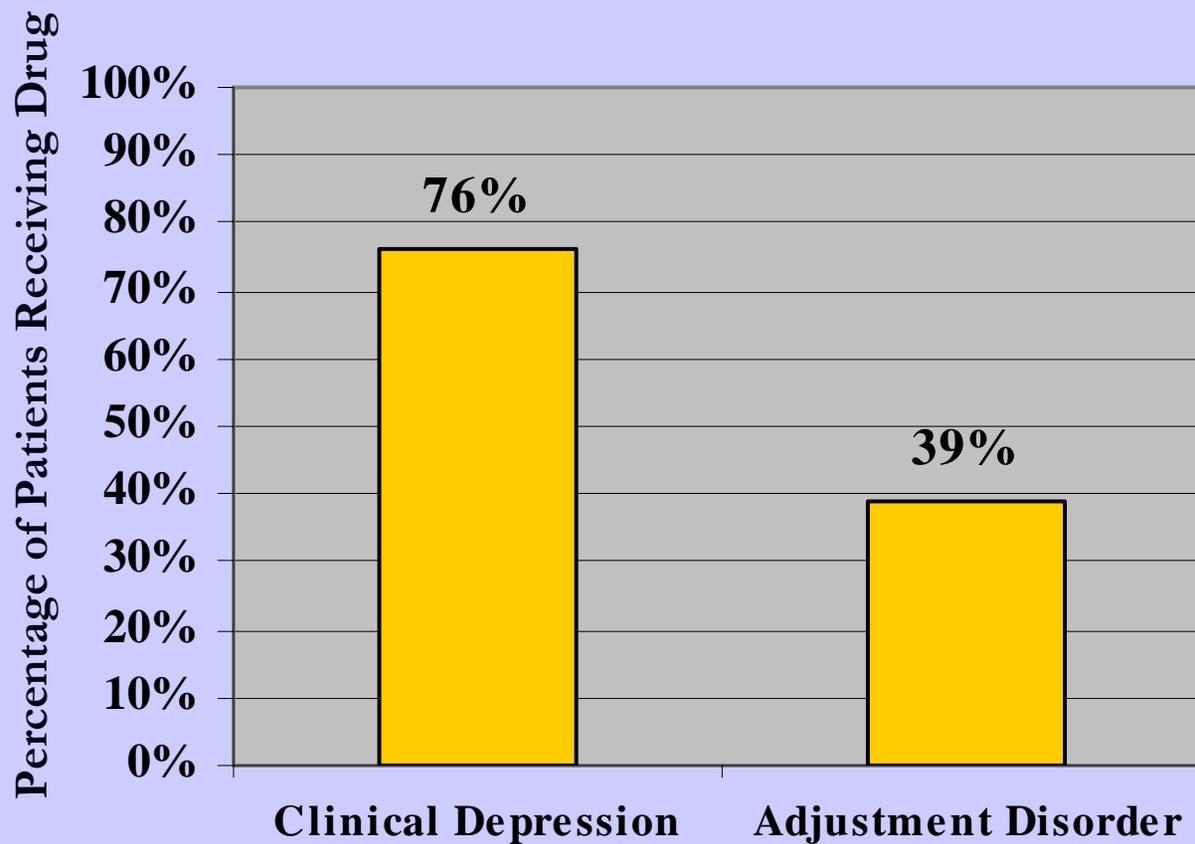
- **69%** of subjects asking about DTCA drug received a prescription (Datti and Carter, 2006).
- **44%** of patients discussing DTCA (**14.1%** of all DTCA-exposed subjects) received the specific prescription (Kaiser, 2008).

