



Health Services
LOS ANGELES COUNTY

March 1, 2016

**Los Angeles County
Board of Supervisors**

Hilda L. Solis
First District

Mark Ridley-Thomas
Second District

Sheila Kuehl
Third District

Don Knabe
Fourth District

Michael D. Antonovich
Fifth District

TO: Supervisor Hilda L. Solis, Chair
Supervisor Mark Ridley-Thomas
Supervisor Sheila Kuehl
Supervisor Don Knabe
Supervisor Michael D. Antonovich

FROM: Mitchell H. Katz, M.D.
Director

**SUBJECT: REDUCING DISPARITIES IN TRAUMA CARE IN THE
COUNTY OF LOS ANGELES (ITEM #15, AGENDA OF
DECEMBER 8, 2015)**

Mitchell H. Katz, M.D.
Director

Hal F. Yee, Jr., M.D., Ph.D.
Chief Medical Officer

Christina R. Ghaly, M.D.
Deputy Director, Strategy and Operations

On December 8, 2015, your Board instructed the Department of Health Services (DHS) to report back on a plan to (a) develop and implement a trauma prevention initiative in regions of the County that experience a disproportionately high incidence of trauma, (b) develop a level I trauma center to serve the Service Planning Area (SPA) 6 region, and (c) train emergency medical staff in SPA 6 to better manage trauma until a Level I trauma facility has been established in the region.

The attached report is in response to the Board motion.

If you have any questions or need additional information, please contact me or Christina Ghaly, Deputy Director of Strategy and Operations, at (213) 240-7787.

Attachments

cc: Chief Executive Office
County Counsel
Executive Office, Board of Supervisors

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To ensure access to high-quality, patient-centered, cost-effective health care to Los Angeles County residents through direct services at DHS facilities and through collaboration with community and university partners.

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**Los Angeles County
Department of Health Services**

Reducing Disparities in Trauma Care in the County of Los Angeles

I. Purpose and Scope

This report is in response to the December 8, 2015 Board motion by Supervisor Mark Ridley-Thomas, *Reducing Disparities in Trauma Care in the County of Los Angeles* (Attachment I). The Department of Health Services, in coordination with the Chief Executive Office and County Counsel was requested to report back on a plan that:

- a. Develops and implements a trauma prevention initiative in regions of the County that experiences a disproportionately high incidence of trauma. This proposal should specify what resources are needed and how the initiative should be structured so as to impact the incidence of trauma in these "hot spot" areas. This proposal should be developed separately from the Department of Health Services (DHS) efforts to develop a new funding methodology for the non-County trauma care centers. The proposal should be presented to the Board of Supervisors in writing for ratification and resource appropriation.
- b. Develops a level I trauma center to serve the SPA 6 region, either by upgrading an existing level II facility to become a level I facility, or by proposing a new level I trauma center in the region. Among other things, the plan should outline what resources are needed, the technical assistance that will be provided and the timeline by which it would be feasible to establish a level I trauma center serving SPA 6.
- c. Trains emergency medical staff in SPA 6 to better manage trauma until a level I trauma facility has been established in the region.

II. Overview

Los Angeles County's first Trauma Care System plan was submitted in 1982 and included a system review and recommendations by the American College of Surgeons (ACS). The original eight trauma centers were designated in 1983. Designation is based on the hospital meeting the Title 22 requirements, ACS standards, and any other contractual requirements. At the peak of the trauma system in Los Angeles County there were 22 trauma centers, nine of which met Level I criteria. Currently there are 14 trauma centers throughout the county, five Level I and nine Level II; Children's Hospital is a Level I pediatric center (Attachment II).

The County is in the process of designating a 15th Level II trauma center (Pomona Valley Hospital Medical Center).

