Jail Diversion in Bexar County, Texas: A Cost Study

Presented by Alexander J. Cowell

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Structure

- Background
- Two Research Questions
- Methods and Results for each
- Conclusions
- Next Steps

Background: Jail Diversion

- Jail Diversion in Bexar County
  - Started to build the program in 2001
  - Began in earnest in 2003
  - 2005 incorporated 24/7 medical clearance
  - Now has both pre- and post-booking
    - Two types of post-booking
- For more
  - Speak with Gilbert, Leon Evans, or Aaron Diaz!

Background: Jail Diversion

- Two types of diversion
  - Pre-booking
  - Post-booking
- Many flavors within each broad type
- Bexar County is unusual
- Has both types and two flavors of post-booking
  - Bond (early) and docket (late)

Background: Jail Diversion

- Estimates of impact of jail diversion vary
  - Some improvements in outcomes detected
  - Depend on the specific type of diversion implemented

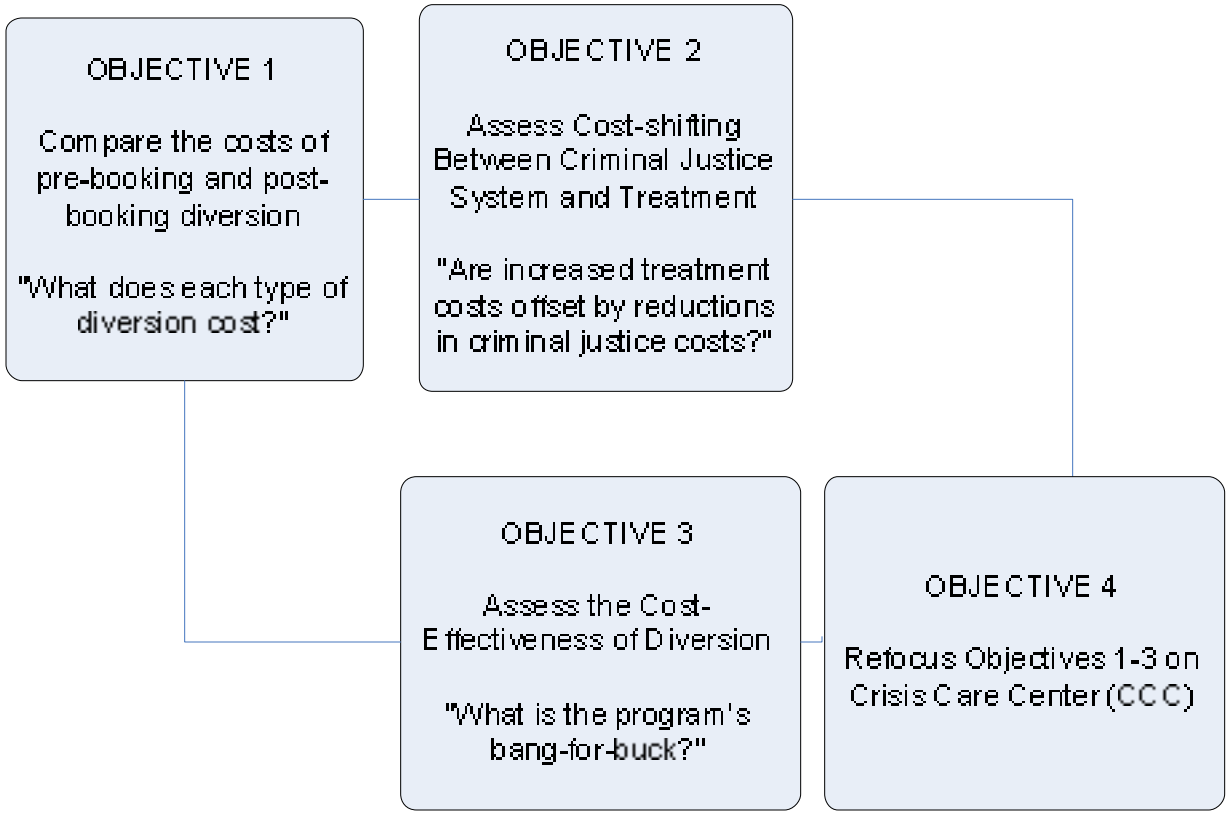
- Relatively few published cost analyses
  - Cowell et al. (2004)
  - Critical considerations are what the diverted are diverted *from* and what they are diverted *to*

Background: Project

- In Fall of 2005 NCBHS released RFP
  - 18 month study to conduct cost-outcome study of Bexar County Jail Diversion program
  - Competitive bid
  - Awarded to RTI International
- Began work in February 2006

