

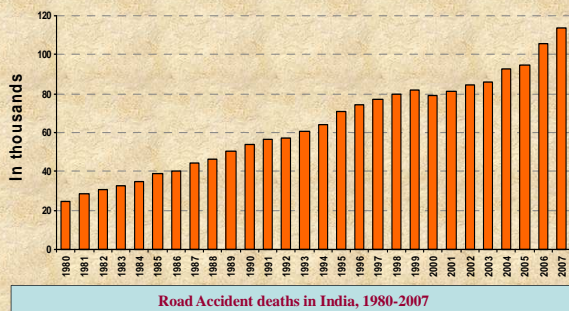
Injury Surveillance Systems in Low and Middle Income Countries – Lessons from India, Oman and Egypt

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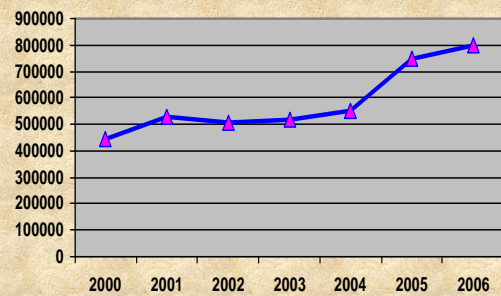
Injuries and Road traffic injuries

- ✦ **Leading cause of deaths, hospitalizations and disabilities in 5 – 44 years**
- ✦ **3/4th are men in their productive years**
- ✦ **Significantly affect the poorer communities of the society**
- ✦ **Severe socioeconomic losses to the emerging economy of the country**
- ✦ **Known and proven interventions exist**
- ✦ **Need evidence based approaches**

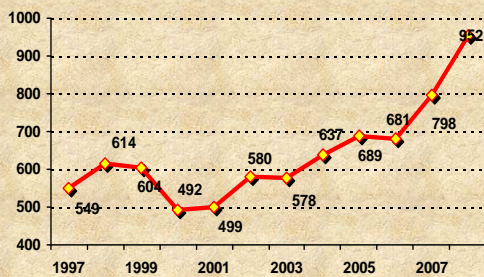
Not addressing the problem will lead to



Distribution of injury registrations in Egypt during 2000 – 2006



Road deaths in Oman during 1997-2008



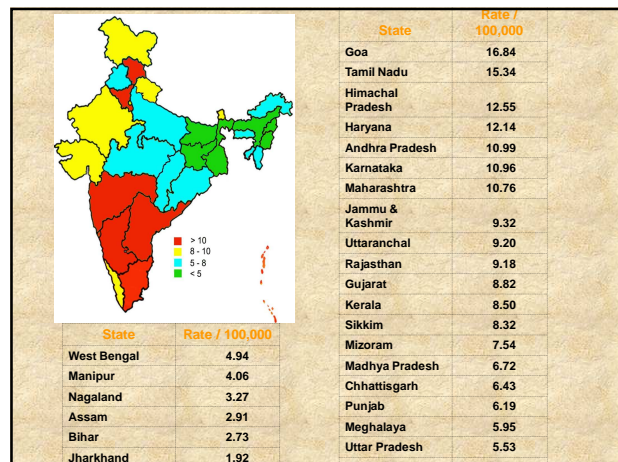
Surveillance is systematic, continuous, ongoing collection, analysis, interpretation, dissemination and feedback with information for developing interventions - programmes, policies, plans at different levels - for effective actions

Injury surveillance (based on available data) is a tool for

- Developing policies and programmes
- Developing plan of action in select areas
- Advocacy for injury prevention and control
- Allocation of resources
- Capacity strengthening of police, transport, health and legal sectors
- Review existing laws or formulate new laws
- Upscale enforcement and awareness activities
- Improve product and vehicle safety
- Evaluating ongoing activities
- Developing – implementing new programmes
- Strengthening research
- Continuously engaging stakeholders towards a common goal

Injury surveillance in all countries

- Road traffic Injuries
 - Falls
 - Mechanical injuries
 - Burns
 - Poisonings
 - Drowning
 - Animal bites
 - Deliberate self harm
 - Violence of all types
 - Domestic injuries
- Varies from region to region , country to country , even within the country depending on growth , economy , motorisation , industrialisation , priority for safety, and several other factors.