From inception, the County has not distinguished between the type and severity of injured patients transported to the Level I trauma center versus the Level II trauma center. Both levels are required to provide the same level of care to injured patients. To ensure this requirement is being met, quality assessments are completed by the Emergency Medical Services (EMS) Agency in conjunction with ACS reviews. The Trauma Center Agreement has the following language:

“Contractor may, at its own expense, identify itself as a Trauma Center by placing signs to that effect on Contractor’s grounds. Such signs shall exclude any reference to the level of its County designation and shall otherwise conform to local government regulations.”

As stated in the November 24, 2015 report to the Board on *Improving Trauma Care Countywide and In “Hot Spot” Areas*:

While studies have not found a direct association between the existence of a surgical residency program or participation in research activities on trauma patient outcomes, it is reasonable to believe that the presence of research programs in Level I trauma centers produce value to a trauma system as a whole by increasing focus on system-wide quality and performance improvement, support for data analysis, and other factors necessary to support improvements in care across an entire trauma system.”

III. Trauma Prevention Program

The Department of Health Services (DHS) is partnering with the Department of Public Health (DPH) Division of Chronic Disease and Injury Prevention, Injury & Violence Prevention Program (IVPP) to implement a coordinated and multi-disciplinary Trauma Prevention Initiative. The goal of this Initiative is to develop tailored prevention strategies to reduce the disproportionately high incidence of trauma visits and trauma-related deaths in hot spot areas identified in the November 24, 2015 report to the Board. The EMS Agency submitted a Trauma Plan Update to the State EMS Authority with the inclusion of this Initiative, which was approved by the State on November 30, 2015.

The Initiative will be partially funded with Measure B money and supplemented by in-kind staff support at DPH. In a letter dated December 7, 2015 to DPH Interim Director, Cynthia Harding, DHS committed up to \$685,000 annually in Measure B funding, from its annual Measure B allocation, for additional staff and resources necessary to develop this Initiative (Attachment III). This allocation is funded by the increase in trauma tax revenue due to the

increase in taxable square footage for Fiscal Year 2015-16—a result of property improvement subject to the tax assessment and newly developed (and eligible) taxable properties. As such, trauma tax funds used to support the private trauma centers will not be affected by these funds used to support the Trauma Prevention Initiative. Funds will be used to hire necessary staff, which will include a Health Program Analyst II to coordinate the Initiative, a Research Analyst III to coordinate research and evaluation, partial funding for a Supervising Epidemiologist, and two (2) Student Professional Workers, to assist with data entry and other tasks. Additional funds will be set aside to support specific community-based interventions, communication, convening, and evaluation costs.

This Initiative aligns with the following strategic priority developed by the Los Angeles County Health Agency leadership and led by DPH: *Align and integrate population health with personal health strategies by creating healthy community environments and strengthening linkages between community resources and clinical services*; and with Goal #4 under that priority focused on: *reducing youth violence through strategies targeted at community-level and broader social determinants of health*.

Much has already been done to develop the Trauma Prevention Initiative. The EMS Agency met with DPH on September 16, 2015 to discuss the concept of the Initiative as well as available data, current programs, and resources necessary to move forward. DHS and DPH continue to meet and communicate to refine plans for the Initiative. IVPP has identified existing staff and initiated the process of recruiting new staff, reviewed data and reports, and developed a work plan for the Initiative, which includes the following elements:

- Collecting and analyzing trauma-related data to identify specific hot spot communities in the County, including areas in SPAs 1, 4, and 6 as referenced in the EMS data report.
- Analyzing mechanisms of injury, circumstances, and populations at greatest risk in order to tailor prevention interventions.
- Conducting a baseline inventory of existing violence prevention, gang intervention, social services, youth development, health and behavioral health resources in hot spot areas, identifying best practices, opportunities to align with other partners and strategies, and potential policy recommendations to reduce violence.
- Convening staff among key departments, including Health Services, Public Health, Mental Health, Parks and Recreation, Child and Family Services, Probation, and Sheriff, and community stakeholders to inform development and implementation of the Initiative.
- Engaging all designated trauma centers to understand current injury prevention efforts, assist with compiling and analyzing data to help target their injury prevention programs, and provide technical assistance to incorporate best practices and facilitate connections with other organizations and initiatives.