Study Objectives

- 4 Inter-connected Objectives

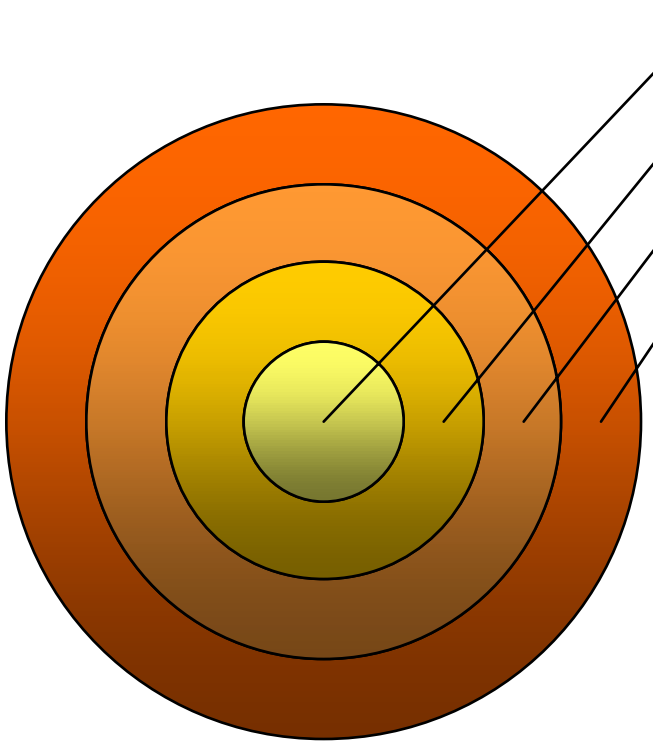


Research Questions

- Objectives 1 and 2
  - 1a. Estimate ‘Start up’ costs
  - 1b. What does it typically cost to divert someone?
  - 2. How do costs shift between treatment and criminal justice agencies?
- Perspective = Bexar County and City of San Antonio

Methods: Research Question 1a

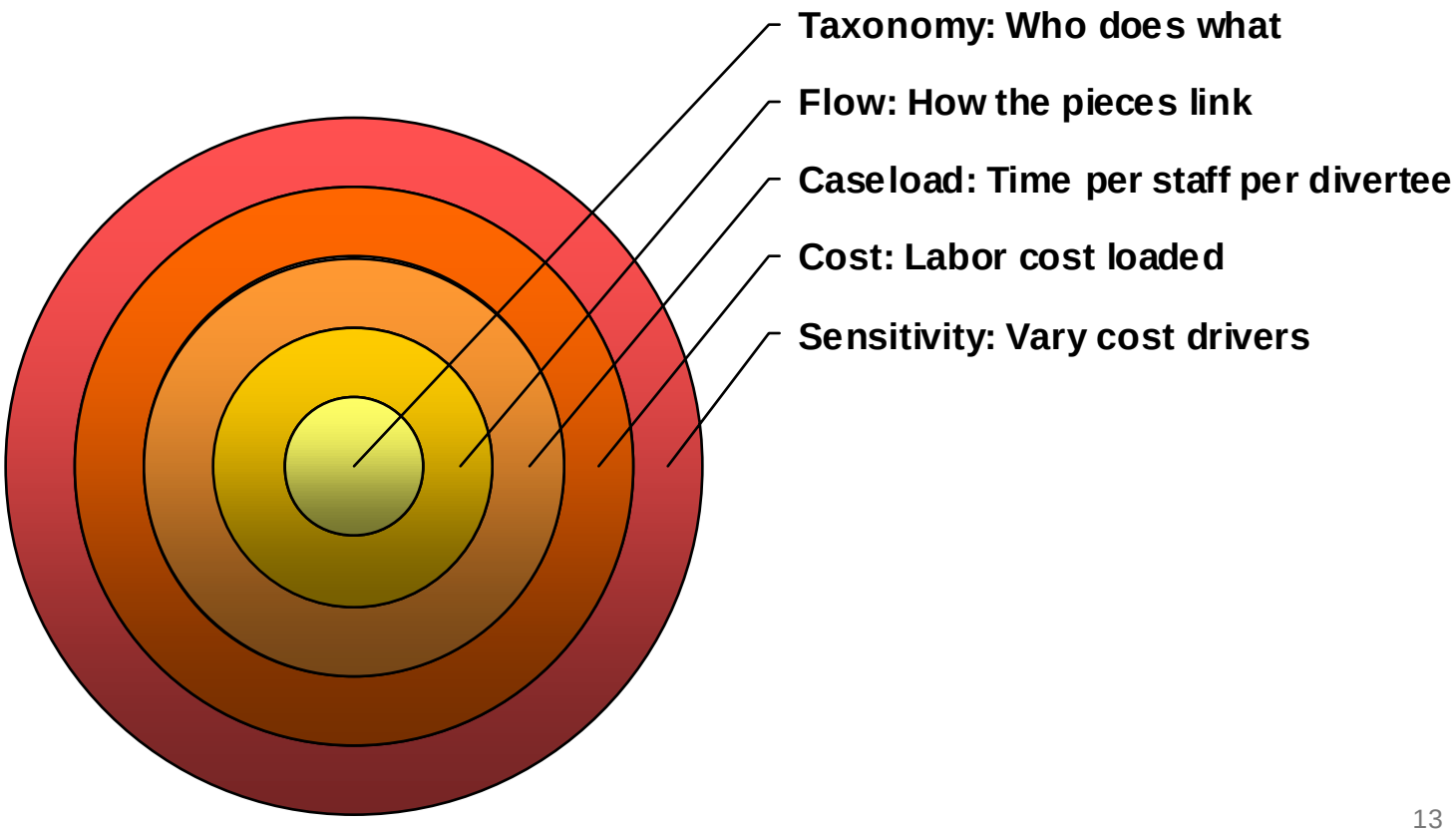
- Estimate the value of the resources needed to start the program



