Assessing Physician Response to Interventions to Improve the Quality of Prescribing Behavioral Medications

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Presentation Outline

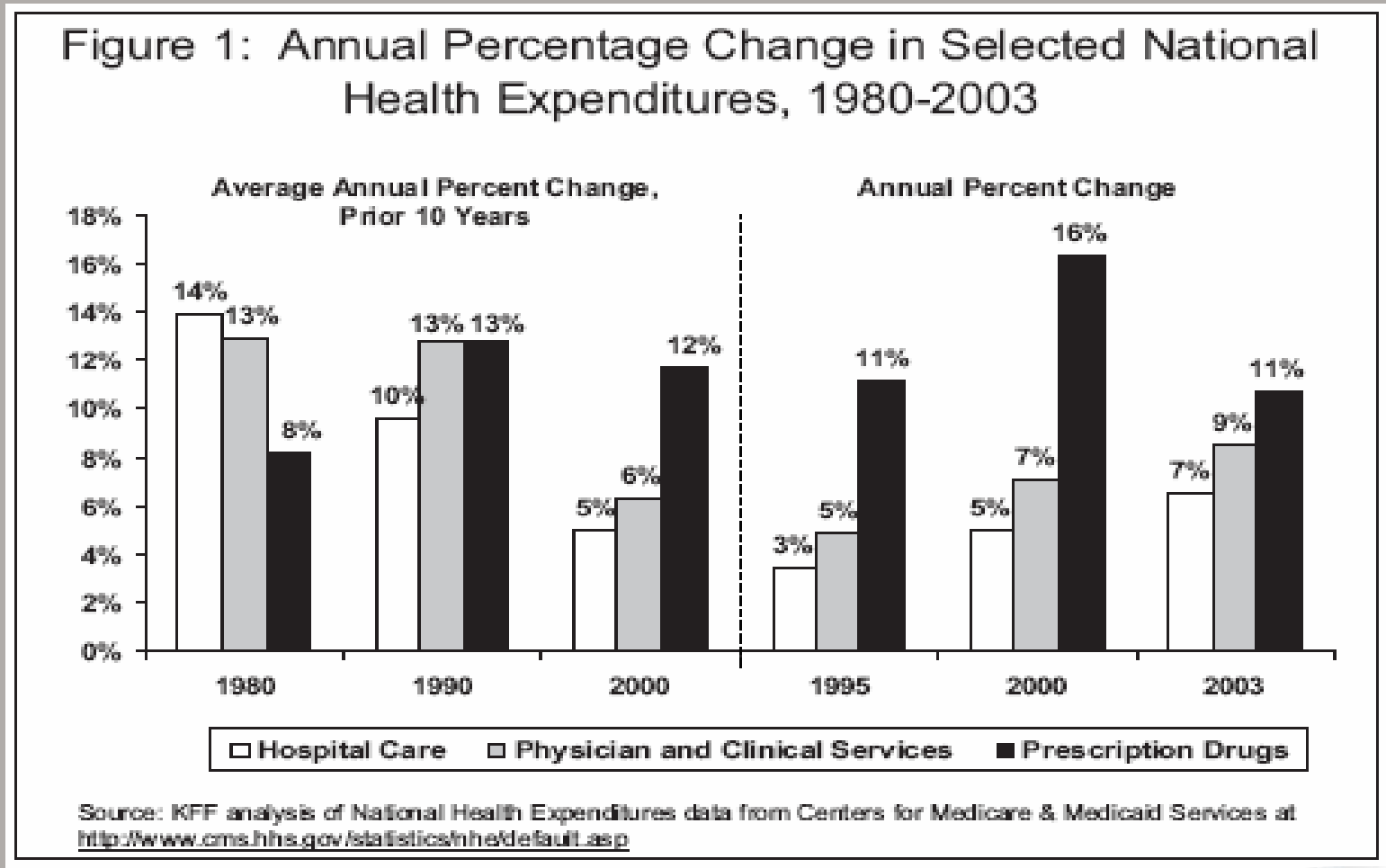
- **Background**
- **Methods**
- **Results**
- **Discussion**