The Trauma Prevention Initiative will coordinate a wide range of community partners to enhance current prevention efforts, in order to develop new and innovative strategies that are data-driven and evidence based. IVPP will leverage its existing violence prevention and surveillance projects, expertise and connections with violence reduction strategies throughout the County to further inform development of this Initiative. This includes leveraging the County's successful Parks After Dark model, the Violent Death Reporting System (VDRS), a cross-sector surveillance system led by IVPP that provides detailed circumstances for every violent death in Los Angeles County, evidence-based DPH strategies such as the Nurse Family Partnership program, community-based gang intervention and safe passages models, and successful hospital based practices such as hospital-based gang intervention, case management and referral. In order to leverage these and other existing efforts and ensure collaboration, IVPP will facilitate linkages between community-based organizations, youth, parks, libraries, public health outreach, mental health providers, trauma centers, law enforcement, and the various municipalities and initiatives, such as My Brother's Keeper, that address trauma in the identified hot spot communities.

Initiative success will be measured by data demonstrating a decreased number of trauma-related injuries and deaths in hot spot areas, increased program enrollments, and community and stakeholder satisfaction. The full proposal for consideration, ratification, and resource appropriation will be submitted to your Board by DPH at a later date.

IV. Facilitation of a Level I Trauma Center in SPA 6

In the report to the Board dated November 24, 2015, the feasibility and associated estimated timelines of reestablishing a Level I trauma center in SPA 6 was discussed. DHS recommended the following steps in this area:

EMS Agency will frequently engage with, and where necessary provide technical assistance to, hospitals serving SPA 6, particularly the current Level II trauma centers at St. Francis Medical Center and California Hospital, with respect to their plans for potential future Level I trauma center designation.

To further address the plan to develop a Level I trauma center to serve the SPA 6 region, DHS plans to release a Request for Information (RFI) regarding interest in obtaining Level I trauma center status to all 9-1-1 receiving hospitals in SPA 6 (Memorial Hospital of Gardena, Centinela Hospital Medical Center and Martin Luther King Jr., Community Hospital) and to the two designated Level II Trauma Centers (St. Francis Medical Center and California Hospital Medical Center) that currently serve this area.

A draft RFI has been developed by DHS Contracts and Grants and is in the process of being finalized. The RFI process will take approximately six months to complete. The goal is to release the RFI before the end of March 2016. Once released, the hospitals will have

eight weeks to respond. DHS will review the responses and return to the Board with an analysis of the responses as well as a recommendation for next steps.

Based on the RFI results and analysis, DHS could then release a Request for Application (RFA) to determine the most qualified facility to work with the County towards becoming a designated Level I trauma center. Until the RFI and RFA process is completed and a facility is selected, DHS is unable to outline the resources needed, the technical assistance that will be provided and the timeline needed for a facility to achieve Level I designation, as these factors will be facility specific and vary significantly depending on whether the selected facility is already a designated trauma center.

V. Training Emergency Medical Staff in SPA 6 to Better Manage Trauma Patients

To ensure optimal management of trauma patients who may be transported to a non-trauma center by private auto or mis-triaged by 9-1-1 in SPA 6 and throughout the County, the EMS Agency is implementing the following: a) a 9-1-1 Re-triage protocol (Attachment IV) and b) additional training opportunities for basic emergency department providers. Details are provided below.

9-1-1 Re-Triage

To ensure that patients who meet trauma criteria are cared for at a trauma center, the EMS Agency is implementing a 9-1-1 Re-triage protocol for patients that present at a non-trauma center but meet trauma criteria either due to mis-triage by prehospital care providers or self-presentation. This protocol will facilitate the rapid movement of these patients to a designated trauma center using the 9-1-1 system.

