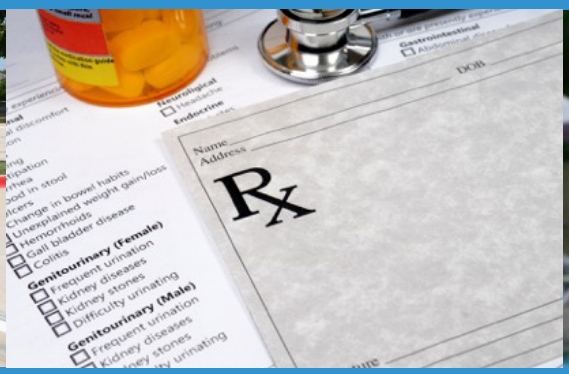
Standards and Indicators for Model Level I and II Trauma Center Injury and Violence Prevention Programs



SAFE STATES

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For:
The Safe States Alliance and National Association of County and City Health Officials

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BACKGROUND

The Affordable Care Act (ACA) prompted changes to requirements for hospitals that present opportunities for trauma center injury and violence prevention (IVP) programs, such as satisfying community benefit requirements for nonprofit hospitals through IVP activities. In addition, trauma-specific guidance requires Level I and Level II trauma centers to have an injury prevention professional on staff and implement at least two programmatic interventions that address a major cause of injury in their communities.

Even though IVP programs[1] are being implemented by trauma centers across the country in response to these incentives and requirements, little specific guidance is in place to help these programs move beyond minimum requirements to design model programs, with consistent characteristics. This voluntary set of standards and indicators is a first step towards providing such guidance for Level I and Level II trauma center IVP programs.

The standards and indicators have been developed through a subcontract from the National Association of County and City Health Officials (NACCHO) to the Safe States Alliance, with funding support from the Centers for Disease Control and Prevention (CDC). The goal is to strengthen trauma center IVP programs and increase their alignment with public health practice.

The standards and indicators are based on several other efforts that address components of trauma center and/or public health IVP programs. These include:

- The American College of Surgeons Committee on Trauma, *Resource for Optimal Care of the Injured Patient: 2014* (The Orange Book.)
- NACCHO and Safe States Alliance guidelines, *Standards and Indicators for Local Health Department Injury and Violence Prevention Programs (2011)*
- National Training Initiative for Injury and Violence Prevention (NTI), a joint project of the Safe States Alliance and SAVIR, Joint Committee on Infrastructure Development, Core Competencies for Injury and Violence Prevention (2005)
- Texas Governor's EMS and Trauma Advisory Council (GETAC) Injury Prevention Committee, *Hospital-based Injury Prevention Components (2014)*

The standards and indicators also reflect feedback from public health IVP representatives and trauma center IVP professionals obtained through key informant interviews for an environmental scan in February 2017, in-person stakeholder meetings held in Washington, DC, in March 2017 and in Aurora, CO in September 2017, and feedback from Steering Committee members. (A list of Steering Committee members and other contributors is included in Appendix A.) In addition, an online survey of trauma center IVP professionals was conducted in mid-2017. The survey findings, summarized below, affirmed the need for more consistent standards and indicators.

[1] In this document, we use the term "program" to refer to the organizational entity within a hospital (i.e., the staff, resources, etc. that would appear on an organizational chart), and "programmatic intervention" to refer to the specific IVP-related work that the program's staff might implement, such as a car seat/bike helmet distribution or violence prevention initiative.

SUMMARY OF SURVEY FINDINGS

To describe the current state of Level I and II trauma center-based IVP programs, an online survey was conducted during the summer of 2017 with trauma centers across the United States. Survey questions were designed to gather information related to the five core components described below: leadership, resources, data, interventions, and partnerships. Approximately 591 trauma centers were invited to participate in the survey and responses were received from 316 (53%).

Key findings from the survey include:

