

**KEY FINDINGS**

- The cost of increased outcomes from the Los Angeles County Elder Abuse Forensic Center (EAFC) varied by outcome, from \$2,574 to prevent future recurrence in a case to \$8,642 to achieve successful prosecution for a case
- The EAFC will be deemed cost-effective if society is willing to pay at least \$8,731 for the EAFC to have an elder protection outcome for either prosecution or conservatorship

**BACKGROUND**

- EAFCs use a multidisciplinary team approach that integrates health care, social service, and legal service to address complex elder abuse cases
- Previous Outcomes Study evaluated the effectiveness of the Los Angeles County EAFC in achieving important outcomes using a propensity score-matched comparison group
- To date, no evaluation has assessed the cost for EAFCs to achieve their outcomes

**OBJECTIVE**

- To evaluate the cost effectiveness of the Los Angeles County EAFC

**METHODS**

- Case Selection:** Quasi-experimental design based on Outcomes Study sample
  - Randomly selected 41 cases with victims aged 65+ that had been reviewed at the Los Angeles County EAFC (4/1/2007-12/31/2009)
  - Propensity matched control sample of 39 cases referred to Los Angeles County Adult Protective Services (APS)
  - Matched on case and victim characteristics: duration of case processing, recurrent case opened in prior 180 days, and 2 referral sources (whether the case was referred by law enforcement, or other public agency entity)
- Estimation of Case Processing Costs:** Two major cost components: 1) basis for usual care, and 2) marginal additional costs/resources to present a case at the EAFC
  - Salary data: obtained from publicly available sources and used to estimate case processing costs
  - Usual care costs: estimated based on the time APS social workers spent investigating the case
    - Captured during case file review from the documented activities undertaken during case investigation
  - EAFC costs: included core staff, collaborative team participants, and site costs
    - Estimated the time core team members spent in EAFC meetings, extracted from weekly attendance records from 2007 through 2011
    - Site costs of \$39,266.67 per year (including in-kind building and maintenance costs) from the estimation of the original grants that supported the EAFC
- Intermediate Outcomes:** Three intermediate outcomes (prosecution, conservatorship, and case recurrence after closure) were collected from the Outcomes Study
- Statistical Analysis**
  - A bootstrap resampling method to construct 95% confidence interval (CI) of the incremental cost-outcome ratio (ICOR)
    - Randomly drew 10,000 samples from the 41 EAFC and 39 APS usual care cases (with replacement)
    - Calculated incremental ICOR from each resample, a measure of cost effectiveness
    - Calculated 95% CI of the ICOR from 10,000 samples

**TABLE 1. CASE CHARACTERISTICS**

Variable	Before Propensity Match				After Propensity Match			
	EAFC	APS	D	P Value*	EAFC	APS	D	P Value*
N (%)	65 (22.81)	220 (77.19)		NA	41 (51.25)	39 (48.75)		NA
Mean (SD) age	82.45 (6.10)	82.31 (7.26)	2.09	0.89	83.29 (5.70)	83.15 (7.16)	2.16	0.67
Recurrent cases, 180 days prior to baseline (%)	18 (27.69)	22 (10.00)	46.44	0.0003	9 (21.95)	5 (12.82)	24.27	0.28
Mean (SD) Case duration (days)	155.40 (88.64)	63.28 (55.21)	124.75	<0.0001	118.88 (63.10)	122.87 (77.67)	5.64	0.80
Mean (SD) Number of abuse	1.86 (1.16)	1.77 (0.96)	8.45	0.51	1.78 (1.15)	1.90 (1.05)	10.90	0.64
Referral Source: Other public agency entity (%)	18 (27.69)	29 (13.18)	36.58	<0.01	8 (19.51)	9 (23.08)	8.73	0.70
Referral Source: Law enforcement (%)	12 (18.46)	9 (4.09)	46.65	<0.0001	8 (19.51)	5 (12.82)	18.25	0.42

Abbreviations: EAFC=elder abuse forensic center; APS=Adult Protective Services; N=number; SD=standard deviation; NA=not applicable, D=standardized difference, presented as percentage. \* P values were calculated from Student T-tests for continuous variables, and Chi-square tests for categorical variables.