The 9-1-1 Re-triage policy has been successfully piloted at Martin Luther King Jr. Community Hospital (MLK CH) since the opening of the facility. The EMS Agency coordinated a meeting with staff from St. Francis Medical Center (SFM) Trauma Center program, MLK CH emergency department, and Los Angeles County Fire Department to ensure a seamless, rapid transport to the designated trauma center of severely injured trauma patients who may walk into the MLK CH facility. To date, the EMS Agency records show that there have been nine patients who met the trauma criteria, in which the Re-triage policy was utilized. These patients were rapidly assessed at MLK CH and transferred by 9-1-1 to SFM. Two of the nine patients required surgery; all transferred patients lived and were discharged from SFM.

With the success of the 9-1-1 Re-triage pilot project at MLK CH, the EMS Agency will be implementing this policy countywide.

Training

To further ensure that trauma patients who may be potentially mis-triaged or walk into MLK CH receive the highest level of care, the EMS Agency has recommended that the emergency department physicians at MLK CH take the Advanced Trauma Life Support

Course (ATLS®) offered by Harbor-UCLA Medical Center. It is our understanding that several of the physicians have already completed the course. The EMS Agency will send a notice to the other 9-1-1 receiving hospitals in SPA 6 (i.e. Centinela Hospital Medical Center and Memorial Hospital of Gardena) recommending that the emergency department physicians attend an ATLS® course. This training will help to reinforce the principles of trauma patient management and ensure that trauma patients are appropriately stabilized prior to secondary transfer to the nearest trauma center.

The ATLS® program teaches a systematic, concise approach to the care of a trauma patient. ATLS® was developed by the ACS Committee on Trauma (COT) and was first introduced in the US and abroad in 1980. Its courses provide a safe and reliable method for immediate management of injured patients. The course teaches how to assess a patient's condition, resuscitate and stabilize, and determine if their needs exceed a facility's capacity. It also addresses how to arrange for a patient's inter-hospital transfer and assure that optimum care is provided throughout the process.

ATLS® is an intensive two-day course that includes both didactic and skill sessions and provides a systematic approach to initial assessment of the trauma patient to ensure appropriate and early intervention. The course is taught by expert physician instructors and there is a faculty ratio of approximately one faculty per four learners.

Due to the intensity of the ATLS® course, there is limited availability of courses. Most student participants come from the Trauma Center that is offering the Course.

The EMS Agency reached out to Harbor-UCLA Medical Center, where this course is offered six times per year for the medical staff. The course coordinator indicated that they could reserve spots for participants from the SPA 6 hospitals in their upcoming courses.

VI. Conclusion

DHS is excited to be working with DPH on a countywide trauma prevention initiative, with specific initiatives for SPA 6. There is much work to be done for the prevention of trauma utilizing the EMS Agency data and by working with both the trauma hospitals and community groups. DPH will provide further information to your Board detailing prevention initiative activities and resource appropriation in a separate document.

DHS Contracts and Grants has completed a draft RFI regarding the interest in and readiness to obtaining Level I trauma center status and will release the RFI to the hospitals located in and near SPA 6. The results of the RFI will be submitted to your Board in the summer of 2016.

Thank you for your support and the opportunity to complete this report highlighting the importance of trauma prevention and trauma care for Los Angeles County. With the continued support of the BOS, we will continue to enhance the overall trauma system and reduce accidental death and disability across all areas of the County.

MOTION BY SUPERVISOR MARK RIDLEY-THOMAS

DECEMBER 8, 2015

Relates to Agenda Item # 15

Reducing Disparities in Trauma Care in the County of Los Angeles

Two recently released reports, one conducted by the Los Angeles County Emergency Medical Services Agency and another by the University of Southern California, provide important insights on trauma care in the County of Los Angeles (County). Thanks to the efforts of the County's emergency medical services team, as well as the system of trauma centers throughout the County, those who experience a trauma event in the County fare substantially better, on average, than those who experience trauma elsewhere in the nation.