Prescription Drug Expenditures

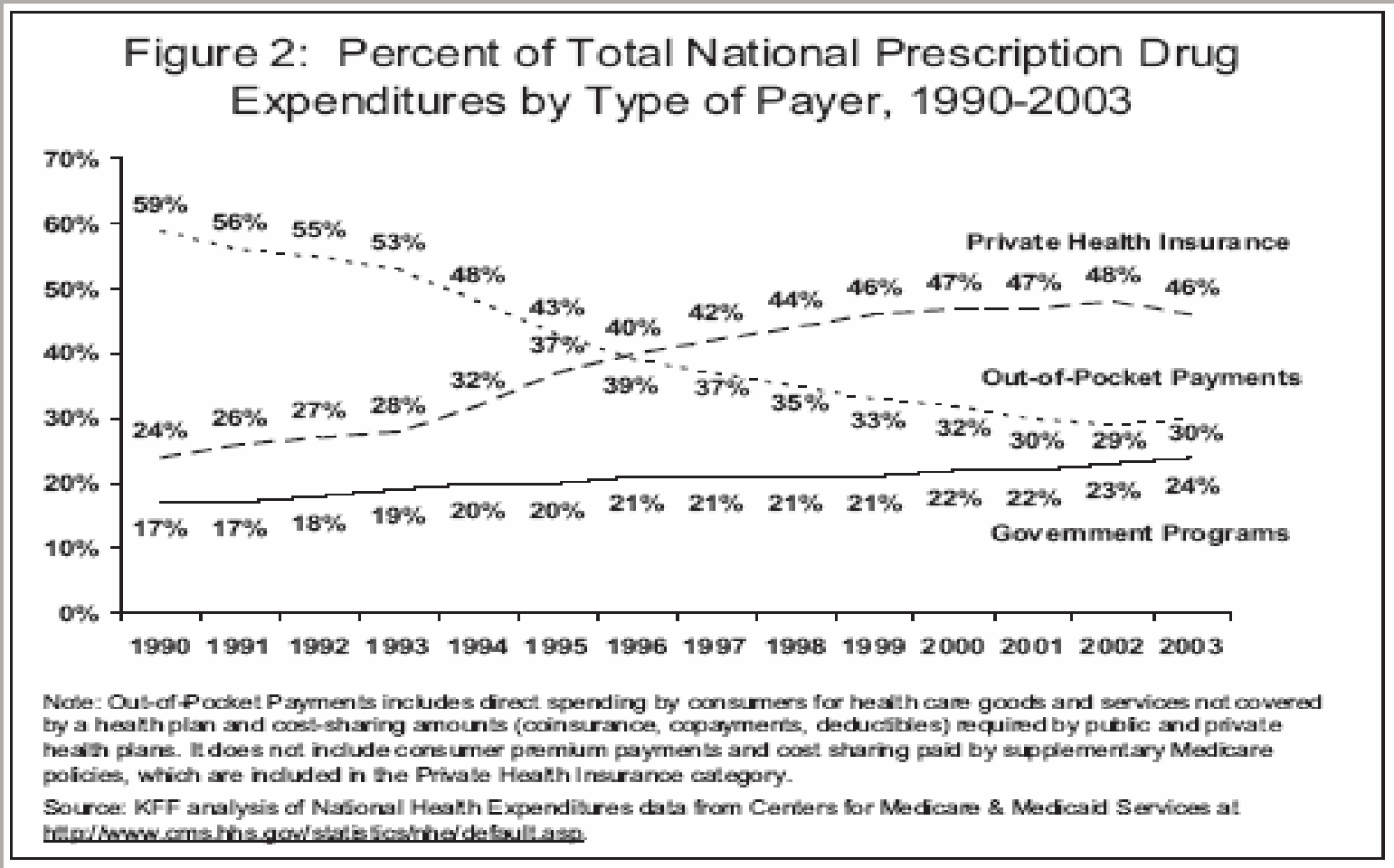
- Prescription drugs account for approximately 11% of national health care spending.

- Expenditures for prescription drugs have been increasing at a rate which exceeds that of physician or clinical services and hospital care.

