insurance coverage (OR, 1.768; CI, 1.745–1.792)and those with higher income
(OR, 1.552; CI, 1.537–1.568). The findings held true even after adjusting for
other demographic factors. CONCLUSIONS: Underuse of ICs continues to be a
problem in asthma patients. This not only makes the control of disease difﬁcult
but shoots up the health-care expenditure. A study was successful in ﬁnding out
vulnerable populations that can be targeted for inhaled corticosteroids use.
The importance of adherence to treat-
ment and inhaled corticosteroids use are issues that need to be addressed.

THE IMPACT OF THE FDA’S RISK EVALUATION AND MITIGATION
STRATEGIES (REMS) INITIATIVE ON PRESCRIPTION PATTERN FOR
DRUGS APPROVED UNDER THE REMS PROGRAM AND RELEVANT NON-
REMS COMPETITORS

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OBJECTIVES: To assess the impact of REMS approval on prescription pattern for
three oral drugs used to treat common chronic conditions. We assessed relative impact
on prescription volume for REMS-approved drugs against relevant competitors not
requiring REMS. We described these trends over the 2006–2009 period including the
9/27/2007 implementation of the REMS initiative. METHODS: We paired two top
prescribed drugs for the treatment of asthma (Advair/Singulair), diabetes (Actos,
Avandia) and insomnia (Ambien). Each pairing included a REMS-approved drug
(Advair, Actos and Ambien). We focused on the months leading to and following
REMS approvals. For each pairing, volume of total prescriptions (TRx), new
prescriptions (NRx) and prescription switches (SRx) were collected using the Verispan’s
VONA database. Statistical analyses were performed using one-way ANOVA.
RESULTS: There were no signiﬁcant changes (p > 0.05) in the volume of TRx, NRx
and SRx for Advair or Actos prior to or following approval. However, Ambien TRx
were signiﬁcantly higher during and after the last quarter of 2008 compared to previ-
ous months (p < 0.008) while SRx were lower (p = 0.04). This increase did not come
to the expense of Lunesta whose prescription volume stayed constant over the time
period considered. CONCLUSIONS: The fear that additional safety requirements
could be detrimental to drug prescriptions was not conﬁrmed in our analyses. In fact,
FDA requirement for REMS approval appeared to impact prescription volume favora-
ably for one of the drugs considered. One possible explanation is the potential for
increased interactions with providers thus the ability to better position the drug clini-

cally for one of the drugs considered. NATIONAL ALLERGIC DRUG UTILIZATION PATTERNS IN
ADULTS WITH ALLERGIC RHINITIS: NATIONAL AMBULATORY
CARE SURVEY RESULTS

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OBJECTIVES: To examine recent anti-allergic drug utilization patterns in adult
patients with allergic rhinitis using National Ambulatory Care Survey data.
METHODS: Data for this study was obtained from the 2006 and 2007 National
Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory
Medical Care Survey (NHAMCS) public use data ﬁles. Visits with a primary diagnosis
of allergic rhinitis in adults (age ≤18 years) were identiﬁed. Descriptive weighted
statistics was used to examine utilization patterns of various anti-allergic medications.
A multivariate survey logistic was conducted to determine demographic and geo-
graphic variations associated with anti-allergic medication use in patients with allergic
rhinitis. RESULTS: Allergic rhinitis accounted for 18.6 million adult ambulatory care
visits in the United States. The majority of the visits were made by females (61.4%),
whites (84.9%), and involved specimen (59.9%). Anti-allergic medications were
prescribed in 51.1% (95% CI: 39.2% –71.0%) of the total diagnosing visits. Antihis-
tamines were the most commonly prescribed anti-allergic medication (37.4%) (95% CI:
32.4%–46.1%) followed by intranasal steroids (28.3%) (95% CI: 23.2%–31.8%).
Topical nasal antihistamines and decongestants (7.8%) (95% CI: 2.7%–9.9%), leukotri-
ene (6.3%) (95% CI: 5.2%–6.8%), corticosteroids (3.4%) (95% CI: 1.3%–4.3%), and
oral decongestants (1.32%) (95% CI: 0.4%–2.1%) were the least prescribed anti-
allergic medications. The multivariate logistic regression revealed that geographic
region of the ofﬁce visits was signiﬁcantly associated with medication use. Outpatient
visits in the Midwest (Odd’s Ratio (OR) 5.16, 95% CI: 1.50–17.67), South (OR 6.3
95% CI: 2.03–19.5), and West (OR 9.16, 95% CI: 2.39–35.11) regions were more likely
to be prescribed anti-allergic medications compared to those in the Northeast region.
CONCLUSIONS: Anti-allergic medications are prescribed in a high rate in allergic
rhinitis visits in the U.S. The ﬁndings highlight geographical variations in anti-
allergic medication use for allergic rhinitis. Comprehensive research is needed to
understand the reasons for geographic variation in the medication use for allergic
rhinitis.