Results: Research Question 1a

- Total Start up cost over 4 years: $556,683.69 ($139,159.67/year)
  - Mr. Gonzales - 77% of the cost
  - 23% of the cost from meetings with other stakeholders
    - 2% in individual or small group meetings
    - 21% in larger group and committee meetings
- Mr. Gonzales spent 515.92 hours in meetings
  - 136.63 large meeting hours, averaging $853.93/hour
  - 374.8 small meeting hours, averaging $35.03/hour

Methods: Research Question 1b



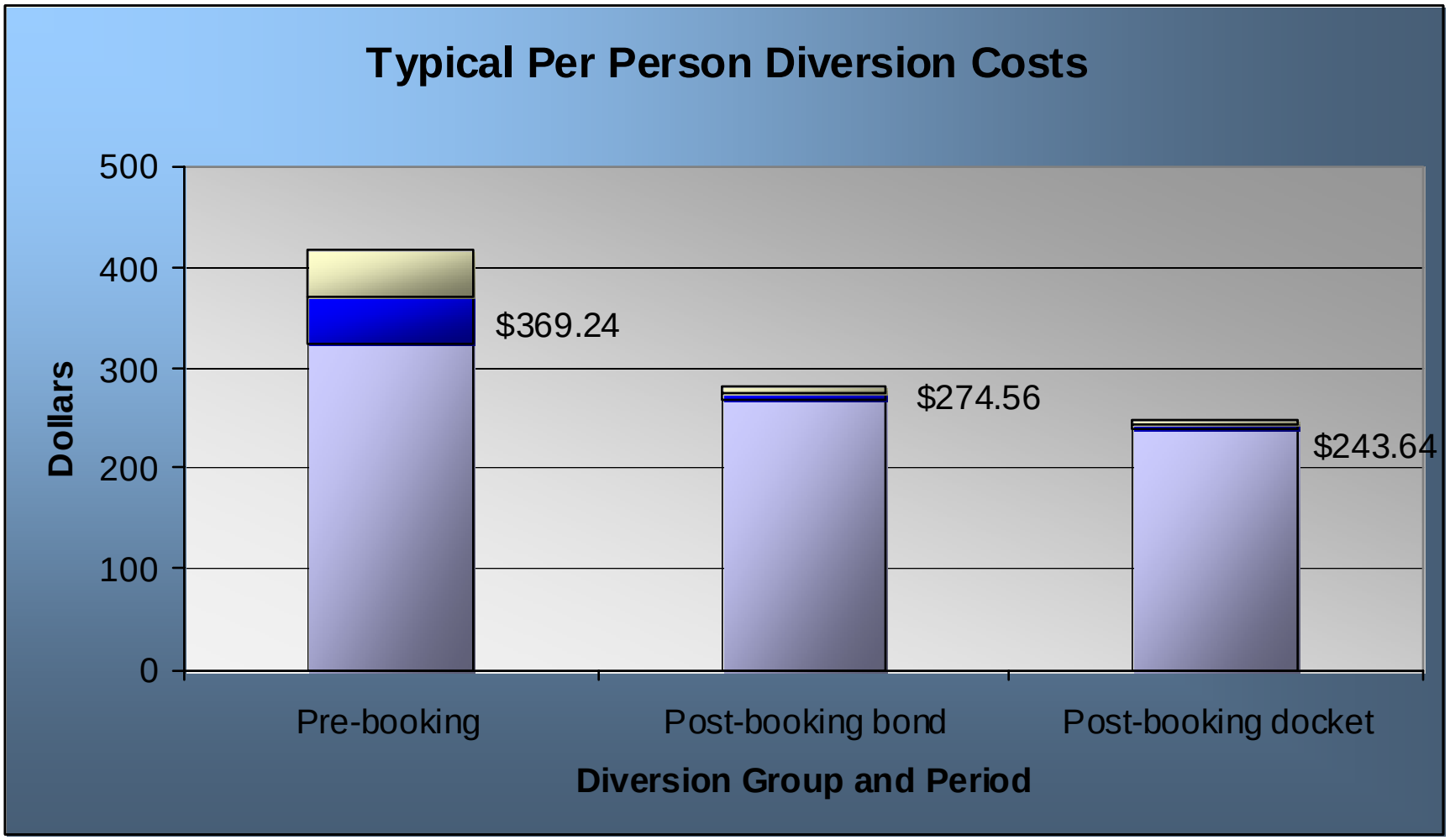
Methods: Research Question 1

- Time per staff person per divertee is the critical component
  - Semi-structured interviews with stake-holders
- Sensitivity analyses important
  - A number of assumptions made
  - Results presented as low, medium, high