But both reports also confirm substantial disparities in both trauma rates and mortality throughout the County. For example, trauma rates in Service Planning Area (SPA) 6 (South Los Angeles) are more than double the County average. As a result, trauma deaths are also substantially higher in SPA 6. Residents of SPA 1 (Antelope Valley) and SPA 4 (Melro) also experience disproportionately high rates of trauma, but not as pronounced as the data reflects in SPA 6 (South Los Angeles).

There are currently fourteen trauma centers throughout the County, five of which are level I centers – the highest level – and the rest are level II centers. The current level I centers are located at Ronald Reagan UCLA Medical Center, Cedars Sinai Medical Center, LAC+USC Medical Center, Children's Hospital Los Angeles, and Harbor UCLA Medical Center. There is no level I trauma center in SPA 6, which is noteworthy in light of the new

- MORE -

MOTION

RIDLEY-THOMAS _____

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MOTION BY SUPERVISOR MARK RIDLEY-THOMAS
DECEMBER 8, 2015
PAGE 2

reports demonstrating that SPA 6 has the highest trauma rate in the County. Level I trauma center designation can offer benefits to both the hospital and broader community through support for academic research, teaching and mentoring of new physicians.

I THEREFORE MOVE THAT THE BOARD OF SUPERVISORS:

Direct the Director of the Department of Health Services, in coordination with the Chief Executive Officer (CEO) and County Counsel, to report back in 60 days on a plan that:

- 1) Develops and implements a trauma prevention initiative in regions of the County that experience a disproportionately high incidence of trauma. This proposal should specify what resources are needed and how the initiative should be structured so as to impact the incidence of trauma in these "hot spot" areas. This proposal should be developed separately from the Department of Health Services' efforts to develop a new funding methodology for the non-County trauma care centers. The proposal should be presented to the Board of Supervisors in writing for ratification and resource appropriation.
- 2) Develops a level I trauma center to serve the SPA 6 region, either by upgrading an existing level II facility to become a level I facility, or by proposing a new level I trauma center in the region. Among other things, the plan should outline what resources are needed, the technical assistance that will be provided and the timeline by which it would be feasible to establish a level I trauma center serving SPA 6.
- 3) Trains emergency medical staff in SPA 6 to better manage trauma until a level I trauma facility has been established in the region.

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(YVMH)

ATTACHMENT II

HOSPITAL	LEVEL	SPECIALTY
Antelope Valley Medical Center	Level II	
California Hospital Medical Center	Level II	
Cedars Sinai Medical Center	Level I	
Childrens' Hospital of Los Angeles	Level I	Pediatric
Harbor-UCLA Medical Center	Level I	
Henry Mayo Newhall Memorial Hospital	Level II	
Huntington Hospital	Level I	
LAC+USC Medical Center	Level I	
Long Beach Memorial Hospital	Level I	
Northridge Medical Center	Level II	
Providence Holy Cross Medical Center	Level II	
Ronald Reagan UCLA Medical Center	Level I	
Saint Francis Medical Center	Level II	
Saint Mary Medical Center	Level II	

ATTACHMENT III

<p align="center">Los Angeles County Department of Public Health Trauma Prevention Program (24115) FY 2015-2016 07.01.15-06.30.16 Budget</p>					
I. Personnel Services					Proposed Budget
NAME	ROLE ON PROJECT	MONTHLY SALARY	NUMBER OF MONTHS	% EFFORT on PROJECT	
	Health Program Analyst II	\$ 7,719.45	3	100%	\$ 23,158
	Research Analyst III	\$ 6,773.50	3	100%	\$ 20,321
<i>Subtotal for Full-Time</i>					\$43,479
II. Fringe Benefits					
FRINGE BENEFITS of FULL TIME (@ 57.836%)					\$ 25,146
<i>Subtotal Personnel Services</i>					\$ 68,625
III. Operating Expenses					
Rent (Monthly = \$2.10/sq.ft. x ~219 sq.ft./person)					\$ 5,519
Mileage					\$ 1,000
Computer Software					\$ 3,000
Computer Equipment					\$ 5,000
Office Supplies and other project expenses					\$ 7,590
<i>Subtotal Operating Expenses</i>					\$ 22,109
IV. Other Costs					
Trauma Prevention Strategies					
Facilitated community engaged strategic planning process					\$ 25,000
Data abstraction of law enforcement reports, Violent Death Reporting System					\$ 15,000
ISD Purchase Fees at 1.2%					\$ 300
<i>Subtotal Other Costs</i>					\$ 40,300
SUBTOTAL DIRECT COST FOR BUDGET PERIOD					\$ 131,034
SUBTOTAL INDIRECT COSTS (31.416%)					\$ 13,659
TOTAL FOR BUDGET PERIOD					\$ 144,693