**TABLE 2. BASE CASE COST-EFFECTIVENESS RESULTS**

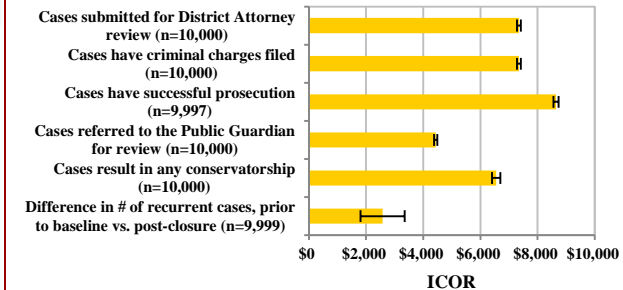
Treatment	Cost (\$)ª	Outcome Measureª	Incremental Cost	Incremental Outcome	ICORª
<b>Cases submitted to District Attorney for review/have criminal charges filed</b>					
APS control	\$153.52	0%			
EAFC	\$1,408.58	20%	-\$1255.06	-20%	\$6,275.30
<b>Cases have successful prosecution</b>					
APS control	\$153.52	0%			
EAFC	\$1,408.58	17%	-\$1255.06	-17%	\$7,382.71
<b>Cases referred to the Public Guardian for review</b>					
APS control	\$153.52	8%			
EAFC	\$1,408.58	39%	-\$1255.06	-31%	\$4,007.22
<b>Cases result in any conservatorship</b>					
APS control (N=39)	\$153.52	3%			
EAFC (N=41)	\$1,408.58	24%	-\$1255.06	-21%	\$5,976.48
<b>Difference in # of recurrent cases (prior to baseline vs. post-closure)</b>					
APS control	\$153.52	0%			
EAFC	\$1,408.58	34%	-\$1255.06	-34%	\$3,691.35

Abbreviations: ICOR=incremental cost-outcome ratio; APS=Adult Protective Services; EAFC=Los Angeles County Elder Abuse Forensic Center.  
 Note: ªThe costs presented in the table are the mean costs for processing an elder abuse case. ºThe prosecution and conservatorship outcome were presented as a proportion of each outcome measurement. The recurrence outcome was presented as mean change in the number of recurrent cases in the 365 days prior to case opening versus the 365 days after the case was closed. ºThe ICOR represents the cost of an additional unit of outcome if the EAFC model is adopted over APS usual care.

**RESULTS**

- Propensity-matched data set meets accepted criteria for appropriateness (Table 1)
- Mean case processing costs are \$1,408.58 for the EAFC model and \$153.52 for usual care (Table 2)
- Criminal charges were filed by the District Attorney for 20% of EAFC and 0% of usual care cases, which generates base case ICOR of \$6,275.30 (Table 2). The bootstrap 95% confidence interval (CI) for the ICOR was \$7,277.70 to \$7,414.52 (Figure 1).
- Successful prosecution for 17% of EAFC and 0% of usual care cases, with an ICOR of \$7,382.71 (bootstrap CI: \$8,552.18 - \$8,731.40, Figure 1)
- Case submitted to the Public Guardian for 39% of EAFC and 8% of usual care cases, which generates an ICOR of \$4,007.22 (bootstrap CI: \$4,380.05 - \$4,485.97, Figure 1)
- Case granted conservatorship for 24% of EAFC and 3% of usual care cases, with an ICOR of \$5,976.48 (bootstrap CI: \$6,409.45 - \$6,691.93, Figure 1)

**FIGURE 1. BOOTSTRAP MEAN OF ICOR**



Abbreviations: N=number; ICOR=incremental cost-outcome ratio. The yellow bars represent the mean ICOR value, and the black lines represent the 95% confidence interval.

**LIMITATIONS AND CONCLUSIONS**

- Limitations**
  - The estimation of marginal additional costs of a EAFC do not take into consideration possible downstream efficiencies during filing for prosecution or conservatorship as a result of more in-depth case work-up
  - The outcomes measured do not account for broader, more systemic effects of an EAFC (e.g., increased interagency ties, transmission of knowledge and skills)
- Conclusions**
  - Results indicate that the EAFC model incurs greater case processing costs but yields large incremental differences in outcomes compared to usual care
  - Finding can inform the model's sustainability and the feasibility of replication
    - Implementation will increase case processing costs, but the associated outcomes may be deemed to be worth those additional costs

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