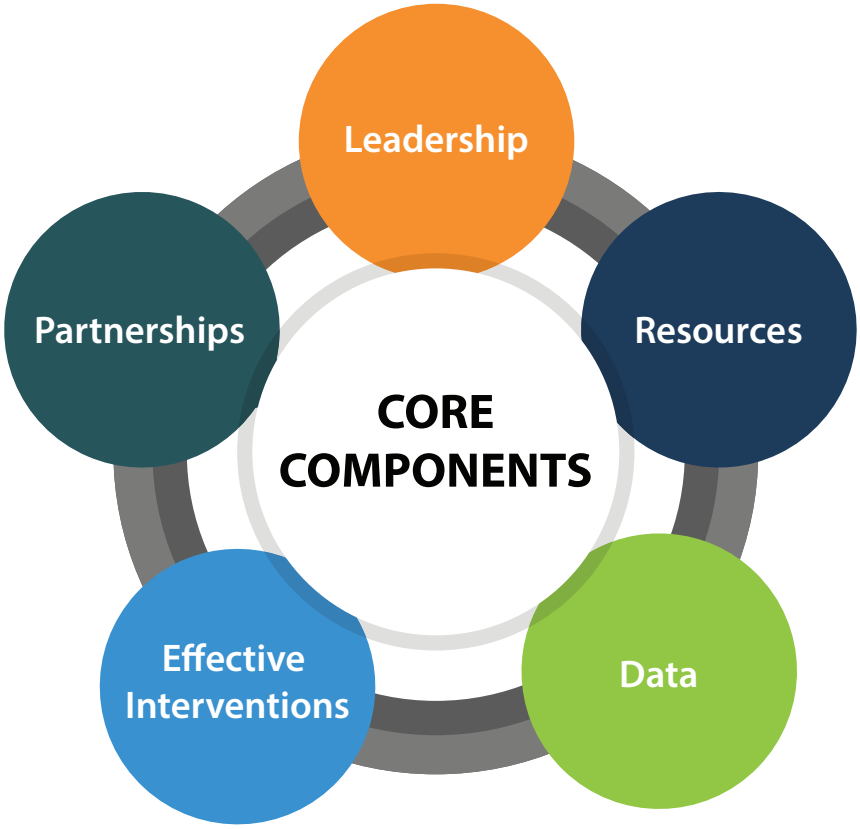
- Nearly all the IVP programs represented in the survey are **located within the hospital's trauma center**; very few programs are located in departments such as marketing or public relations.
- The majority of injury prevention coordinators who responded to the survey **report to someone in the trauma department**; very few report to someone in the marketing or public relations department.
- Almost half of IVP programs **do not have access to an epidemiologist** or other data professional.
- While IVP data are often used for program planning and reporting, data (especially outcome data) are **less commonly used for program monitoring and evaluation**.
- IVP programs frequently use process data to assess program reach or implementation; however, IVP programs **less often use outcome data** to assess the impact of their interventions.
- All of the top ten topics addressed by IVP programs are related to injury prevention; **none of the top ten topics are related to violence prevention.**
- The main **challenges related to interventions** include limited resources, difficulty finding evidence-based interventions, and complexity of assessing the impact of IVP interventions.
- Although satisfaction with partnerships is generally high and IVP programs report fairly strong relationships with state and local health departments, IVP programs tend to be **less satisfied with their partnerships with state and local health department partners** as compared to other types of external and internal partners.
- **Challenges to expanding and strengthening partnerships between trauma center IVP programs and public health agencies** include limited resources, data sharing issues, competing priorities, staff turnover, and difficulties in locating the most appropriate contact within the health department.

- The vast majority of respondents are **fully or partially satisfied with the support they receive from hospital leadership**. However, fewer than half of IVP programs feel that they have **sufficient** staff or funding for the programs to carry out their activities.
- Approximately **three out of four trauma center IVP programs operate with a total annual budget of $100,000 or less** (inclusive of salaries).
- Although trauma center-based injury prevention coordinators tend to have significant experience in the field, nearly **one-third reported that they did not participate in any IVP training** during the past five years.

These findings provide insights into the current state of trauma center-based IVP programs, describe the challenges faced by these programs, and highlight opportunities to expand, leverage, and build upon the work already being done in trauma center IVP programs. In addition to providing a comprehensive picture of the current state of trauma center IVP programs, the findings from the survey can inform future activities, including the dissemination and implementation of standards and indicators for model trauma center IVP programs.

CORE COMPONENTS OF MODEL LEVEL I AND II TRAUMA CENTER IVP PROGRAMS

The standards and indicators are organized according to five core program components identified through the meetings and discussions described above: leadership; resources; data; effective interventions; and partnerships.



For each core component, we provide a brief rationale, a statement of the model standard, and indicators that would suggest the model standard is being met. Components and standards are summarized in the table below:

Core Component	Model Standard
Leadership	The program is sufficiently supported by trauma center administrators and/or senior hospital administrators who are invested in IVP interventions and activities that are implemented by the hospital or in collaboration with community partners.
Resources	The program has adequate resources (e.g., staff and funding) to carry out injury prevention activities, and it is overseen by an injury prevention professional who has and continually updates his or her expertise in injury and violence prevention and ensures that staff have access to relevant training and professional development opportunities.
Data	The program collects, analyzes, interprets, and uses qualitative and quantitative data to determine priority program and policy interventions, evaluate progress, internally "make the case" for investment in injury and violence prevention, and/or increase awareness among external audiences of the value of injury and violence prevention programs.
Effective Interventions	The program selects, implements, and evaluates or researches evidence-based and/or evidence-informed prevention strategies that respond effectively to the major causes of injury and violence in the community.
Partnerships	The program identifies and strengthens relationships at the community, local, state, regional and national levels that amplify the program's impact and contribute to coordinated, effective injury and violence prevention efforts.