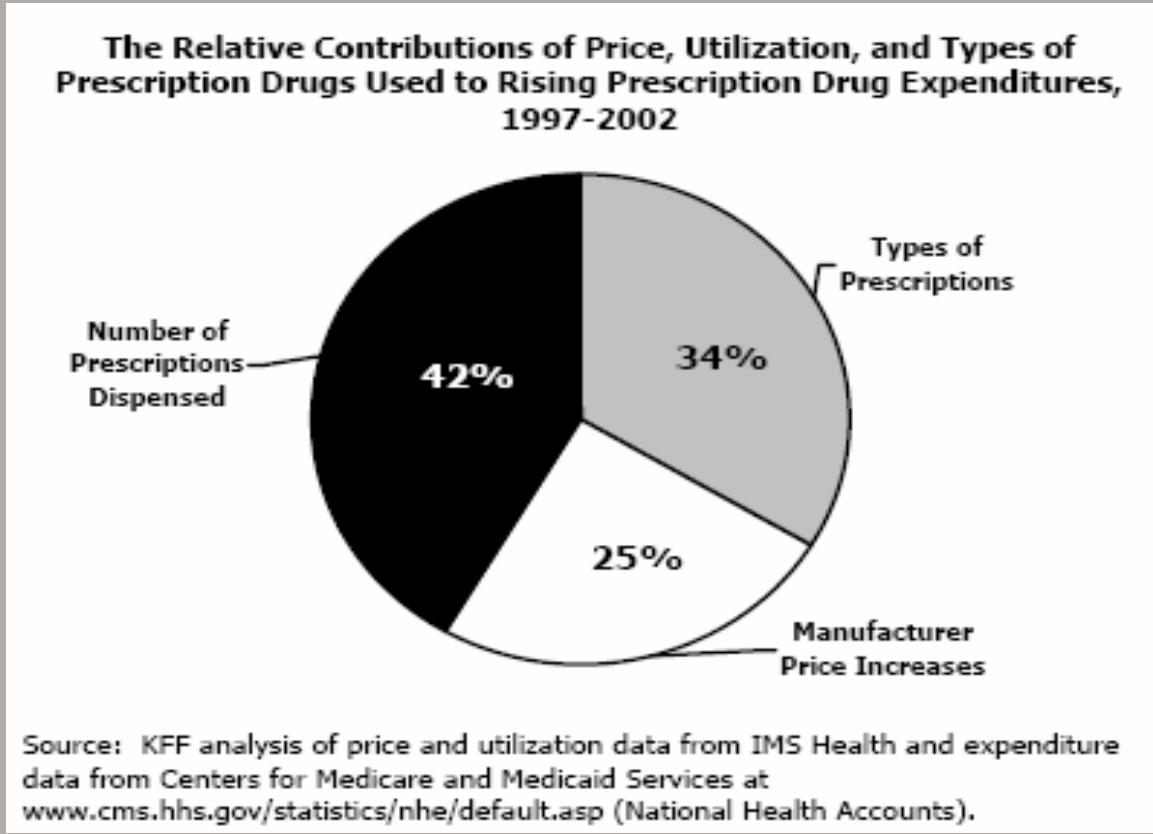
Prescription Drug Expenditures



Prescription Drug Expenditures

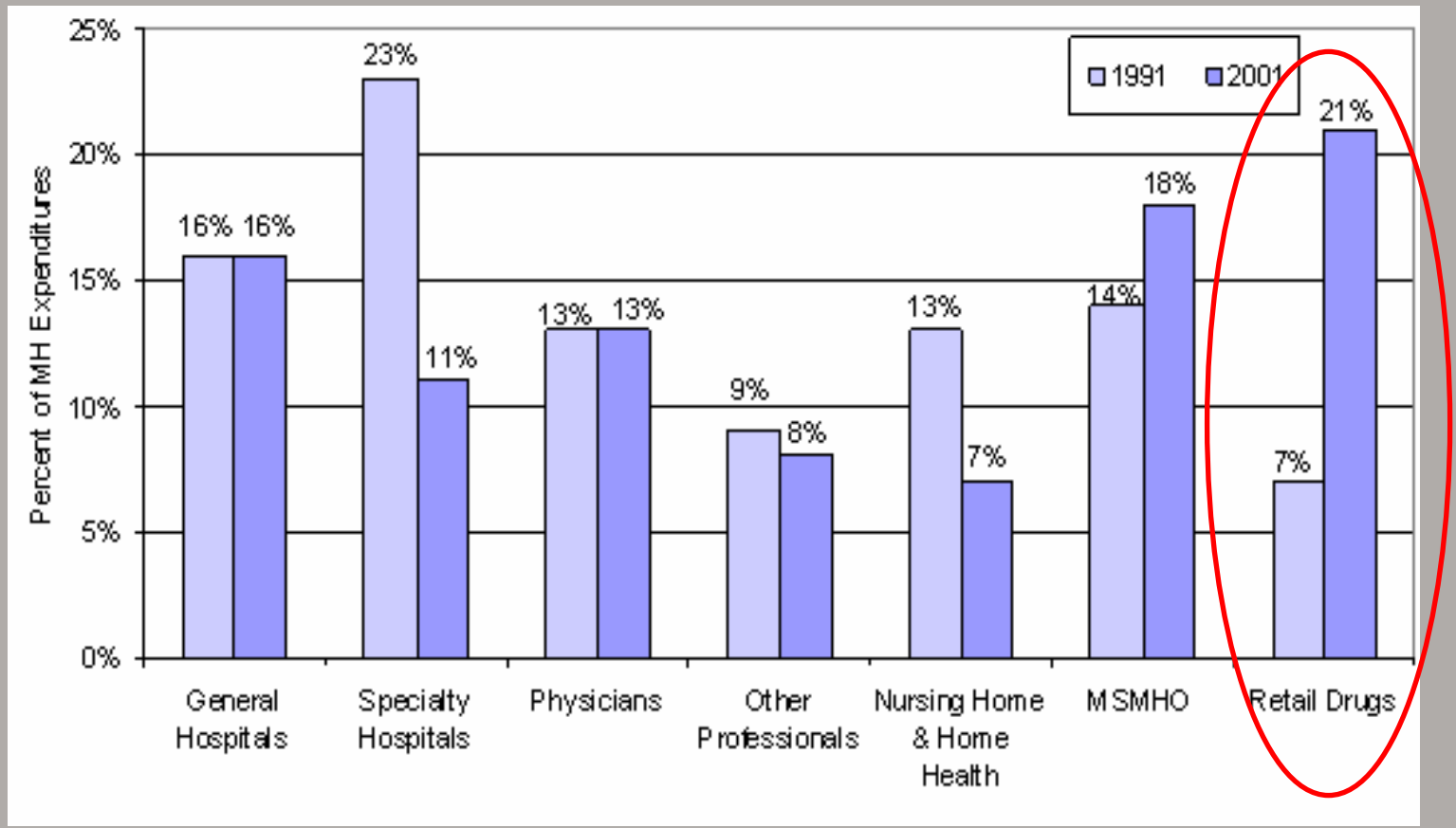


Prescription Drug Expenditures



Increase in utilization and the resulting polypharmacy has raised concerns about long-term iatrogenic effects.

