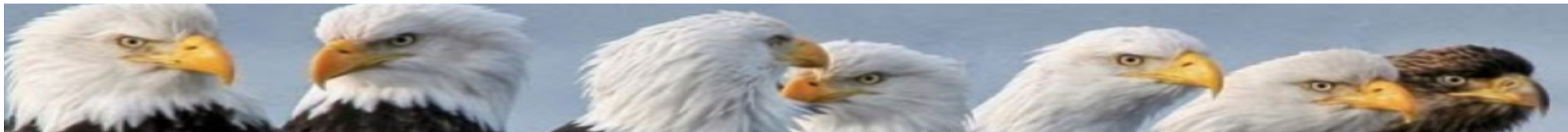


Is OHCA Unaffordable?

What are the real economics and true costs
of saving lives lost to SCA?

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CARDIAC COSTS

The economic impact of out-of-hospital cardiac arrest care

By Keith Lurie, MD, Mike Levy, MD, FACEP, FAEMS, Robert Swor, DO & Johanna Moore, MD, MS

<http://bit.ly/2FdXVNI>

OHCA: Huge Money Loser...Right?



Cardiac Arrest Today

- Leading cause of death in the U.S.
 - > 350,000 out of hospital
 - Average age: 66 years old
 - Average age of survivor: 56 years old

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Economic Impact Issues

Cost per life year lost

Cost per life year saved

Cost to families who lose a parent/spouse/child

Practical solutions to improve care

Practical solutions to pay for care (drugs/devices)



Economic Impact of Cardiac Arrest

Direct Costs

Every time somebody has a cardiac arrest - expenses can include emergency services and medical care.

Indirect Costs

Factors include lost income, losses to employers, and impact on quality of life



What is the Cost for Pre-hospital Care?

- Data based upon a population of 400,000 using Minneapolis MN
- ~400 arrests/year (1 arrest per 1000 people/year)
- Assumption: all pre-hospital EMS capital equipment used for 3 years and then replaced
- Total budget for CPR technologies \$383,000 annually or \$960/patient (alive or dead)
- **With a 15% overall survival rate from the Take Heart Bundle of Care, the cost for pre-hospital care for each survivor is \$6390**

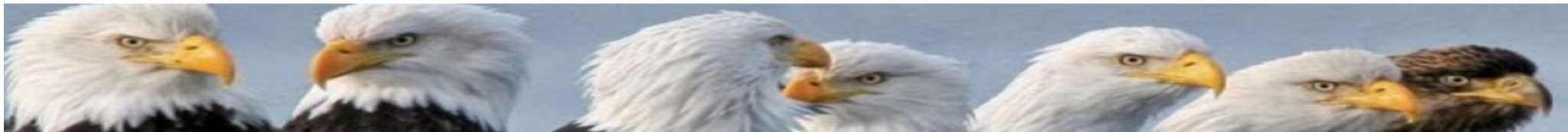
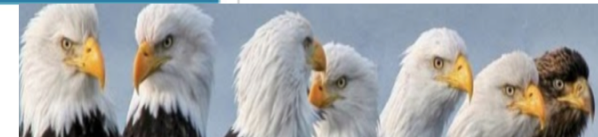


Table 1. Annual cost of prehospital equipment per vehicle used to treat OHCA (over three years)

<http://bit.ly/2FdXV>

Equipment	Cost
Defibrillator	\$13,000
Automated CPR device	\$13,000
ACD+ITD devices	\$1,000
Intra-osseous (IO) device	\$400
Annual equipment cost (ammortized over 3 years)	\$9,133
Consumables (annual cost)	\$1,500
Total annual cost per vehicle	\$10,633

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What is In-hospital Cost of In-hospital Care?

Lick et al. Critical Care Medicine, 2010

	Average Revenue Per Patient	Direct Cost Per Patient	Direct Margin Per Patient
Discharged	\$57,783	\$37,099	\$20,684
Died	\$12,014	\$8,686	\$3,329

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Table 2. Direct costs of care for an OHCA patient who survives to discharge

Type of care	# of patients	Direct cost per patient	Direct cost per taxpayer ¹
Prehospital	52,500	\$1,063	\$17
In-hospital		\$37,000	

¹ CALCULATED BY MULTIPLYING COST PER PATIENT (\$38,063) BY THE NUMBER OF OHCA SURVIVORS (52,500), DIVIDED BY THE NUMBER OF TAX PAYERS (120,000,000)

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Table 3. Direct costs of care for an OHCA patient who dies before discharge

Type of care	# of patients	Direct cost per patient	Direct cost per taxpayer ¹
Prehospital	297,500	\$1,063	\$24
In-hospital		\$8,700	

¹ CALCULATED BY MULTIPLYING COST PER PATIENT (\$9,763) BY THE NUMBER OF OHCA PATIENTS WHO DIE (297,500), DIVIDED BY THE NUMBER OF TAX PAYERS (120,000,000)

<http://bit.ly/2FdXV>

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Table 4. Direct costs of care for an OHCA patient, regardless of outcome