## Population Subsets

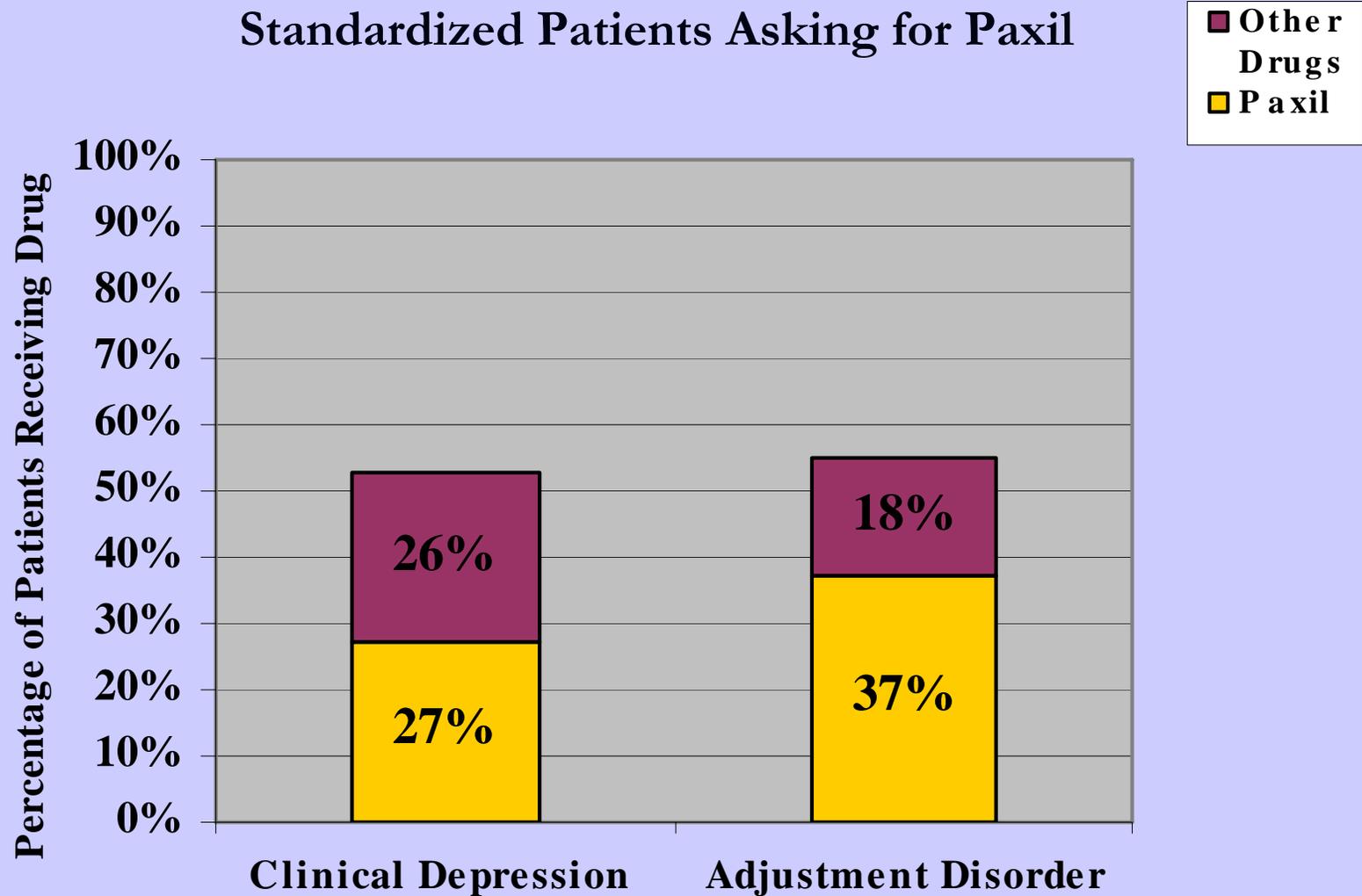
- c. 28% of African-American patients\* who had ever asked for DTCA drug (8.1% of all subjects) were given Rx (Allison-Ottey et al., 2003). \*sample was 91% African-American, 5% Hispanic.
- Odds of African-Americans receiving prescription were **63% lower** than other subjects (OR=0.37) (Datti and Carter, 2006)