Mental Health Expenditures



Source: SAMHSA. *National Estimates of Expenditures for Mental Health Services and Substance Abuse Treatment: 1991-2001*

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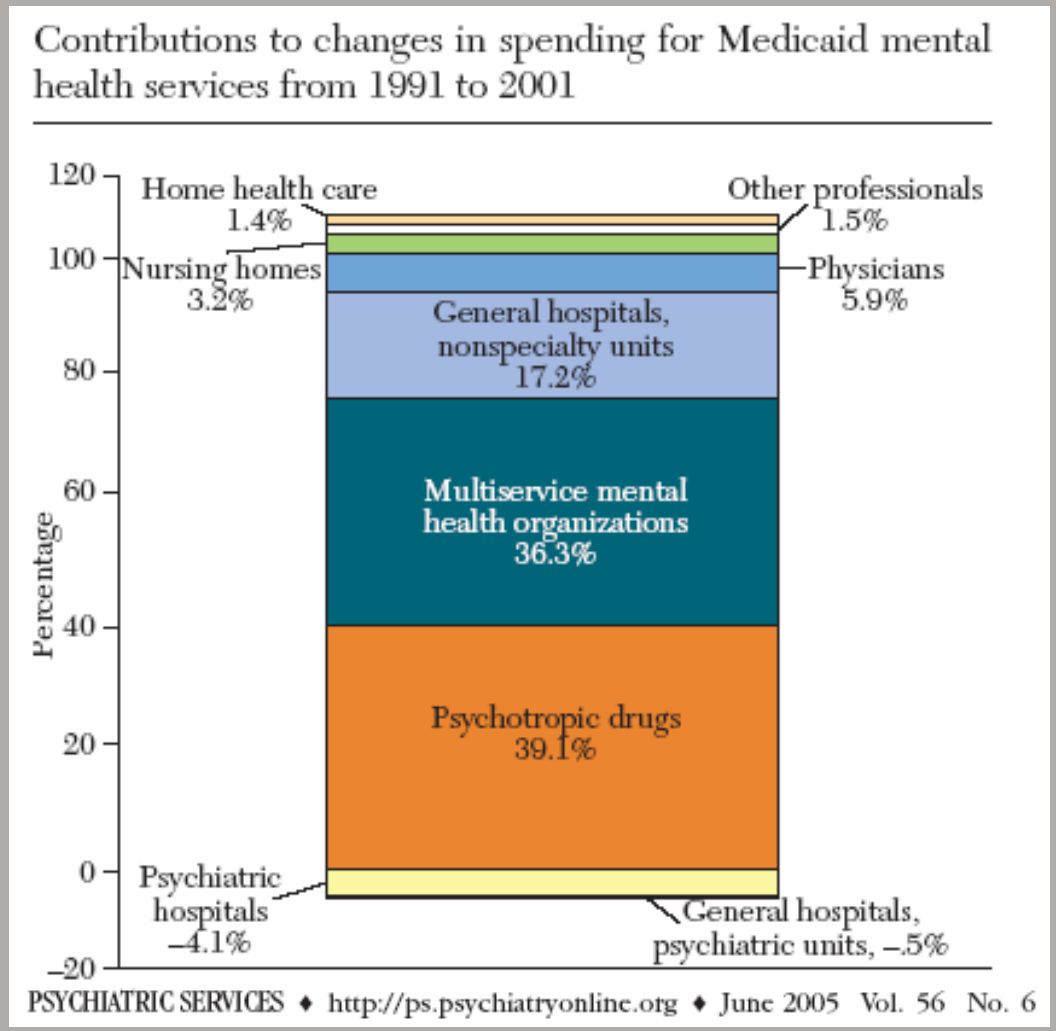
Medicaid Mental Health Expenditures



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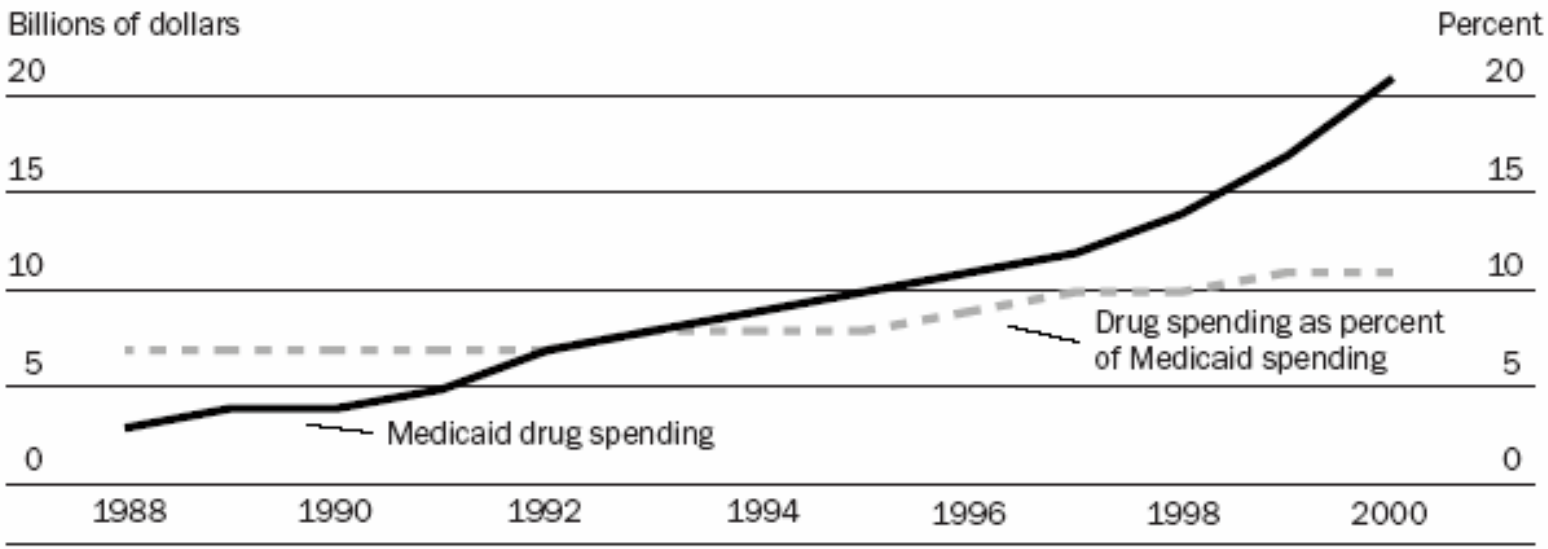
Medicaid Mental Health and Prescription Expenditures

