World Health Organization

Road Traffic data: WHO estimated data VS reported data

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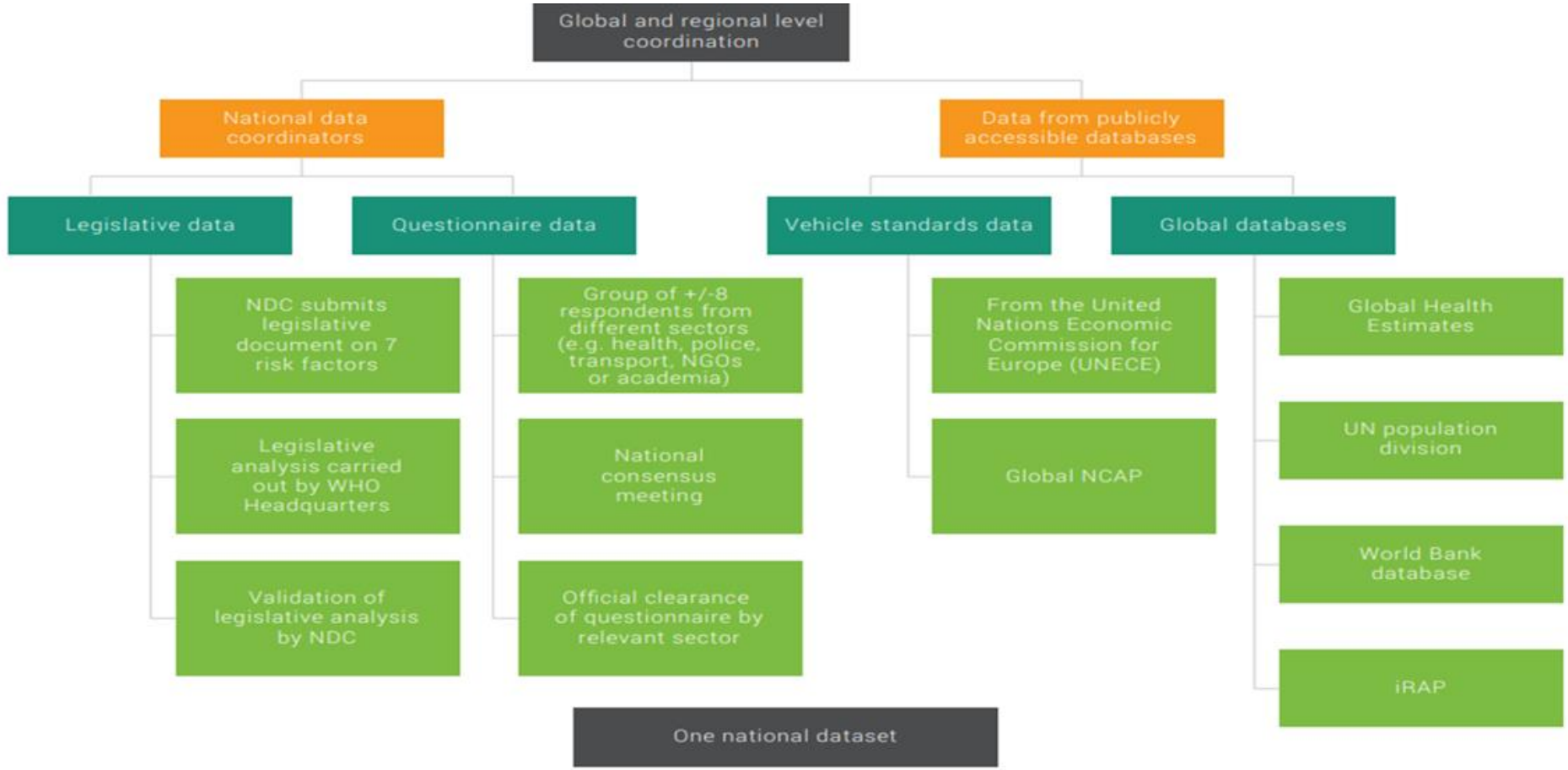
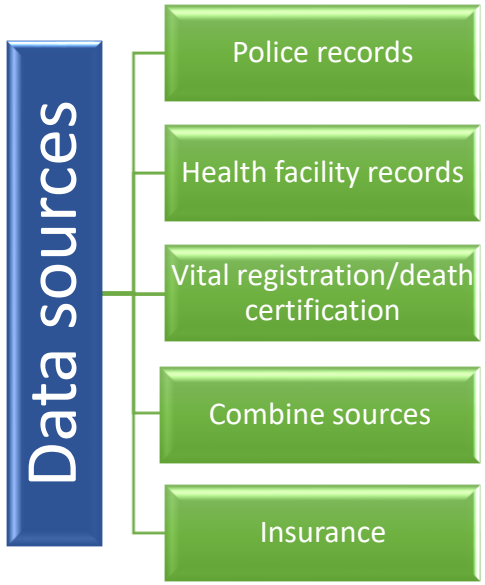