# of Patients	Direct Cost per patient	Direct cost per taxpayer ¹
350,000	\$12,945	\$38

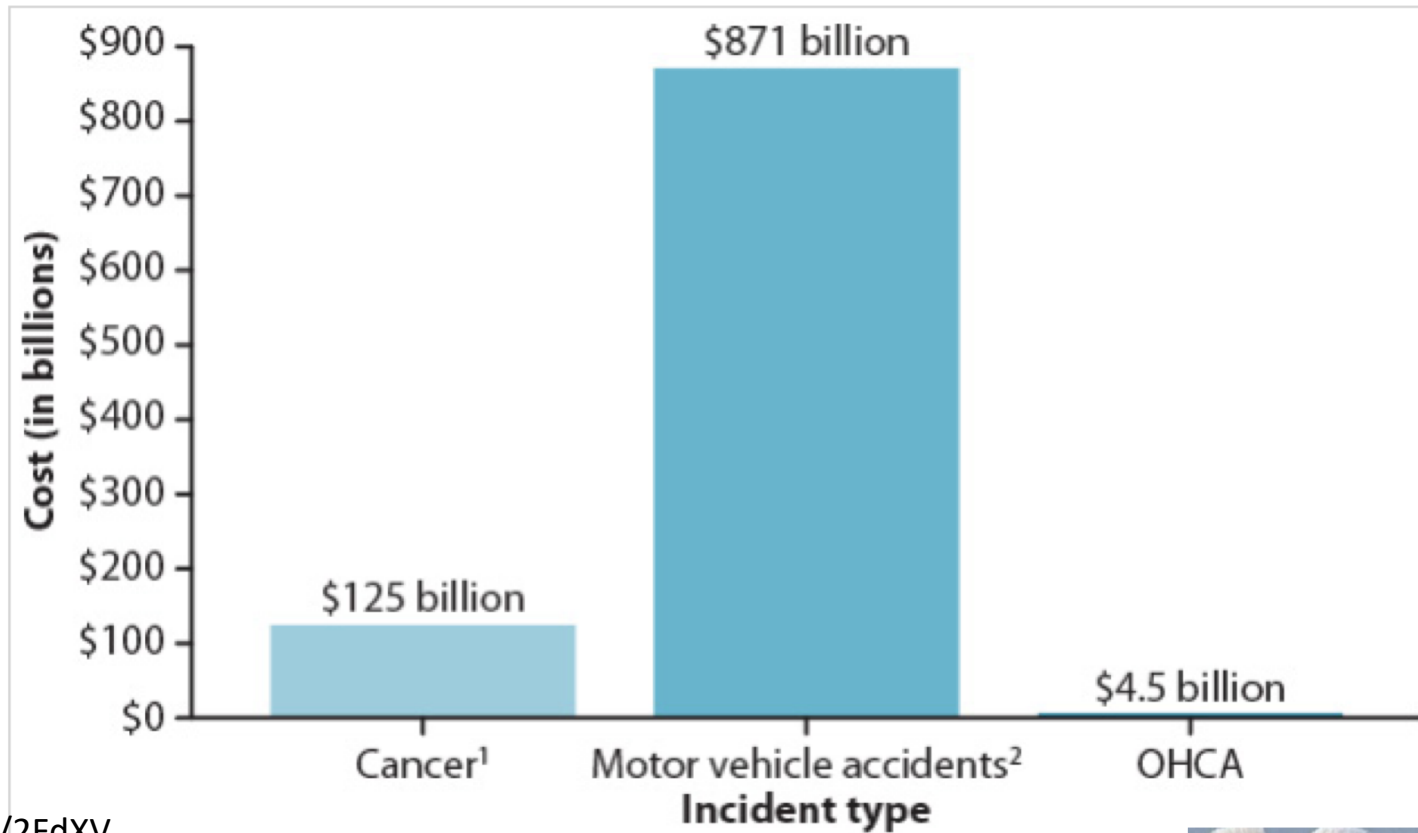
¹ CALCULATED BY MULTIPLYING COST PER PATIENT (\$12,945) BY THE NUMBER OF OHCA EACH YEAR (350,000), DIVIDED BY THE NUMBER OF TAX PAYERS (120,000,000)

<http://bit.ly/2FdXV>

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Table 5. Incident costs per year in the U.S.



<http://bit.ly/2FdXV>

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Indirect Costs for OHCA: Let's do the math

Notoriously difficult to calculate but let's assume:

350,000 patients; 85% mortality

Cost to families in terms of a lost "statistical life"

$350,000 \times .85 \times \$6.2 \text{ million} = \mathbf{\$1.8 \text{ TRILLION}}$

OK – let's say $\frac{1}{2}$ are over 65 so no lost wages.

So – revised indirect costs in terms of lost productivity and wages:

$\$1.8 \text{ trillion} / 2 = \mathbf{\$900 \text{ billion}}$

similar to the societal cost from MVAs

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Economic Impact of OHCA

- Annual US budget is \$3.8 trillion
- Annual US direct (\$2.3 billion) and indirect (\$900 billion) of out-of-hospital cardiac arrest (OHCA)
- **Annual loss per US taxpayer due to OHCA = \$7517**
- **For every 1% increase in survival from OHCA the economic impact is reduced by \$9 billion nationwide**