Trends In Medicaid Spending For Prescription Drugs, And Drug Spending As A Proportion Of Total Medicaid Spending, 1988–2000



SOURCES: "Medicaid Payments, All Eligibility Groups, by Type of Service: Fiscal Years 1975–1998," *Health Care Financing Review, Medicare and Medicaid Statistical Supplement, 2000* (Baltimore: Centers for Medicare and Medicaid Services, 2000), 304; and CMS, "CMS Benefit Payments by Major Personal Health Expenditure Service Categories Calendar Year 2000," and "Medicaid Payments by Type of Service in Selected Fiscal Years," in 2002 *Data Compendium*, September 2002, cms.hhs.gov/researchers/pubs/datacompendium (11 April 2003).

Psychotropic Expenditures

- Psychotropics account for nearly 1/3 of all Medicaid prescription drug expenses.

- Antidepressant and antipsychotics account for 20% of Medicaid prescription drug expenses.

Prescription Drug Policy

- Due to budget shortfalls, prescription drug expenditures have received much legislative attention.

- Forty-six states adopted at least one cost-containment strategy for prescription drugs during 2003 by focusing on access to medications.

Cost-containment Strategies

- Restricted formularies
- Preferred Drug Lists
- Physician Prior Authorization
- Fail-First and Step Algorithms
- Prescription Limits
- Mandatory Generic Substitution
- Increase in Patient Co-payments

KEY: These strategies focus primarily on ACCESS and not necessarily on appropriate utilization.

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Cost-Containment Strategy Studies

Ray, WA, Daugherty, JR and Meador, KG. (2003) Effect of a mental health "carve out" program on the continuity of antipsychotic therapy. *New England Journal of Medicine, 348:19,*May 8, 2003.

- Study of TennCare Medicaid carve-out program in 1996
- Change in mental health service and prescription drug benefit under TennCare
- Examined the impact of this abrupt change for high-risk patients being treated in an outpatient setting for chronic mental disorders.
- Reported a significant increase in discontinuation of medication therapy that persisted throughout the year of the study.
- Program resulted in adverse clinical outcomes for patients—largely in terms of discontinuity in treatment, and especially in terms of psychopharmacology.

Cost-Containment Strategy Studies

Soumerai SB, McLaughlin TJ, Ross-Degnan, Casteris CS and Bollini P. Effects of a limit on Medicaid drug-reimbursement on the use of psychotropic agents and acute mental health services by patients with schizophrenia. N Eng J Med 1994 Sep 8;331(10):650-5.

- Concluded that restrictions on psychotropic medications within a Medicaid population result in a savings on the prescription drugs expenses; however, the savings from these policy changes are negated by the expenses incurred from increases in acute medical service utilization (e.g., emergency room visits, hospitalizations).

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Cost-Containment Strategy Studies

Kaiser Commission on Medicaid and the Uninsured. A case study: Michigican's Medicaid prescription drug program. January 2003.

- There were operational problems with the implementation of the prior authorization process that resulted in patients being hospitalized when they could not obtain some of their medications .

Behavioral Pharmacy Management Program

- An alternative to preferred drug lists, fail first approaches, case management or prior authorizations for psychiatric medications
- A quality improvement tool that also produces cost savings by aligning outlier physician prescribing practices with best practices
- Does not restrict or limit access to medications but is an alternative method for addressing utilization and the ultimate quality of medication use

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Behavioral Pharmacy Management Program