Injury surveillance – why health sector, we already have police and law

- * Bears the total brunt of Injuries
- * Provision of care
- * Spends enormous resources on investigation , care , rehabilitation
- * Documents information due to administrative and medico legal requirements
- * Has experience of disease prevention and control programmes
- * Public Health approach is recognised as one of the strategic approaches
- * Prevention and saving lives is the major concern
- * Can be the driver of change

The Basis.....

- Injuries are a health problem.
- Health – Ministries , institutions , agencies , hospitals and professionals are involved in treatment as well as prevention.
- Health sector should lead efforts as in tobacco, alcohol, HIV/AIDS, etc.,
- This effort should be scientifically driven and based on systems approach.
- The foundation for both is good quality and reliable information.
- **One mechanism of building this information basis is “ Surveillance “**

For Injury prevention, management and rehabilitation, we need evidence

- Number of deaths , hospitalizations and disabilities
- Who ?
- Why (Human + Road + vehicle + others)?
- Where ?
- How ?
- What causes ?
- Nature, severity, outcome and impact
- What type of disabilities ?
- **Information on these and many other parameters are required regularly or periodically for national / provincial / city administrators**

Information systems and needs

- Multiple systems
 - Information collected by individual agencies, but not integrated.
 - Incomplete data
 - Filling up multiple forms, but not collated and analyzed
 - Data collected from medico legal, compensation and administrative needs.
 - Minimal data on other injuries
 - No central agency to coordinate info.related activities.
 - **Data on injury patterns, circumstances, risk factors, protective devices, trauma care not available.**
 - End result is – adhocism , crisis approaches, knee jerk reactions

Getting ready

- There is something lying around – reporting systems
- These systems were created for purposes other than injury prevention, and may not meet actual needs.
- Police sources exist in every country , but were not built with injury prevention as the focus
- **Data required to build prevention – effective care is not routinely available ; if available is incomplete.**
- Study the system – build a surveillance programme – there is no perfect system

Surveillance Characteristics

- ☞ **Simple**
- ☞ **Acceptable**
- ☞ **Sensitive**
- ☞ **Reliable**
- ☞ **Representative**
- ☞ **Sustainable**
- ☞ **Timeliness**
- ☞ **Useful**
- ☞ **Cost effective**

In Oman,

- Review of systems
- Lead agency for IPC and surveillance
- Discussions with stakeholders (vertical and hori.) at every step
- Where are the problems ?
- Designing formats
- One format for deaths / injuries and police / health / ambulance
- Pilot tests
- Methods of integration
- Orientation , sensitization and training programmes
- Paper – electronic versions
- Trial runs
- Approval and investment by government
- Phase wise implementation
- Integrated with sector review
- Integrated with policy framework

Information Availability

- ❖ **Police records**
- ❖ **Transportation records**
- ❖ **Health sector records**
- ❖ **Vital registration systems – Death records**
- ❖ **Insurance records**
- ❖ **Other sources (NGO's , Media, legal, etc.,)**
- **Data linkage essential – one data bank helpful**

Health sector information

- .Health information not given importance
- Computerization in varying stages
- Data requirements undefined
- Practices vary from place to place , hospital to hospital
- Multiple forms - RTI, poisoning, occ.inj, child abuse, animal bites
- Incomplete information
- Data gathered , but limited analysis, dissemination
- lack of feedback and application for intervention programmes
- Absence of monitoring and evaluation.
- Problems in hospitals.
- Limited research
- Data required for prevention, trauma care and rehabilitation not available in one single place and disseminated for all partners to act

How does Injury Surveillance help ?

- **Understanding** of burden , profile and pattern of injuries
- **Design and implement programmes** targeted at causes, risk factors, populations , places and over time.
- **Changing pattern** of injuries and address them in a timely fashion.
- **Impact of existing programmes** and to develop new ones based on need.
- **Data for future** intervention efforts
- **Justify the need** for prevention , management and rehabilitation.