# What happens when patients ask doctors for drugs? (Kravitz et al., 2005)

## Standardized Patients Asking for Non-Specific Prescription Drugs

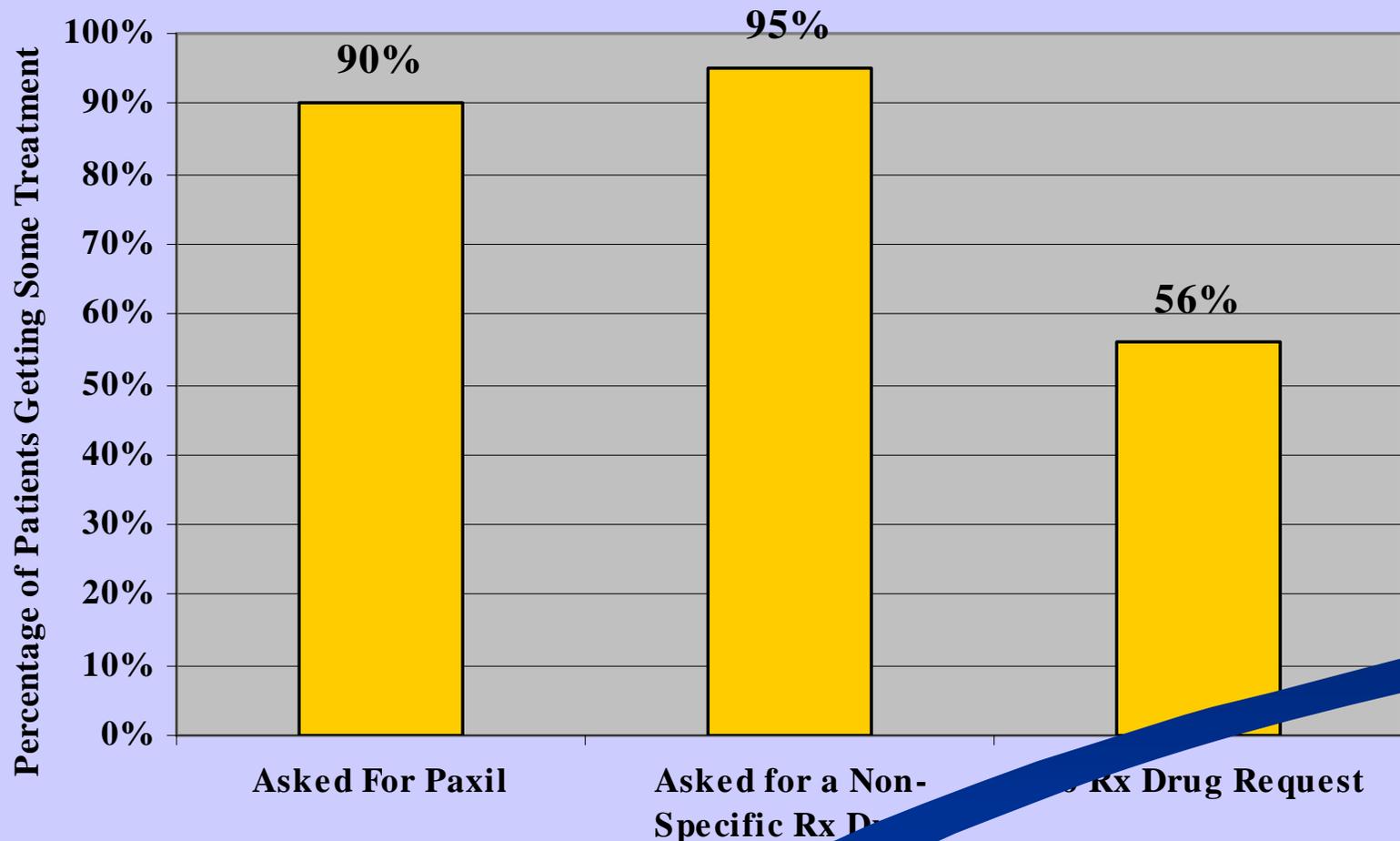


# What happens when patients ask doctors for drugs? (Kravitz et al., 2005)



# What happens when patients ask doctors for drugs? (Kravitz et al., 2005)

Standardized Patients Getting Some Treatment  
(Prescription, Therapeutic Referral, or Follow-up Visit)



# Perception of Risks and Benefits

## General Population

- Consumers overestimate side effect rates by up to **10 times** when no risk data is given in DTCA (Young and Oppenheimer, 2006).
- The presentation of specific, numerical risk data in DTCA correlates to reduced fear levels and increased intention to comply with the drug regimen (Young and Oppenheimer, 2006).