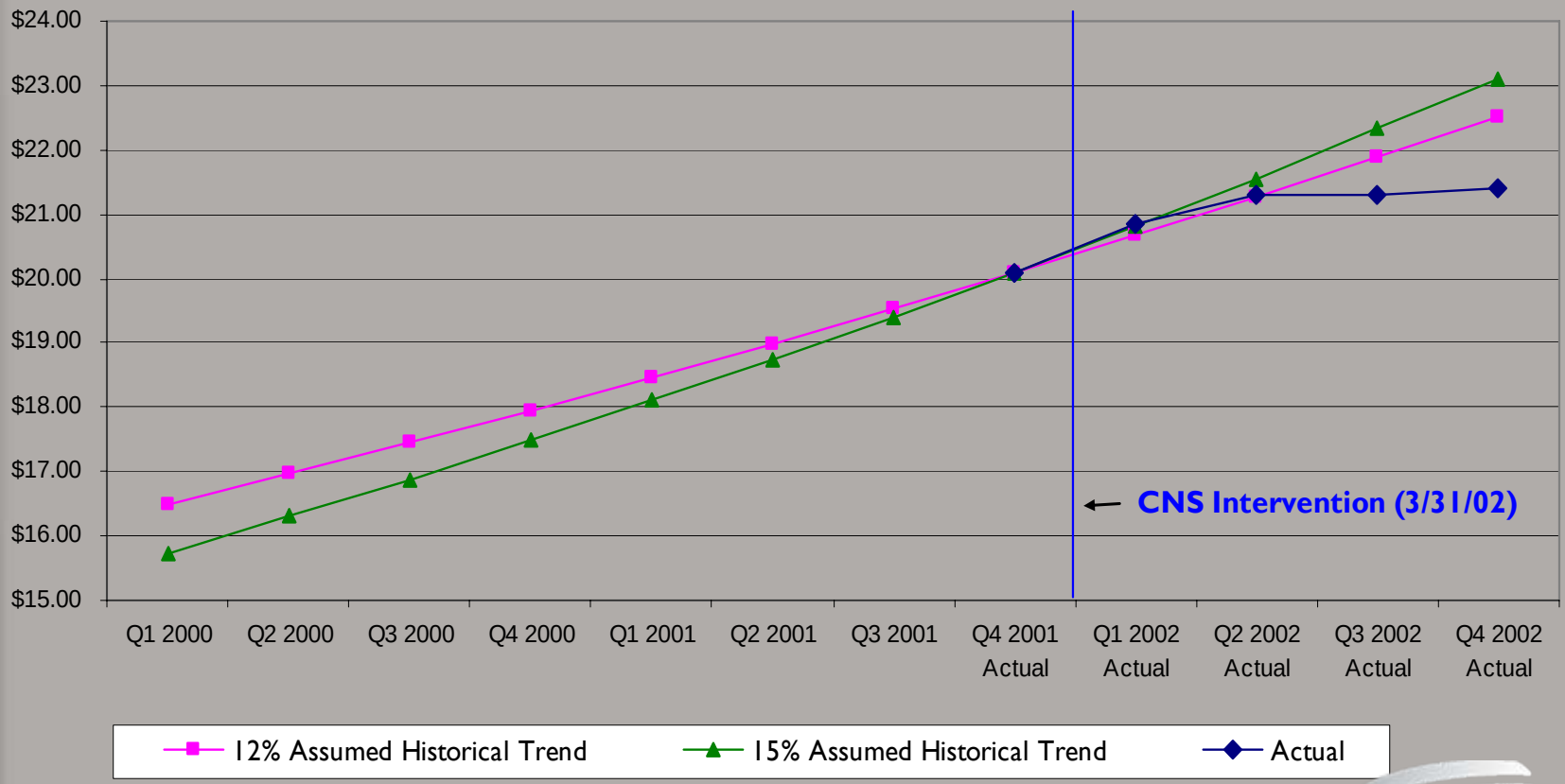
- Intervention is predicated on profiling and modifying physicians' prescribing practices through an educational intervention in an effort to bring prescribing into alignment with best practice guidelines.
- Retrospective analysis of pharmacy claims databases
- By using information technology, the intervention uses a new and unique approach to managing the issue of rising prescription drug costs.

Best Practice Guidelines

- Don't tell you what decision to make, but identify the range of potential decisions and provide you with the evidence which, when added to your own clinical judgment and the patient's values and expectations will help you to make your own decision in the best interest of the patient.

Missouri Experience

Calculated historical drug PMPMs assuming 12% & 15% inflation



Research Question

If we can optimize prescribing with the intervention (Behavioral Pharmacy Management Program), will it result in decreased rates and use of hospital services, a recognized outcome for interventions and will this subsequently decrease the overall cost of care for the patient?

Presentation Outline

- Background
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Methods
Data Source/Population

- Medicaid claims database, including pharmacy, inpatient and outpatient claims, for the state of Missouri.

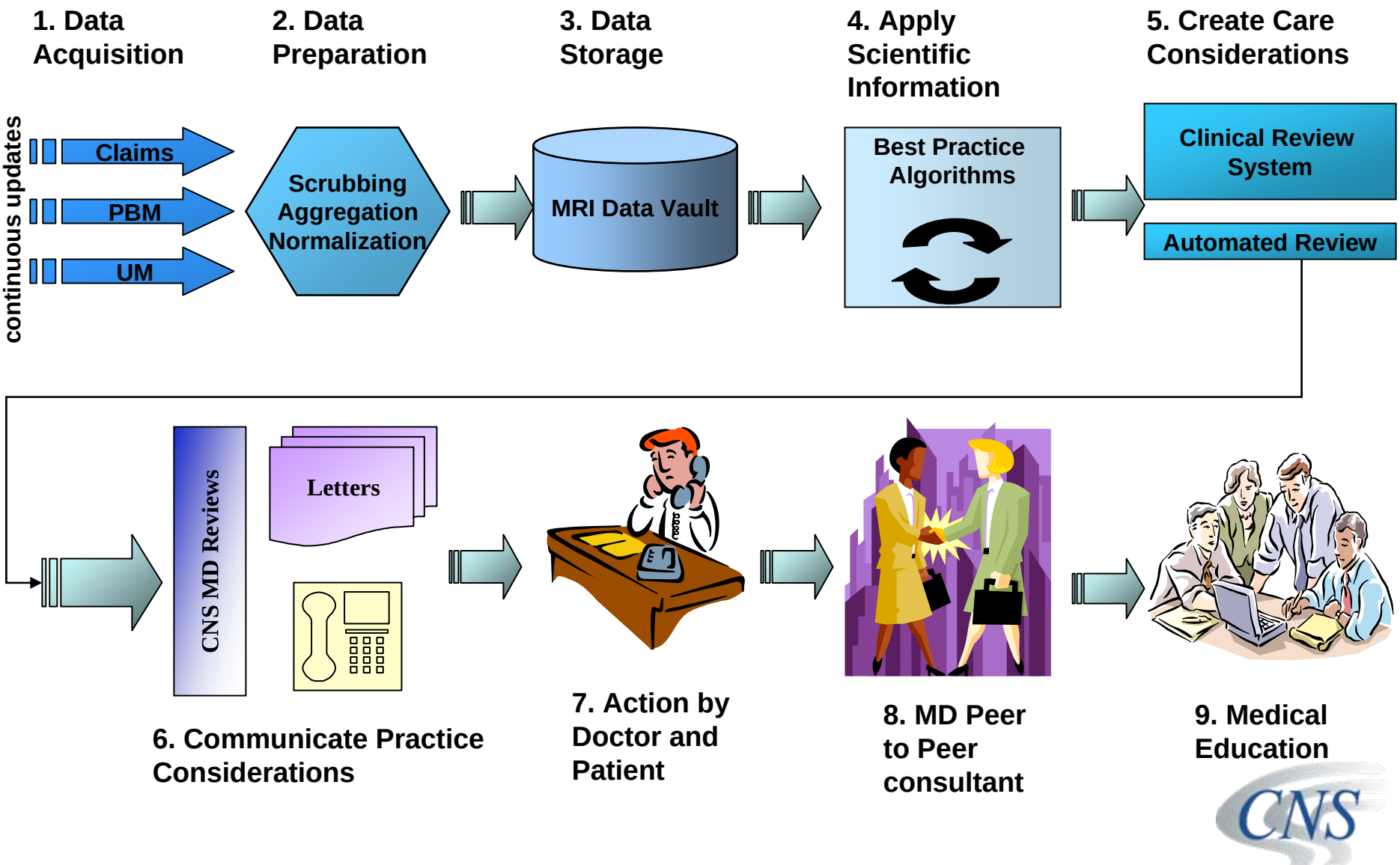
- Used claims data for Medicaid-eligible recipients who had at least one prescription for a medication related to management of a behavioral health condition.