To acknowledge the considerable variation in size and scope among Level I and Level II trauma center IVP programs, we divided indicators into two main categories: those that would apply mainly to newer or smaller, more basic programs, and those that would apply to mature or larger, more established programs. **The goal is to provide guidance on how newer, smaller programs can move along the continuum in each of these dimensions to meet the standards for model, mature programs.** Moreover, all programs have opportunities for improvement. For some, these opportunities may be concentrated in one or two components; for others, they may fall across all components.

In the tables of indicators below, the two categories are labeled "core" and "enhanced." Both are variants of an ideal, model program. In most cases, an indicator that is considered "core" would also apply to the "enhanced" model. However, in some cases, the same indicator may have different parameters for a "core" or "enhanced" program. In these cases, they are separated, with the difference between the two noted in italics.

The standards and indicators describe what would exist in a model Level I or II trauma center IVP program. The standards and indicators, with associated examples, are not inclusive; instead, they represent voluntary actions meant to help a trauma center IVP program review its current efforts and identify potential areas for strengthening the program and for future growth. Likewise, all standards may not be appropriate or applicable to all programs.

These components and indicators will give programs at all levels ideas on how their programs could be expanded or strengthened, while also providing concrete, consensus-based descriptions of what constitutes a model program — one more likely to deliver the shared goals of reducing the burden and costs of injury and violence in communities across the United States.

STANDARDS AND INDICATORS FOR ENSURING SUPPORTIVE LEADERSHIP

RATIONALE

Trauma centers have a leadership role in educating and influencing others about the potential of injury and violence prevention to reduce the burden of injury and its costs to health systems and society, and its potential to drive positive changes in community health outcomes. This occurs both *internally*, helping to articulate the need for and value of the program's activities and impact within hospital chains of command, and *externally* in the community.

STANDARD

The program is sufficiently supported by trauma center administrators and/or senior hospital administrators who are invested in IVP interventions and activities that are implemented by the hospital or in collaboration with community partners.

INDICATORS

Indicators of Leadership Standard		Core Model Program Indicators	Enhanced Model Program Indicators
L-1	Internal hospital chains of command (within the hospital/ system infrastructure) are aware of and support IVP activities in collaboration with the IVP professional.	x	x
L-2	The IVP program demonstrates how its activities and priorities align with those of the hospital's strategic plan.	x	x
L-3	The program promotes its visibility and value by tracking IVP countermeasures in a variety of ways that are meaningful to the hospital (e.g., outcome data from evaluations, billing data, reimbursement coding, revenue generation).		x
L-4	The IVP program's activities/priorities are reflected in high-level hospital and system planning documents.		x

Indicators of Leadership Standard		Core Model Program Indicators	Enhanced Model Program Indicators
L-5	The IVP professional regularly attends and/or reports to hospital leadership meetings.		x
L-6	The IVP professional influences or makes decisions in collaboration with hospital leadership about the specific IVP interventions and activities that are implemented by the hospital.		x
L-7	The IVP professional participates in legislative activities and works closely with elected officials and/or partners to reduce the burden and costs of injury and violence and improve health outcomes.		x

STANDARDS AND INDICATORS FOR ENSURING ADEQUATE RESOURCES

RATIONALE

With adequate resources in the form of staffing, expertise, skills, and funding, programs are able to fulfill their responsibilities and potential to achieve sustainable injury and violence prevention outcomes.

STANDARD

The program has adequate resources (e.g., staff and funding) to carry out injury prevention activities, and it is overseen by an injury prevention professional who has and continually updates his or her expertise in injury and violence prevention and ensures that staff have access to relevant training and professional development opportunities.