The Bangalore programme ..How did we start ?

- ❖ **Number of research , programme and policy related work**
- **Preparatory phase**
 - Stakeholders involvement
 - Built over discussions
 - Review of police and hospital records
 - Inventory in hospitals
 - Uniform methods
 - Deaths – police records (2 data extract forms for police)
 - 39 traffic + 103 law and order + 25 hospitals
 - Injuries – Hospital records (Urban + Rural)
 - Emergency trauma care record in hospitals
 - Data capture from BMTTC involved crashes
 - Pooling data from vital registration systems

Pilot studies

- **Feasibility studies**
- **Implementation phase**
 - One year of implementation
 - Nearly 30 sessions of training
 - Involvement of more than 400 staff
 - Continuous feedback
 - Systematic monitoring
 - Data management
 - Reporting mechanisms
 - Dissemination of info.
 - Information to and discussion with all stakeholders

- **Consolidation Phase (June - Dec 2009)**
 - ❖ Review with stake holders
 - ❖ Inclusion of large public and private sector hospitals
 - ❖ Revision of formats
 - ❖ Data integration and linkages
 - ❖ Focus on
 - ✓ training and quality of data
 - ✓ feedback and dissemination
 - ✓ Utilization
 - ✓ Areas of integration
- **Implementation and expansion phase(2010 +)**

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What does surveillance accomplish ?

Can get info. On deaths, injuries and disabilities

- One injury surveillance programme
- Integrated and coordinated programme
- Small amounts of good quality information
- Sharing and dissemination among all
- Effective use of IT
- Monitoring and evaluation
- Programmes to be evidence based
- Can link police, hospital , transport and insurance data and avoid duplication of work

Feedback - To whom ?

- ❖ All lead agencies
- ❖ Ministry of Police
- ❖ Ministry of Transport
- ❖ Ministry of Health
- ❖ All other Ministries
- ❖ All participating institutions and members
- ❖ Law
- ❖ Urban and Rural development
- ❖ Highway authority
- ❖ Education
- ❖ NGO's
- ❖ Community
- ❖ Media - community

Information Dissemination

- Step wise approach – Do not Overload
- Simple and straight forward
- Continuous – not an one time
- Different methods for different groups
- Relevant to stakeholders
- Pictorial better
- **Data are never the end product – they are only the means to an end**

Information dissemination

- Newsletters
- Fact sheets
- Injury alerts
- Injury monitors
- Concept papers
- Media briefs
- Technical reports
- Focused release
- Department or Interministerial meetings
- Training Programmes / workshops
- Annual meetings / conference





Inputs to programmes

- Strengthening Crime records Bureau
- Police training programmes
- BMTC driver training programmes
- Crash investigation and analysis
- Safe school programme
- Advocacy activities

How are Decisions Made?

- Anecdote or “Gut Feeling”
 - Historical experience
 - Media pressure
 - Pressure from Policy Makers or Administrators
 - Expert Opinions
 - Economic necessity
 - Knowledge of success
 - International experiences
 - International requirements
 - Public health needs
- OR*
- Public health good, Based on sound science , using combined needs through evidence based public health

To make right decisions - Engage stakeholders

- Involve stakeholders from early stages
- Involve them in action plan
- Obtain their administrative, technical and financial support
- Engage them in all discussions
- Provide regular feedback
- Incorporate suggestions
- Give them credit
- Involve in dissemination
- Convince or coerce them to follow-up action

Decision making in Injury prevention and control

- Intervention approaches – Research and surveillance crucial
- Research to action needs knowledge, leadership , capacity and infrastructure
- Information should be disseminated to others who need to know
- Problem solving is multi-disciplinary and Intersectoral approach is the key
- Systematic planning is crucial to justify resources
- Sound evaluation principles need to be included

Surveillance is useful , if only data is used

“The reason for collecting, analyzing, and disseminating information on a disease is to control that disease. Collection and analysis should not be allowed to consume resources if action does not follow.”