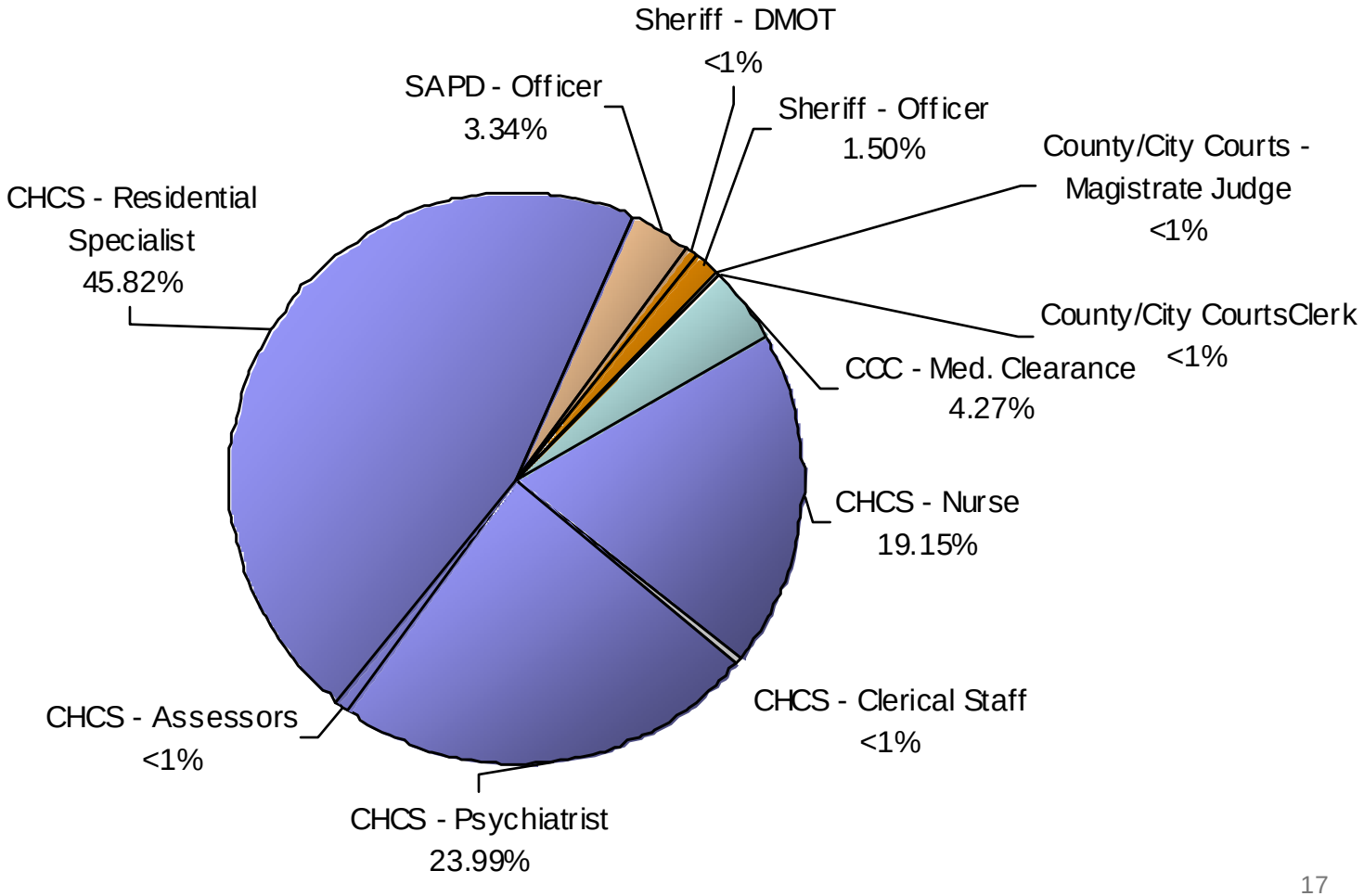
Methods: Research Question 1

- Includes only those costs associated with diversion
  - Narrowly defined cost
- Means the following examples would be *excluded*
  1. Pre-booking case in need of major medical clearance
     - Officer time spent in ER accompanying client
     - EMS
  2. Post-booking docket/bond
     - Jail resources used to incarcerate individual
     - Court appearances not designed to assess for diversion