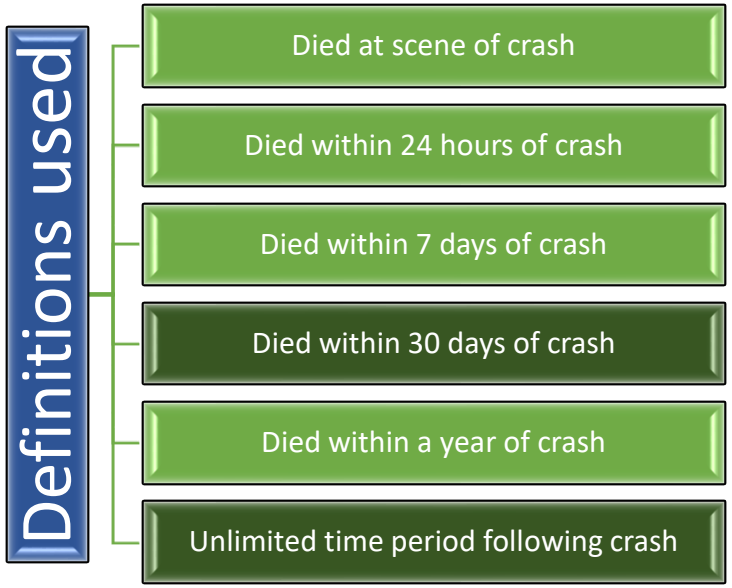
- Methodology used to collect data for GSRRS
- Discrepancy between WHO estimated data and reported data
- Steps suggested to improve the quality of road traffic deaths data

