Youth Violence and Current Attempts at Children’s Hospital of Wisconsin to Reduce the Burden

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Disclosures

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- I do not intend to discuss an unapproved or investigative use of a commercial product/device in my presentation.
Objectives

- Describe Project Ujima as an intervention to stop the cycle of violence
- Define Patient Reported Outcomes and understand current modalities and work in Project Ujima at Children’s Hospital of Wisconsin
- Define cross-section between hospital and police data
Victims of Violence Framework

- Community
- Law/Police
- Health Care
- Victim
Project Ujima
Our Legacy Child: Jason

- At 8, treated at CHW EDTC for an "accidental" injury resulting from a fight.
- At 11, treated for multiple contusions and abrasions resulting from an assault.
- At 13, treated for multiple stab wounds.
- At 15, treated for a firearm injury to the leg.
- By the end of that same year, at age sixteen he was now dead of multiple firearm injuries.
Ujima Entry and Flow Process
Youth Services

- Youth seen in EDTC
- Crisis Intervention
- Family Support
- Family Follow-up 48 hours
- Home visit within 30 days
- Care Plan Developed
- Youth Development Program
  - Boys and Girls Groups
  - Summer Day Camp

Children’s Hospital of Wisconsin
Kids deserve the best.
Youth Services

- Children aged 7 to 18 years
  - Referral process
  - MPS Schools

- Intentional Injuries
  - Shot, stabbed and physically assaulted
  - Excludes child abuse, suicide, and peer violence within the home

- Services
  - Educational support and advocacy
  - Crisis intervention
  - Safety planning
  - Legal support and advocacy
  - Community and home resources and support
  - Mental Health
  - In-home nursing follow-up
## CHW/ Ujima #s

<table>
<thead>
<tr>
<th>Referral type</th>
<th>2017</th>
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<tbody>
<tr>
<td>Homicide</td>
<td>126</td>
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<tr>
<td>ED</td>
<td>178</td>
</tr>
<tr>
<td>DV</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>338</strong></td>
</tr>
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</table>
Work to Date Defining Outcomes

- Patient Reported Outcomes (PRO)
  - Measure
    - Well-being, Health Status, Quality of Life
  - More sensitive than traditional measures
    - Takes the patient perspective into account
    - Measure a patient’s health status or well-being at a single point in time
    - See changes in health-status and well-being at two different points in time to measure impact
Ujima Accomplishments in Academia

- First to:
  - Show feasibility of collecting PROs in youth victims of violence
  - Describe clinically altered PROs in youth victims of violence compared to healthy norms and youth with chronic disease
  - Show improvement in scores following a brief intervention
Youth Victims of Violence Score Significantly Worse than Healthy youth in PROs.

<table>
<thead>
<tr>
<th>Category</th>
<th>Violently Injured Mean</th>
<th>Healthy Individuals Mean</th>
<th>P value</th>
<th>Racially Similar group Mean</th>
<th>P value</th>
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</thead>
<tbody>
<tr>
<td><strong>PedsQL™</strong></td>
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<tr>
<td>Total Function</td>
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<td>Physical Function</td>
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<td>81.83</td>
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<td>Social Function</td>
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<td>84.96</td>
<td>&lt;.001</td>
<td>76.63</td>
<td>.584</td>
</tr>
<tr>
<td>School Function</td>
<td>63.79</td>
<td>81.31</td>
<td>&lt;.001</td>
<td>72.23</td>
<td>&lt;.001</td>
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</table>
Youth Victims of violence score worse than Morbidly Obese Youth

<table>
<thead>
<tr>
<th>Function</th>
<th>Mean Difference Scores</th>
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</thead>
<tbody>
<tr>
<td>Total Function</td>
<td>Upper Limit 0.45</td>
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<tr>
<td>Physical Function</td>
<td>Mean -2.57</td>
</tr>
<tr>
<td>Psych Function</td>
<td>Lower Limit -5.91</td>
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<tr>
<td>Emotion Function</td>
<td>Upper Limit -0.12</td>
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<tr>
<td>Social Function</td>
<td>Mean 7.68</td>
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<tr>
<td>School Function</td>
<td>Lower Limit -11.22</td>
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</table>

Mean Difference Scores

-20 -15 -10 -5 0 5 10 15 20

Youth Victims of Violence Score worse than youth with Cancer

<table>
<thead>
<tr>
<th>Total function</th>
<th>Physical Function</th>
<th>Psych Function</th>
<th>Emotion Function</th>
<th>Social Function</th>
<th>School Function</th>
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</thead>
<tbody>
<tr>
<td>Upper Limit</td>
<td>2.64</td>
<td>9.25</td>
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<td>-3.72</td>
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<td>Mean</td>
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<td>4.65</td>
<td>-4.48</td>
<td>-9.27</td>
<td>-0.24</td>
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<td>Lower Limit</td>
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<td>0.04</td>
<td>-8.2</td>
<td>-14.82</td>
<td>-5.62</td>
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</table>
Project Ujima Summer Camp improves PROs

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
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<tbody>
<tr>
<td>School</td>
<td>5</td>
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<tr>
<td>Social</td>
<td>3.77</td>
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<tr>
<td>Emotional</td>
<td>5.26</td>
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<tr>
<td>Psychosocial</td>
<td>4.65</td>
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<tr>
<td>Physical</td>
<td>3.11</td>
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<tr>
<td>Total</td>
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*p* values:
- Emotional: *p* = 0.02
- Psychosocial: *p* = 0.03
Ongoing Work

- **Case-control Study**
  - Enrolling youth victims of violence in the ED post event
  - Age, Race, Gender, Zip Code matched non-injured controls

- **GIS Mapping**

- **Registry**
  - Using standardized measures for all Ujima participants and tracking longitudinally
    - Most effective interventions
    - Warning signs of who is doing poorly
Engagement of Law Enforcement

- Community
- Victim
- Law/Police
- Health Care
Cardiff Model

- Integration of de-identified hospital injury location data and police data

- Developed in Cardiff, Wales

- Not attempted in the US
CHW and MCW Comprehensive Injury Center

- Collecting data since 2015 (3 years)
  - 98% screening rate
  - Partnering with MPD and West Allis PD/ Public Health to develop intervention strategies
- Froedtert ED collecting in 2018
- Community Hospitals (Aurora St Luke's and West Allis Memorial) on board
Duplication Results for the Three Datasets

- 6% of ED assault records were recorded by MPD (n=24)
- 9% of EMS assault records were recorded by MPD (n=53)
- 9% of ED assault records were recorded by EMS (n=34)
- * 7% of 935 (ED+EMS) records were recorded by MPD (n=64)
- 871 of ED+EMS cases were not in the MPD dataset

1/1/15 – 9/30/17
N=
ED = 381
EMS = 588
MPD = 1,837
Combined Data Leads to Improved Surveillance

- Identified new “hot spots”

94% of pediatric assaults were previously unknown to Milwaukee law enforcement.
Conclusion

- Health Care Systems and Hospitals play an integral role in violence intervention and surveillance.
- More work is needed to address upstream risk factors and social determinants that impact violence.