## Population Subsets

- A mean of **59%** of true-false comprehension questions about recently-viewed DTCAs were answered correctly by limited English literacy subjects. (Kaphingst et al., 2005). Odds of risk questions being correctly answered were lower than for benefits.

# Perception of Risks and Benefits

## General Population

- **36%** of high school graduates, **28%** with some college, and **23%** of college graduates said DTCA provided enough information to make a risk/benefit decision (Prevention, 2004).
- **7%** of prescription drug users stopped taking their prescription after viewing a DTCA, and **7%** switched to an OTC medication (Prevention, 2004).

## Population Subsets

- **43%** of non-high school graduates said DTCA provided enough information to make a risk/benefit decision. (Prevention, 2004).
- **71%** of consumers with high school degrees or less can comprehend numerical risk/benefit data presented in an experimental benefits table for print DTCAs (Schwartz et al., 2007).
- Subjects with high school degrees or less understood a "drug facts box" slightly less than those with at least some college (Schwartz et al., 2007)

# Perception of Risks and Benefits

## General Population

- Subjects told side effect is “common” estimated their own probability of suffering side effect at 56.6% versus actual rate of 6%. (Berry et al., 2003).
- Subjects given actual numerical side effect rate (6%), then asked what their probability of suffering side effect was, gave mean response of 19.9% (Berry et al., 2003).

## Population Subsets

- **60%** of seniors in a Kansas City-area survey reported that DTCA were often confusing and difficult to understand (Marinac et al., 2004).

# Perception of Risks and Benefits

## General Population

- **59%** of national adults recall some knowledge about risks associated with DTCA (Prevention 2007).
- Risks are recited nearly **50% faster than benefits** in a sample of television DTCAs (Kaphingst et al., 2004).
- **91%** of a sample of television DTCAs recite risks faster than benefits (Kaphingst et al., 2004).

# DTCA and Children

**Research data on DTCA and children's health is limited.**

- **16%** of U.S. adults provide medical care for children for a specific condition, **56%** for ADD/ADHD (Prevention 2004).
- **40%** of caregivers for children have talked to physician about DTCA drug for others, vs. **18%** of all caregivers (Prevention 2004).

## DTCA and Children

- Subjects with one child  $\leq 18$  years were **13%** more likely to request DTCA drug from a physician than others (Datti and Carter, 2006). Odds increased by 13% with each additional child.
- DTCA for depression and ADHD may destigmatize and “legitimate” these and other disorders (Feinberg, 2005).

# DTCA and the Internet

- 5 million consumers import drugs from outside the U.S. via pharmaceutical Web sites, according to PHRMA survey (Hoffman 2007).
- 2 million do so without a prescription.
- Price was given as the primary reason (85%).
- Most Web-imported drugs were antibiotics for infections, and drugs to treat allergies, pain, digestive problems, hypertension, and high cholesterol.

# Population Subsets and DTCA: Summary

- Population subsets see as much DTCA as others.
- Population subsets differ in their responses to DTCA:
  - Seniors tend to request prescriptions less often.
  - Seniors requesting prescription medication from physicians are likely to be referred for further treatment.

# Population Subsets and DTCA: Summary

- African-Americans tend to request prescriptions more often than other groups.
- African-Americans apparently do not receive requested prescriptions as often as other groups.

# Population Subsets and DTCA: Summary

- People with high school or less education view DTCA more favorably.
- People with high school or less education are more likely to agree that DTCA provides enough information to decide if drug benefits outweigh the risks.

# Population Subsets and DTCA: Summary

- Physicians may provide treatment and prescriptions more frequently to patients that request drugs than to those who do not.
- Consumers may overestimate a drug's risks when given either vague or specific risk information.

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