- Claims were matched with each physician's quality indicator report and mailing data produced from the Behavioral Pharmacy Management (BPM) intervention algorithm.

Methods
Intervention

- Behavioral Pharmacy Management (BPM) is a quality improvement tool that has been implemented in Missouri to optimize prescribing of psychotropics in an effort to control utilization and cost of these medications.

Behavioral Prescriber Management Services Delivery Process



Methods
Intervention

- BPM focuses on the use of over 200 psychotropic medications that are classified as:
  - Anxiolytics
  - Sedative hypnotics
  - Andtidepressants
  - Mood stabilizers
  - Atypical antipsychotics
  - Typical antipsychotics
  - Stimulants
  - Antidyskinetics
  - Opiates

Methods
Intervention

- Each month, the psychotropic prescription drug claims for the Medicaid program are analyzed by comparing them to quality indicators that are indicative of questionable prescribing patterns.

- Focus is on:
  - Risk
  - Redundancy
  - Continuity
  - Coordination

Methods
Intervention

QUALITY METRICS

- Polypharmacy
  - Antipsychotics, Benzodiazepines, Sedative Hypnotics, SSRI, TCAs, Stimulants
- Antipsychotics
  - High and low dose
- Multiple Prescribers
- Discontinuation of an Antipsychotic

Methods
Intervention

- Physicians who are identified as having potential deviations from best practice guidelines as outlined in the quality indicators receive a mailed intervention.

- The mailed intervention includes:
  - a quality consideration letter outlining the potential deviation
  - a 90-day pharmacy claims history of patients in their practice to whom the selected indicator applies
  - best practice guidelines and empirical references related to the clinical issue

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Example of Letter's Message

Patient Name: **Health Plan:**		**Reporting Period:** **Physician Name:**	
Pharmacy Claims History:			
Date	**Drug**	**Dose**	**Frequency**
Metric	**Clinical Issue**	**Clinical Consideration**	**References**
2 or more SSRIs	**The serotonin transporter is saturated by adequate doses of any SSRI. Combining SSRIs offers no benefit when compared with an adequate dose of one agent.**	1. **Consider stopping one of the two SSRIs and maximizing dose of the other.** 2. **For treatment resistance, consider discontinuing one or both and start an antidepressant with different mechanism (e.g., buproprion) or broader spectrum of action (e.g., SNRI) or augmentation strategy.**	**Danileviciute, V., & Sveikata, A. (2002). Contemporary approach to pharmacological and clinical aspects of novel antidepressants. Medicina, 38, e231-3239.** **Shelton, R.C. (2003). The use of antidepressants in novel combinations. *J. Clinical Psychiatry, 64* (Suppl. 1), 14-18.** **Stahl, S.M. Basic mechanisms of antidepressants, Part 1: Antidepressants have seven distinct mechanisms of action. *J. Clin Psychiatry*, 59 (Suppl. 4), 5-14.**

Methods
Intervention Cohort

- Recipients whose physician received a BPM intervention mailing for at least one of the program's quality indicators during February and March 2004

- Exclusion criteria
  - Any recipient who had been in a nursing during the analysis timeframe
  - Any recipient who was not continuously eligible for the analysis timeframe
  - Any recipient whose physician has received an intervention prior to February 2004

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Methods
Comparison Cohort

- Constructed to document any time influences or contemporaneous trends in payments within the Medicaid program.

- Comparison group selected using Propensity Scoring methodology
  - One of the more robust techniques used to identify a matched comparison group in administrative claims.
  - Created by matching on key variables to ensure that the intervention and comparison groups were similar in patient characteristics.