INDICATORS

Indicators of Resources Standard		Core Model Program Indicators	Enhanced Model Program Indicators
R-1	The program has adequate resources (e.g., staff and funding) to fulfill its responsibilities and potential to achieve sustainable IVP outcomes.	x	x
R-2	The IVP professional has experience in IVP that includes training in population/public health (either as part of their degree coursework or via other training).	x	x
R-3	The IVP professional continually updates his or her knowledge in IVP to meet the Core Competencies for Injury and Violence Prevention.	x	x
R-4	IVP is formally included in the IVP professional's job description as specified in the Core Competencies for Injury and Violence Prevention.	x	x

Indicators of Resources Standard		Core Model Program Indicators	Enhanced Model Program Indicators
R-5	The program supports IVP program staff to receive continuing education and training that strengthens their skills and performance related to population/public health IVP.	x	x
R-6	The program pursues and obtains funding beyond resources provided by the hospital/system to support the program's operations, as permitted/appropriate.		x
R-7	The program provides education and outreach (e.g., lectures, conferences, websites, newsletters, testimony, policy briefs) on injury and violence prevention topics?	x	x
R-8	The program provides orientation to newly hired IVP professionals to familiarize the professional with the Core Competencies for Injury and Violence Prevention.	x	x
R-9	The program supports IVP staff to receive advanced or higher-level training that is relevant to the IVP program (e.g., GIS, REDCap, SAS)		x
R-10	The program accesses external resources (e.g., grants, foundation funding) to expand its capacity and meet its goals and objectives.		x

STANDARDS AND INDICATORS FOR COLLECTING, ANALYZING, INTERPRETING, AND USING DATA

RATIONALE

The ability to collect, access, interpret, use, and present injury and/or violence data is considered a core competency for injury and violence prevention. Indeed, the role of data is central to overall public health practice. With access to multiple data sources and an ability to interpret data, programs are better able to respond to the main sources of burden of injury and violence in each community and reduce the costs incurred by systems and society.

The standards and indicators below recognize that some programs may not have access to multiple sources of data or the staff and skill sets to analyze data. However, the expectation is that programs will work with partners to share and assess various data sources, and to move towards more innovative ways of both collecting and analyzing data as programs grow and mature.

STANDARD

The program collects, analyzes, interprets, and uses qualitative and quantitative data to determine priority program and policy interventions, evaluate progress, internally articulate the need for and value of investing in injury and violence prevention, and/or increase awareness among external audiences of the value of injury and violence prevention programs.

INDICATORS

Indicators of Data Standard		Core Model Program Indicators	Enhanced Model Program Indicators
D-1	The program uses trauma registry data to characterize the frequency and patterns of injury in patient populations.	x	x
D-2	The program collects, analyzes, interprets, and uses additional hospital data (e.g., discharge data, readmissions, re-occurrences, billing/financial) to deepen its understanding of preventable injuries in the community it serves.	x	x
D-3	The program has access to data (in-house or external) and/or a data professional.	x	x
D-4	The program uses community/population injury and/or violence data for selecting program and policy priorities (e.g., determinants, modifiable risk factors, social/financial burden).	x	x

Indicators of Data Standard		Core Model Program Indicators	Enhanced Model Program Indicators
D-5	The program *applies an epidemiologic approach* to using community/population injury and/or violence data for selecting program and policy priorities (e.g., determinants, modifiable risk factors, social/financial burden).		x
D-6	The program contributes to the collection, monitoring, interpretation, and analysis of population-based, local data that lead to a fuller understanding of the *top local causes of injury and/or violence* in the community.		x
D-7	The program assesses injury and/or violence data to *evaluate* progress in reducing the burden of injury and violence.		x
D-8	The program shares injury and violence data with *internal* stakeholders (e.g., physicians, nurses, volunteer and foundation staff, executive teams within the hospital/system).	x	x
D-9	The program has data-specific partnerships with external partners to jointly collect and/or analyze data (e.g., MPO-GIS mapping, state registries, community engagement in identifying data collection priorities).	x	
D-10	The program has data-specific partnerships with external partners to jointly collect and/or analyze data and *improve the overall quality of data* (e.g., MPO-GIS mapping, community engagement in identifying data collection priorities).		x
D-11	The program participates in efforts to aggregate, analyze, interpret, and/or collect injury and violence data *in innovative ways* (e.g., using predictive analytics, GIS mapping, or big data; engaging community members and groups).		x
D-12	The program participates in research and scholarship through activities such as publishing the results of research studies, participating in research discussions and conferences, collaborating on joint research projects/studies, and mentoring.		x
D-13	The program provides a report to the community annually that includes data findings and evaluation of programs and activities designed to reduce injury and violence in the communities served, in an accessible, user-friendly format.	x	x

STANDARDS AND INDICATORS FOR SELECTING, IMPLEMENTING, AND EVALUATING EFFECTIVE INTERVENTIONS

RATIONALE

Level I and Level II trauma centers are required to implement programmatic interventions addressing one or more of the major causes of injury in the community. It is crucial to devote the program's intervention resources as wisely as possible and to evaluate interventions to understand whether they worked as intended. In addition, as programs grow in size and scope, it is appropriate to take on a more complex portfolio of interventions, working as appropriate with partners.