PRESCRIBING ANTIBIOTICS FOR ACUTE RESPIRATORY TRACT
INFECTIONS IN ADULT PRIMARY CARE PHYSICIANS IN NEW DELHI, INDIA

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OBJECTIVES: In the absence of community-based databases on antibiotic use in
developing countries recently a methodology was established for surveillance of anti-
biotic use at New Delhi by conducting ‘Exit Interviews’ of the patients. This study
was conducted to obtain information on current prescribing practices for acute
respiratory illnesses (ARI), a condition where misuse of antibiotics is common.
METHODS: Antibiotic use data was collected from public and private sector facilities
from four municipal wards (residential localities) around a tertiary care hospital where
the antibiotic resistance work was being conducted. For public sector, 8 dispensaries
(community health care) and 2 secondary care level facilities were enrolled. For private
sector, 20 willing and cooperative general practitioners and specialists practising in
the chosen areas were selected. Patients after consultation with prescriber were asked if
they had cough/common cold/throat symptoms of ARI. Patients with these symptoms
were enrolled for exit interview and higher prescription was moni-
tored. Antibiotic use data was collected per month over one year (December 2007–November 2008). The percentage of patients receiving antibiotic and pattern of consumption for various antibiotics was analysed. RESULTS: At public facilities 43.3% (746/1646) and at private facilities 56.7% (259/457) of patients with ARI were budgeted one antibiotic. In public sector, macrolides (29.3%), penicillins (26.3%), and cephalosporins (16.2%) and in private sector, cephalosporins (40%), fluoroquinolones (21.7%), and penicillins (19.7%) were mainly prescribed. At public facilities, main members from macrolides were roxithromycin and erythromycin; for penicillins, amoxicillin and amoxicillin/clavulanic acid; for cephalosporins, cefuroxime and cephalexin. At private clinics, for cephalosporins, cefuroxime, cefpo-
doxime proxetil, cefixime, cefixime/clavulanic acid; for fluoroquinolones, levofloxacin and ofloxacin; and for penicillins group amoxicillin/clavulanic acid were prescribed.
CONCLUSIONS: Over-prescription and irrational use of antibiotics was seen in ARI.
In-depth behaviour study for prescribers and strategies to manage ARI are needed.

ANTIBIOTIC PRESCRIBING FOR ACUTE RESPIRATORY TRACT
INFECTIONS IN ADULT PRIMARY CARE: IS GOOD INSURANCE BAD
FOR ANTIBIOTIC PRESCRIBING?

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OBJECTIVES: Substantial overuse of newer broad-spectrum antibiotics has been a
major public health concern as it results in drug resistance and substantial health care
costs. Little is known about how health insurance status is related with the prescribing
of antibiotics at the adult primary care. We aim to assess the relationship between broad-spectrum antibiotic prescribing and patients’ insurance status in treatment of acute respiratory tract infections (ARTI) in adult primary care using a nationally
representative sample. METHODS: We analyzed 2006 National Ambulatory Medi-
care Care Survey, for adult aged 18 years or older cared for ARTI. Those patients with a concomitant diagnosis with other common outpatient infections that might be