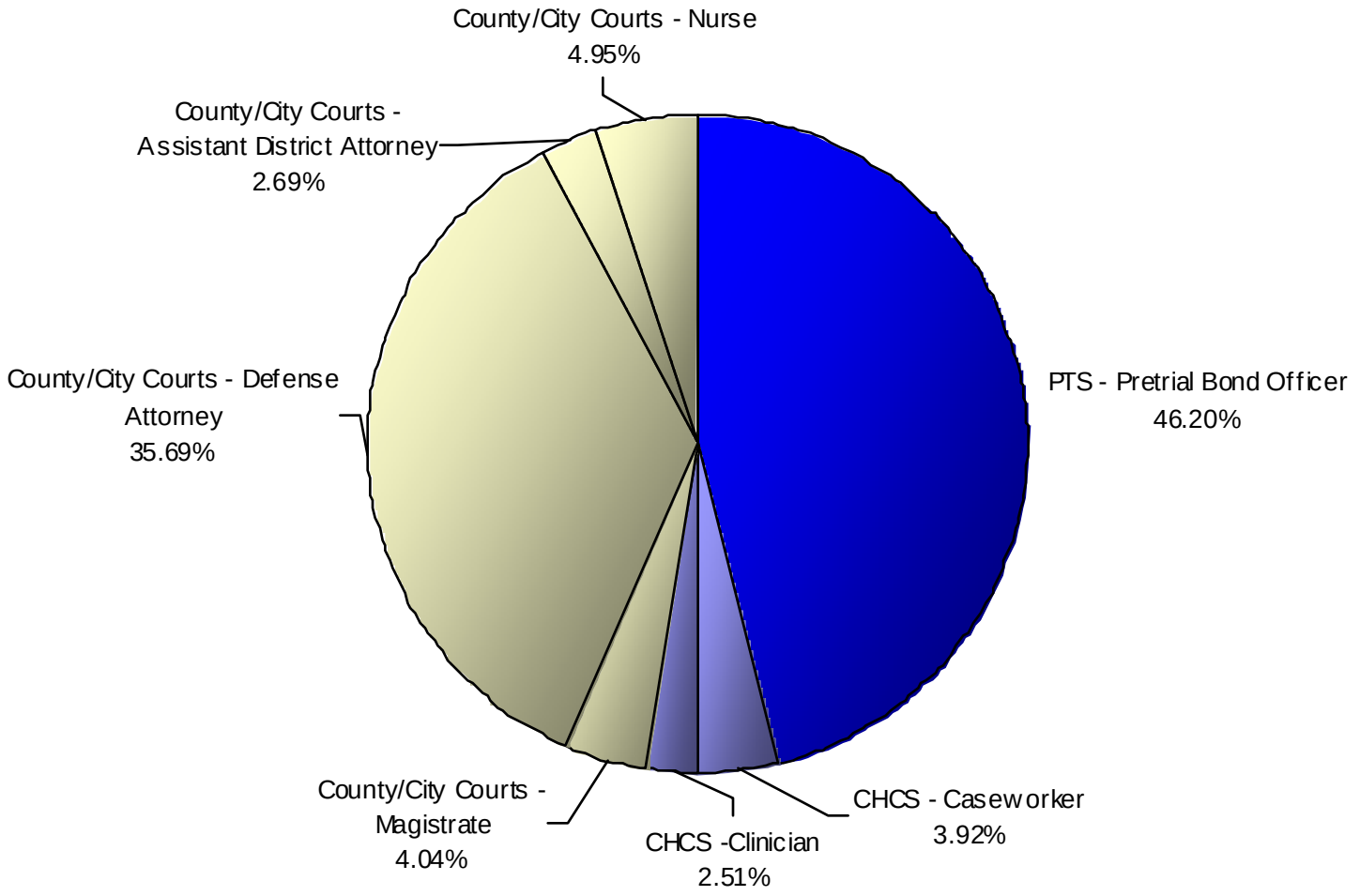
Results



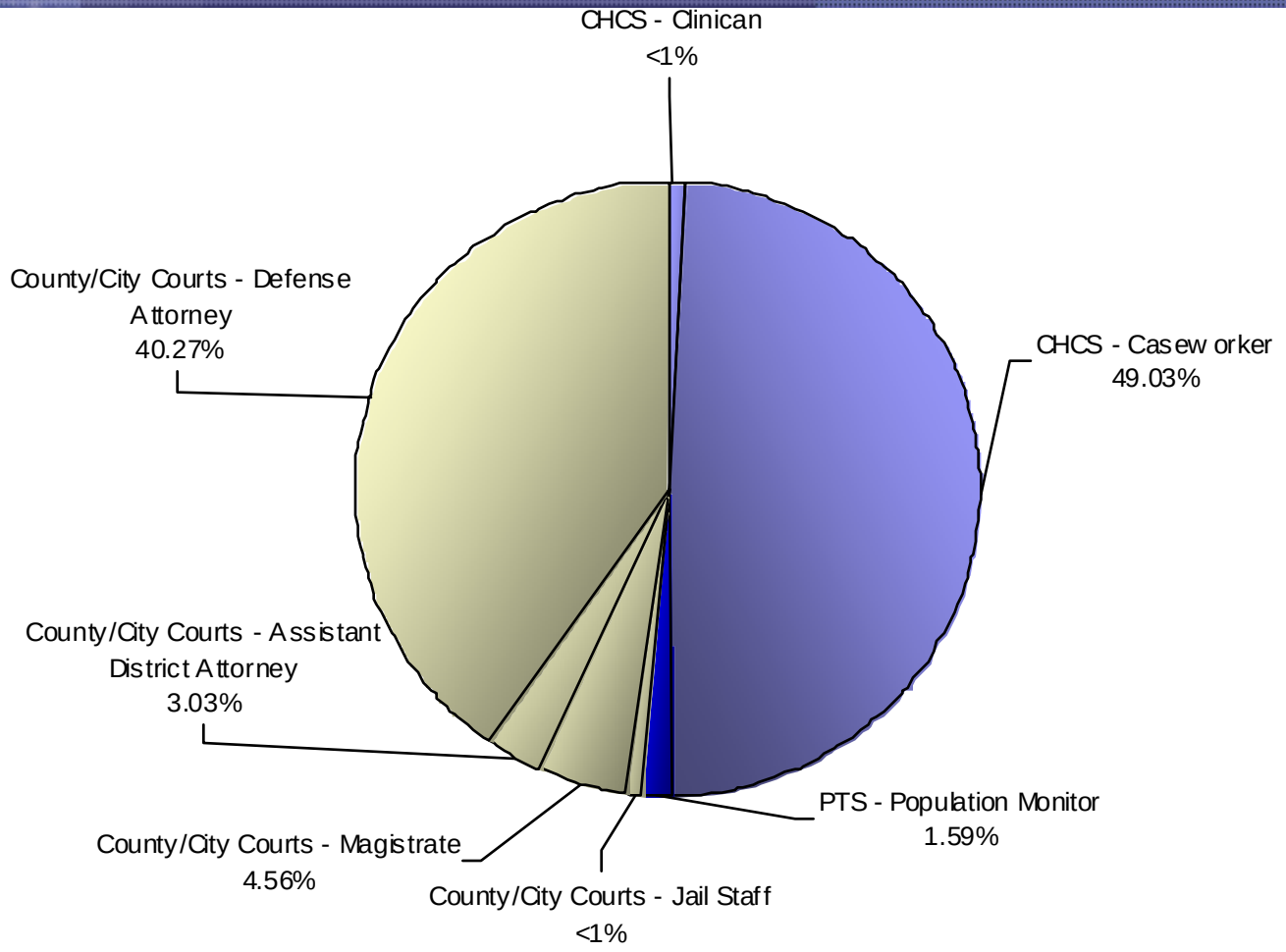
Pre-booking: Who Pays What Share



Post-booking Bond: Who Pays What Share



Post-booking Docket: Who Pays What Share



Conclusion – Research Question 1

- Pre-booking costs are highest at $369.24 (medium)
- Both types of post-booking lower, at $274.56 and $243.64
- Important (and deliberate) exclusions
  - E.g. Jail time for the post-booking

Conclusion – Research Question 1

- 90 cents of the pre-booking dollar is paid by local mental health provider
- Of the post-booking bond dollar, 48 cents is paid by the courts and 46 cents by PTS