Methodology used to collect data for GSRRS

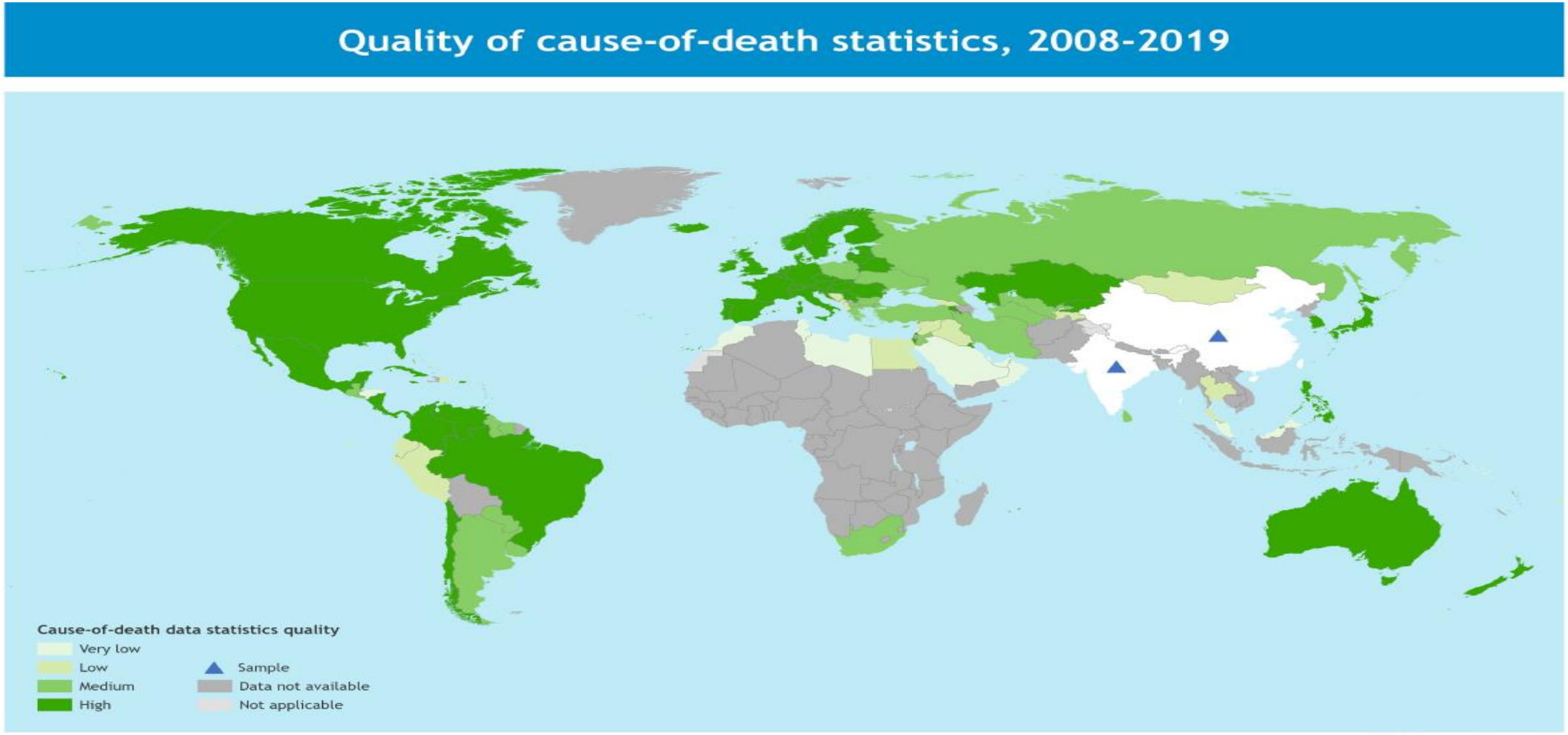


Data sources on road traffic injuries and fatalities





Even when there are data, quality can be an issue



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Data Source: Based on data reported to WHO as of Nov 2020
Map Production: WHO GIS Centre for Health, DNA/DDI

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Various coding lists, e.g. road traffic accident