STANDARD

The program selects, implements, and evaluates or researches the implementation of evidence-based and/or evidence-informed prevention strategies that respond effectively to the major causes of injury and violence in the community.

INDICATORS

	Indicators of Effective Interventions Standard	Core Model Program Indicators	Enhanced Model Program Indicators
I-1	Prevention strategies and interventions are evidence-based or evidence-informed and are the program's main focus (e.g., there is evidence or research that the chosen intervention strategy/ies is/are effective). Resources for identifying potential interventions include the CDC's Guide to Community Preventive Services.	x	x
I-2	The program's intervention strategies are multi-level approaches that are specific to populations at risk in the community (e.g., Spectrum of Prevention).	x	x
I-3	The program's intervention strategies address proximate and root causes of injury and violence, considering socioeconomic, cultural, environmental, and engineering factors.		x
I-4	The program collaborates with internal and external partners and community members to implement multi-level interventions that are aligned with broader IVP efforts and plans.	x	x

Indicators of Effective Interventions Standard		Core Model Program Indicators	Enhanced Model Program Indicators
I-5	The evidence-based intervention strategies selected are logistically feasible to support over time at a level/dose that yields an impact.	x	x
I-6	The program has a plan for monitoring the implementation of its intervention strategies to ensure that they are being implemented effectively and achieving intended outcomes.	x	x
I-7	The program monitors and evaluates efforts to address causes of injury and violence.	x	x
I-8	The program is engaged in *informing policy (e.g. organizational or legislative) and/or advocacy opportunities/efforts* that address injury or violence.	x	x
I-9	The program is engaged in efforts to *inform or advance a policy agenda to achieve specific goals* that address injury or violence.		x
I-10	The program provides a report to the community annually that includes successes and shortfalls in reducing injury and violence in communities served, in an accessible, user-friendly format.	x	x

STANDARDS AND INDICATORS FOR IDENTIFYING AND STRENGTHENING PARTNERSHIPS

RATIONALE

Injury and violence prevention activities extend across a wide range of topics, mechanisms of injury, risk and protective factors, behaviors, populations, and social determinants of health. No single organization can be expected to address these alone; partnerships are essential for any trauma center-based IVP program.

STANDARD

The program identifies and strengthens relationships at the community, local, state, regional, and national levels that amplify the program's impact and contribute to coordinated, effective injury and violence prevention efforts.

INDICATORS

Indicators of Partnerships Standard		Core Model Program Indicators	Enhanced Model Program Indicators
P-1	The program *strengthens relationships with partners* to advance IVP, including data partners.	x	x
P-2	The program *uses a systematic process* to identify, develop, and track collaborative relationships with current and new partners to advance IVP.		x
P-3	The program *facilitates the connections of partners to one another* to support IVP program activities and/or objectives (e.g., implement and evaluate interventions, share data, increase awareness).		x
P-4	The program *participates in* broader IVP networks (e.g., state planning efforts or coalitions, regional trauma advisory committees, HHS regional networks, juvenile court systems and national organizations such as Safe Kids Worldwide, Safe States Alliance, and CDC).	x	

Indicators of Partnerships Standard		Core Model Program Indicators	Enhanced Model Program Indicators
P-5	The program participates in *and contributes* to broader, systems approaches to IVP (e.g., state planning efforts or coalitions; regional trauma advisory committees; HHS regional networks; juvenile court systems; housing, transportation, and education agencies; and national organizations such as Safe Kids Worldwide, Safe States Alliance, and CDC).		x
P-6	The program participates and has a productive, collaborative relationship with local, state, and/or national *public health agencies* involved directly or indirectly in IVP (e.g., chronic disease prevention, maternal and child health, transportation).	x	x
P-7	The program collaborates with external partners and community members to implement multi-level interventions that are aligned with broader IVP efforts and plans.	x	x
P-8	The program provides a report to the community annually that includes the scope and status of its partnerships.	x	x

APPENDIX: LIST OF PARTICIPANTS

Safe States Alliance and the National Association of County and City Health Officials are grateful to the many colleagues who contributed their time and effort to developing the standards and indicators presented in this document.

Individuals listed below participated in interviews for the environmental scan, roundtable meetings, and/or a series of conference calls throughout the project, as well as reviewing draft versions of the standards and indicators.

Members of the project's Steering Committee are denoted in **bold**.

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