- Of the post-booking docket dollar, 48 cents is paid by the courts and 48 cents is paid by the mental health provider

Methods: Research Question 2

- Samples
  - Two diverted groups – pre- and post-booking from 9/03 until 5/06
  - Two comparison groups
    - Pre-booking comparison – historical comparison = those who would have been diverted during the period March – September, 2001
    - Post-booking comparison – refusers

Methods

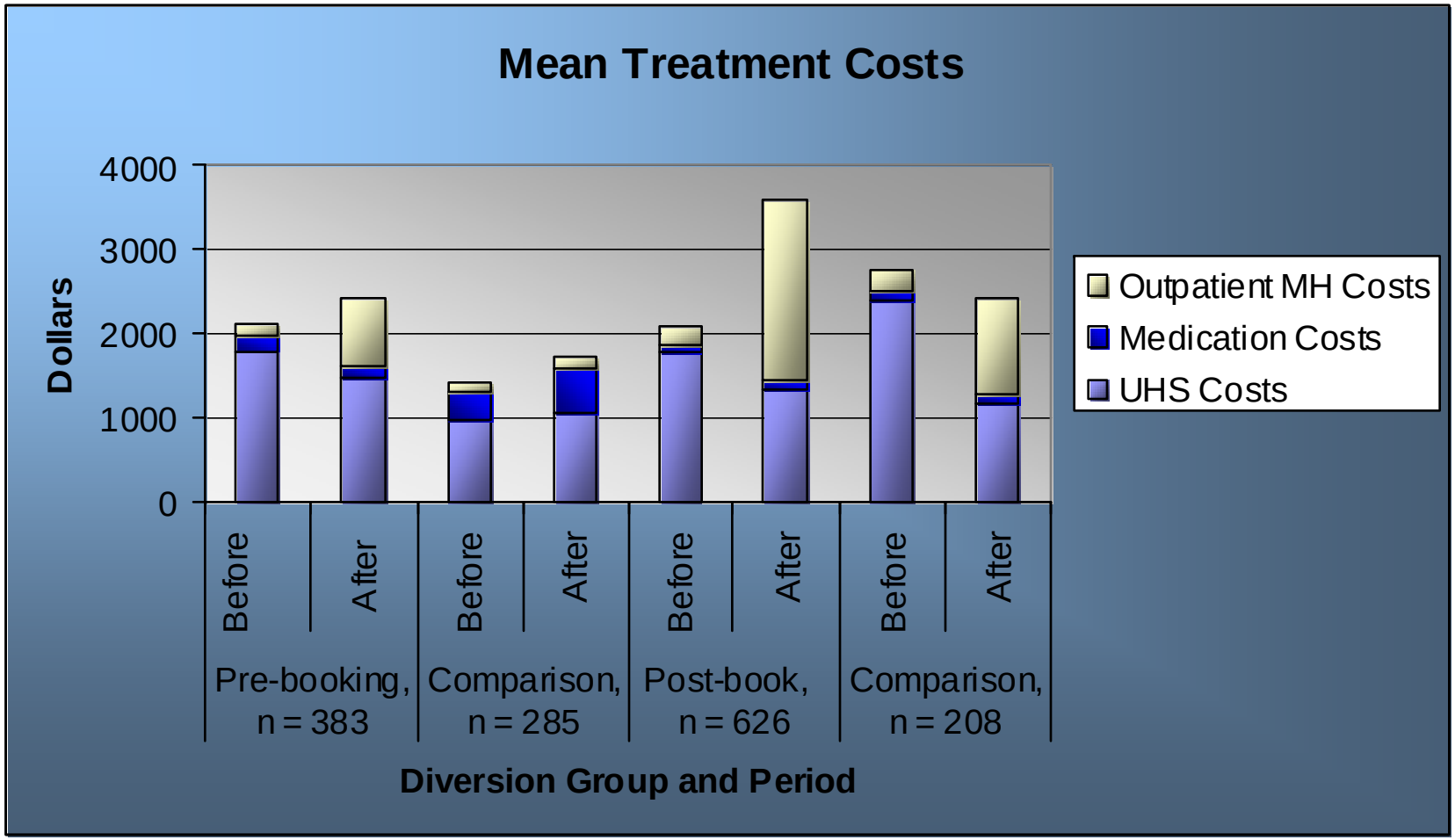
- Two periods to compare –
  - 12 months before point of diversion
  - 12 months after point of diversion
- Two sets of groups to compare –
  - Pre-booking and a comparison
  - Post-booking and a comparison