William H. Foege, M.D., M.P.H., Former Director,
Centers for Disease Control and Prevention
In: Horan M, Mallonee S. Injury Surveillance.
Epidemiological Reviews 2003;25:24-42.



In Egypt,

- Injury surveillance started in 1994
- Revised in 1999
- Covers 50 % of hospitals
- Data collected in ER's
- Programme reviewed in 2006
- Lack of computerization
- Data has not been adequately used
- Stake holders not aware of the activity

Downloaded from injury prevention.bmj.com on 24 November 2008

Commentary

Surveillance alone is not the answer

Barry Pless

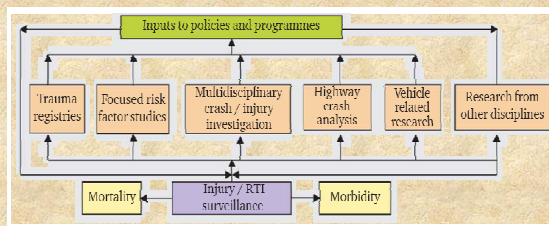
One popular theme in the injury prevention literature is the perceived need for more and better surveillance. This arises because of the belief that surveillance is a prerequisite for preventive programs. I have serious reservations about this belief and I could even argue that an undue emphasis on surveillance could be harmful. That, admittedly extreme, view applies when surveillance fails to achieve its most critical objective while consum-

details.' Registries are "the file of data concerning all cases of a particular disease... in a defined population such that the cases can be related to a population base."¹⁶ Unlike surveys, however, most registries contain few additional details. Importantly and in contrast, the definition of surveillance given by the CDC is "the ongoing systematic collection, analysis, and interpretation of health data, essential to the planning implementa-

reports. (In fact, it is likely that NEISS is further behind than its website suggests.) Given these delays, set aside the "timely" criterion. It is the last part of the definition (...the application of these data to prevention...) that is the most critical, and it is the part that far too many surveillance proponents ignore. Instead, they focus on the mechanics of making the system run well.

Because I was one of CHIRPP's grandparents, my comments about the papers in this issue may be biased. But my involvement could equally prompt me to be critical or laudatory. On the one hand, you might assume I would defend CHIRPP in spite of the shortcomings both papers¹⁷ reveal. On the other hand, as is true when a child disappoints its

Pathways of research



Major barriers

- Injuries as a medico legal problem
- Injuries as a public health problem
- Injury surveillance - not a priority
- Changing the mind set
- Capacity to manage, analyze, disseminate and utilize data
- Data collected - Never used
- Leadership in IPC
- Infrastructure and resource issues

Challenges to Overcome

- ❖ Establishing the system
- ❖ Resistance to change
- ❖ Stakeholders participation
- ❖ Administrative and financial commitment
- ❖ Interested (if not designated) teams
- ❖ Co-operation from Police and hospital staff
- ❖ Heavy ER load in public hospitals
- ❖ Coordination at central and in individual institutions
- ❖ Change and transfer of people – need for training
- ❖ Continuous networking and monitoring
- ❖ Interventions – based on data
- ❖ If data is not used – people will loose interest

Programme costs

- Initial investment to build programme essential
- Institutionalizing the activity important
- Budget for interventions can come from local budget or of different ministries depending on the chosen intervention
- Keep the cost as low as possible, else will be difficult to sustain

Where does it lead to ?

- Systems approach
- Joint collaborative effort
- Focus on interventions
- Systematic monitoring and evaluation
- **Data → advocacy → action**
- Increasing evidence based activities

Closing comments...

- Define the programme
- Small amounts of good quality and relevant info.
- Keep it simple with flexibility to expand
- Start small - with police and representative hospitals
- Integrated format for deaths and injuries
- Use IT liberally
- Expand in a phase wise manner
- Have built-in checks and balances for monitoring
- **Training of staff is a must**
- **Quality control is crucial**
- **Evaluation of systems is essential**