Methods
Propensity Scoring

- Identified major factors associated with the outcome of interest (hospital admission and overall cost of care.
  - Wanted to select similar patients in terms of risk of deterioration of their mental health state, comorbid conditions, etc.

- Final propensity scoring analysis included:
  - **Charlson Comorbidity score**
  - **Mental health diagnosis**
  - **Mania**
  - **Psychoses**
  - **Schizophrenia**
  - **Drug abuse**
  - **Patient age**

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Methods
Propensity Scoring

- The resulting propensity score variable contained five strata: 1) < .198; 2) .198 - .368; 3) .369 - .537; 4) .538 - .707; 5) > .707.

- These strata were then used to group all patients in the study group by risk of hospital admission in the six months prior to receiving the intervention.

- The 1911 patients were distributed as follows among the five propensity strata: 1) 1307; 2) 581; 3) 13; 4) 8; 5) 2.

Methods
Periods of Analysis

- **Pre-exposure**
  - Six months (182 days) prior to the date of the mailed intervention
- **Post-exposure**
  - Six months (182 days) after the date of the mailed intervention
- Two consecutive mailings (February and March 2004) were selected for analysis.
- A before-after analysis was used to examine within group differences between the time periods.

Methods
Primary Study Outcomes

- Hospital bed days
- Rate of hospitalizations
- Mean hospital admissions
- Average behavioral pharmacy cost of care
- Average non-pharmacy cost of care

Presentation Outline

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Results
Demographics

	Intervention	Comparison
Age—Mean (SD)		
Years	39 (18.1)	40 (11.8)
Gender—Frequency (%)		
Male	797 (42)	1035 (54)
Female	1114 (58)	876 (46)
Race—Frequency (%)		
White	1652 (86)	1303 (68)
Non-White	213 (11)	570 (30)
Unknown	46 (3)	38 (2)
Dually Eligible—Frequency (%)		
Yes	1103 (58)	1077 (56)
No	808 (42)	834 (44)

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Results
Hospitalization Rates

	Pre-Exposure six months before Intervention	**Post-Exposure** six months after Intervention	**Difference**
Intervention Cases (n=1911)	**16.8%**	**9.5%**	**-7.3% p=0.0001**
Comparison Group (n=1911)	**15.3%**	**15.2%**	**-0.1% p=0.8926**

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Results
Mean Hospital Admissions

	Pre-Exposure six months before Intervention	**Post-Exposure** six months after Intervention	**Difference**
Intervention Cases (n=1911)	**0.31**	**0.16**	**-0.15 p=0.0001**
Comparison Group (n=1911)	**0.32**	**0.30**	**-0.02 p=0.3264**

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Results
Total Hospital Bed Days

	Pre-Exposure six months before Intervention	**Post-Exposure** six months after Intervention	**Difference**
Intervention Cases (n=1911)	**3494**	**1681**	**-1813 p=0.0003**
Comparison Group (n=1911)	**4785**	**4097**	**-688 p=0.6627**

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Results
Non-Pharmacy Cost of Care

	Pre-Exposure six months before Intervention	**Post-Exposure** six months after Intervention	**Difference**
Intervention Cases (n=1911)	**$6347**	**$5109**	**-$1238 p=0.0003**
Comparison Group (n=1911)	**$5946**	**$5634**	**-$312 p=0.3692**

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Results
Prescriber Change

- Assessed patient/physician/quality indicator combination 3 months AFTER the mailed intervention

AT Time of Intervention	3 Months AFTER Intervention	Prescribing Change	% Changed within 3 months
2994	340	2654	88.6%

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Discussion

Two major findings from this study:

1. The BPM physician-oriented intervention is associated with a decrease in hospitalizations as evidenced by reductions in the overall rates of admission, the mean number of admissions per patient and the total patient days.

2. There is an overall reduction in the total average non-pharmacy cost of care for Medicaid recipients whose physician received an intervention.

Discussion

As hypothesized, the BPM intervention does not cause a disruption in care and appears to play a role in the overall reduction in hospital utilization and cost of care for the patients.

Discussion

Possible explanations for improvement in patient outcomes:

- All of the prescribing changes were completely individualized by the prescribing physician.
- The physician is given feedback based on his own prescribing patterns and encouraged to adhere to a set of recognized best practices within his own practice of medicine.
- There is no mandatory intervention required by the prescribing physician at the patient level as there are with preferred drug lists or fail first mechanisms.

Discussion

Barriers to Physician compliance with an intervention based on best practice guidelines:

- Lack of knowledge by the physician
- Low self-efficacy
- Negative outcome expectancy belief
- Disagreement with best practice in particular patient populations

Discussion
Study Limitations

- The intervention cases serve as their on control and post-exposure outcomes were compared to those in the pre-exposure period.
- Our method for selecting the comparison population did not capture unmeasured biasing variable, and that a selection effect could bias our results.
- There may be unobserved covariates that are related to the intervention that were not included in the selection of the comparison population.
- These are findings from one state where BPM is being offered to the Medicaid program.

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Discussion

- Shift to MMA has changed priorities of Medicaid Authorities
- Although Dual Eligibles have moved to Medicare, a significant percentage of those that remain in Medicaid continue to need psychotropic medications and acute care
- The use and cost of medications, particularly ADHD drugs, will continue to increase

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QUESTIONS

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