Methods

- Descriptive means

- Multivariate models
  - Two part model
    1. Probability of an event (binary dependent variable)
    2. Cost conditional on the event occurring (regression on natural log of dependent variable)
  - Effect identified by interaction between indicator for diversion status and indicator for before/after period

Results: Treatment



Preliminary Multivariate Results: Treatment

- Part 1 of two-part model: Probability of a healthcare visit or day in hospital → log odds & (p-value)

	Pre-booking	Post-booking
Outpatient MH	25% higher odds (p=0.46)	**34% higher odds (p=0.04)**
Medication	**31% lower odds (p=0.07)**	**38% higher odds (p=0.04)**
Uni. Hospital System	**32% lower odds (p=0.05)**	**50% higher odds (p=0.01)**

Preliminary Multivariate Results: Treatment

- Part 1 of two-part model: Probability of a healthcare visit or day in hospital → log odds & (p-value)

	Pre-booking	Post-booking
Any Treatment	22% lower odds (p=0.52)	**45% higher odds (p=0.00)**

Preliminary Multivariate Results: Treatment

- Part 2 of two-part model: Regression on log conditional cost
- Bold indicates at or close to standard statistical significance
- * indicates this interpretation is *very* approximate

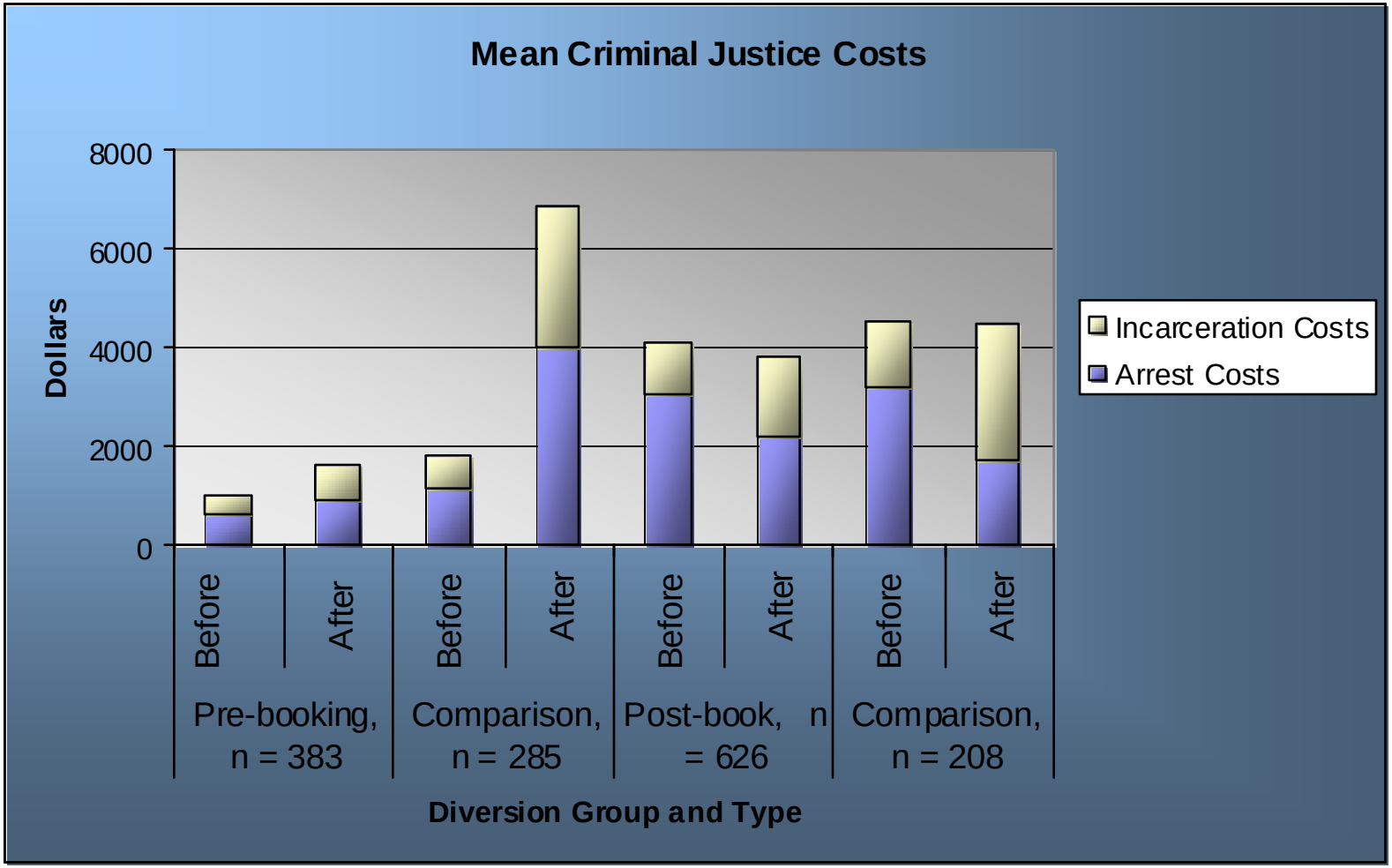
	Pre-booking	Post-booking
Outpatient MH	**5 fold increase* (p=0.00)**	**2.5 fold increase* (p=0.00)**
Medication	**92% increase (p=0.01)**	29% increase (p=0.14)
Uni. Hospital System	9% increase (p=0.73)	23% increase (p=0.26)