ATTACHMENT III

**Los Angeles County Department of Public
Health Trauma Prevention Program (24115) FY
2016-2017
07.01.16-06.30.17
Budget**

I. Personnel Services					Proposed Budget With Carry-Over
NAME	ROLE ON PROJECT	MONTHLY SALARY	NUMBER OF MONTHS	% EFFORT on PROJECT	
	Health Program Analyst II	\$ 7,951.27	12	100%	\$ 95,415
	Research Analyst III	\$ 6,976.73	12	100%	\$ 83,721
	Contract Program Auditor	\$ 6,673.64	12	50%	\$ 40,042
<i>Subtotal for Full-Time</i>					\$ 219,178
II. Fringe Benefits					
FRINGE BENEFITS of FULL TIME (@-57.836%)					\$ 126,764
<i>Subtotal Personnel Services</i>					\$ 345,942
III. Operating Expenses					
Rent (Monthly = \$2.10/sq.ft. x ~219 sq.ft./person)					\$ 11,039
Mileage					\$ 2,000
Travel/Training					\$ 6,000
Computer Software					\$ 3,000
Office Supplies and other project expenses					\$ 10,000
<i>Subtotal Operating Expenses</i>					\$ 32,039
IV. Other Costs					
Trauma Prevention Strategies					
Facilitated community engaged strategic planning process (one-time)					\$ 50,000
Data abstraction of law enforcement reports, Violent Death Reporting System (ongoing)					\$ 25,000
Community intervention/safe passages (ongoing)					\$ 130,000
Hospital based violence intervention program pilot					\$ 50,000
PAD Park Expansion (\$97,000 per park X 4 parks)					\$ 388,000
Community identified strategies					\$ 134,600
ISD Purchase Fees at 1.2%					\$ 870
<i>Subtotal Other Costs</i>					\$ 778,470
SUBTOTAL DIRECT COST FOR BUDGET PERIOD					\$ 1,156,450
SUBTOTAL INDIRECT COSTS (31.416%)					\$ 68,857
TOTAL FOR BUDGET PERIOD					\$ 1,225,307

STEP 1

Determine if patient meets 9-1-1 Trauma Re-triage Criteria

Perfusion

- Persistent signs of poor perfusion
- Need for immediate blood replacement therapy

Respiratory Criteria

- Intubation required

GCS / Neurologic Criteria

- GCS <9
- GCS deteriorating by 2 or more during observation

Anatomic Criteria

- Penetrating injuries to head, neck, chest, or abdomen
- Extremity injury with neurovascular compromise or loss of pulses

Provider Judgment:

- Patients, who in the judgment of the evaluating emergency physician, have a high likelihood of requiring emergent life- or limb-saving intervention within 2 hours

STEP 2

Contact the designated Trauma Center for a "9-1-1 Trauma Re-triage"

Do NOT delay transport by initiating any diagnostic procedure that do not have direct impact on immediate resuscitative measures

Designated Trauma Center:
XXXXXXXXXXXXXXXXXXXX

Contact Number:
999 999 9999

Notify:
Transfer Center /Trauma Surgeon/Emergency Physician

STEP 3

Contact 9-1-1 for transportation

Standard Paramedic Scope does NOT include paralyzing agents, blood products.

STEP 4

Prepare patient, diagnostic imaging, and paperwork for immediate transport