Preliminary Multivariate Results: Treatment

- Part 2 of two-part model: Regression on log conditional cost

	Pre-booking	Post-booking
All Treatment Modalities	27% decrease (p=0.18)	**37% increase (p=0.07)**

Results: CJ



Preliminary Multivariate Results: CJ

- Part 1 of two-part model: Probability of an arrest event→ log odds & (p-value)
- All comparisons have a night in jail after point of diversion
  - Probability of a night in jail and probability of any criminal justice event cannot be estimated

	Pre-booking	Post-booking
Arrest	57% higher odds (p=0.15)	**21 fold increase in odds (p=0.00)**

Preliminary Multivariate Results: CJ

- Part 2 of two-part model: Regression on log conditional cost → coefficient estimate & (p-value)

	Pre-booking	Post-booking
Arrest Cost	5% increase (p=0.57)	**14% increase (p=0.06)**
Jail Cost	19% decrease (p=0.42)	24% decrease (p=0.12)
Total Criminal Justice Cost	**57% decrease* (p=0.00)**	16% increase (p=0.34)

Preliminary Multivariate Results: Bonus CJ Analyses

- Arrests: negative binomial regression
  - Percentage change in rate of arrest
- Nights in jail: regression on logarithm of nights
  - No direct interpretation

	Pre-booking	Post-booking
Number of arrests	31% increase in rate (p=0.17)	**3.9 fold increase in rate (p=0.00)**
Nights in jail	19% decrease (p=0.42)	24% decrease (p=0.12)

Preliminary Multivariate Results: All Costs (Treatment + CJ)

- Reminder, these multivariate models control for
  - Differences between groups that do not change over time
  - Number of days in jail before entered study
  - Time at risk during the study
- Interpretation of magnitude of effect is *very* approximate

	Pre-booking	Post-booking
Costs across all domains	**71% decrease* (p=0.00)**	**77% increase* (p=0.00)**

Conclusions: Bottom-line

- Preliminary findings
- Pre-booking diversion associated with net reductions in county and/or city costs
- Post-booking diversion associated with net increases in county and/or city costs

Conclusions: Treatment

- For treatment, diversion
  - Associated with improved access to treatment services for mental health needs
  - Does not seem to be associated with access to the broader hospital system

Conclusions: CJ

- Pre-booking:
  - No reliable evidence it is associated with odds of arrest
  - Some evidence that CJ costs (conditional on arrest) are reduced
- Post-booking:
  - Associated with large increased odds of arrest
    - Could be “supervision effect”
  - Conditional on arrest, little evidence of increased CJ costs

Next Steps

- Research Question 1
  - Further sensitivity analyses
- Research Question 2
  - Include cost of diversion (RQ 1)
  - Monthly analysis
  - Control for other potential confounds
  - Investigate possible supervision effect
  - Change period of analysis from “year-before: year-after”

Next Steps

- Objective 3: Cost-effectiveness
  - Cost-effectiveness ratio = $\frac{\Delta C}{\Delta E}$
  - Use RQ 1 estimates for C
  - Use re-arrest for E

- Objective 4: Focus on CCC