- **ICD10 – 4 character:**

```
V011:V019 ,V021:V029 ,V031:V039 ,V041:V049 ,V061:V069 ,V092 ,V093 ,V103:V109 ,V113:V119 ,
V123:V129 ,V133:V139 ,V143:V149 ,V154:V159 ,V164:V169 ,V174:V179 ,V184:V189 ,V194:V199 ,V203:V209 ,
V213:V219 ,V223:V229 ,V233:V239 ,V243:V249 ,V253:V259 ,V263:V269 ,V273:V279 ,V283:V289 ,V294:V299 ,
V304:V309 ,V314:V319 ,V324:V329 ,V334:V339 ,V344:V349 ,V354:V359 ,V364:V369 ,V374:V379 ,V384:V389 ,
V394:V399 ,V404:V409 ,V414:V419 ,V424:V429 ,V434:V439 ,V444:V449 ,V454:V459 ,V464:V469 ,V474:V479 ,
V484:V489 ,V494:V499 ,V504:V509 ,V514:V519 ,V524:V529 ,V534:V539 ,V544:V549 ,V554:V559 ,V564:V569 ,
V574:V579 ,V584:V589 ,V594:V599 ,V604:V609 ,V614:V619 ,V624:V629 ,V634:V639 ,V644:V649 ,V654:V659 ,
V664:V669 ,V674:V679 ,V684:V689 ,V694:V699 ,V704:V709 ,V714:V719 ,V724:V729 ,V734:V739 ,V744:V749 ,
V754:V759 ,V764:V769 ,V774:V779 ,V784:V789 ,V794:V799 ,V803:V805 ,V811 ,V821 , V828, V829, V830:V833
,V840:V843 ,
V850:V853 ,V860:V863 ,V870:V879 ,V892 , V893, V899 ,Y99,Y850;
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- **ICD10 – 3 character:**

  V01:V04, V06, V09:V80, V87, V89, V99

- **ICD10 – Mortality List 1 (condensed list)**
  - 1096 (V01:V99) Land transport accidents)

WHO's classification of countries for estimating road traffic fatalities

1. Countries with good vital registration/death registration data
2. Countries with other sources of information or causes of death
3. Countries with population less than 150 000
4. Countries without eligible death registration data

Difference between Police and VR data

Country	Police data	CRVS-raw	Difference %	Year
Canada	1858	1965	5.8	2015
Chile	1675	2066	23.3	2016
Egypt	6203	7697	24.1	2015
Greece	824	995	20.8	2016
Japan	4867	5001	2.8	2015
Portugal	563	662	17.6	2016
Qatar	178	196	10.1	2016

Group1: Countries/areas with good VR data

Argentina, Australia, Austria, Azerbaijan, Barbados, Belarus, Belgium, Belize, Brazil, Bulgaria, Canada, Chile, China (14, 15), Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Fiji, Finland, France, Georgia, Germany, Greece, Guatemala, Guyana, Hungary, Iceland Iran (Islamic Republic of), Ireland, Israel, Italy, Jamaica, Japan, Kazakhstan, Kuwait, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Maldives, Malta, Mauritius, Mexico, Montenegro, Netherlands, New Zealand, Norway, Oman, Panama, Paraguay, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Romania Russian Federation, Saint Lucia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Suriname, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Trinidad and Tobago, Turkey, Ukraine, United Kingdom, United States of America, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), West Bank and Gaza Strip

Group 4: Countries without eligible death registration data

- Negative binomial regression:

$$\ln N = C + \beta_1 X1 + \beta_2 X2 + \ldots + \beta_n Xn + \ln Pop + \varepsilon$$

Afghanistan, Albania, Angola, Armenia, Bangladesh, Benin, Bhutan, Bolivia (Plurinational State of), Bosnia and Herzegovina, Botswana, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Honduras, Indonesia, Iraq, Jordan, Kenya, Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Niger, Nigeria, Pakistan, Papua New Guinea, Peru, Rwanda, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Solomon Islands, Somalia, South Sudan, Sri Lanka, Sudan, Swaziland, Syrian Arab Republic, Tajikistan, Timor-Leste, Togo, Tunisia, Turkmenistan, Uganda, United Arab Emirates, United Republic of Tanzania, Vanuatu, Zimbabwe

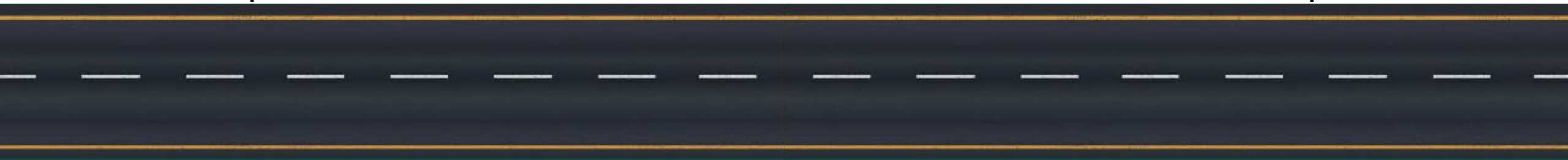
Difference between country reported data and WHO estimated data in ESCWA

Source	Country reported data	WHO estimated data	Difference(%)	Countries with reliable vital registration systems (out of 22)	Year
GSRRS 2018	**42 k**	**72 k**	**~70%**	**5 (Egypt, Kuwait, Oman, Qatar and West Bank and Gaza Strip)**	**2013**
GSRRS 2018	**38 k**	**80k**	**~110%**	**5 (Egypt, Kuwait, Oman, Qatar and West Bank and Gaza Strip)**	**2016**

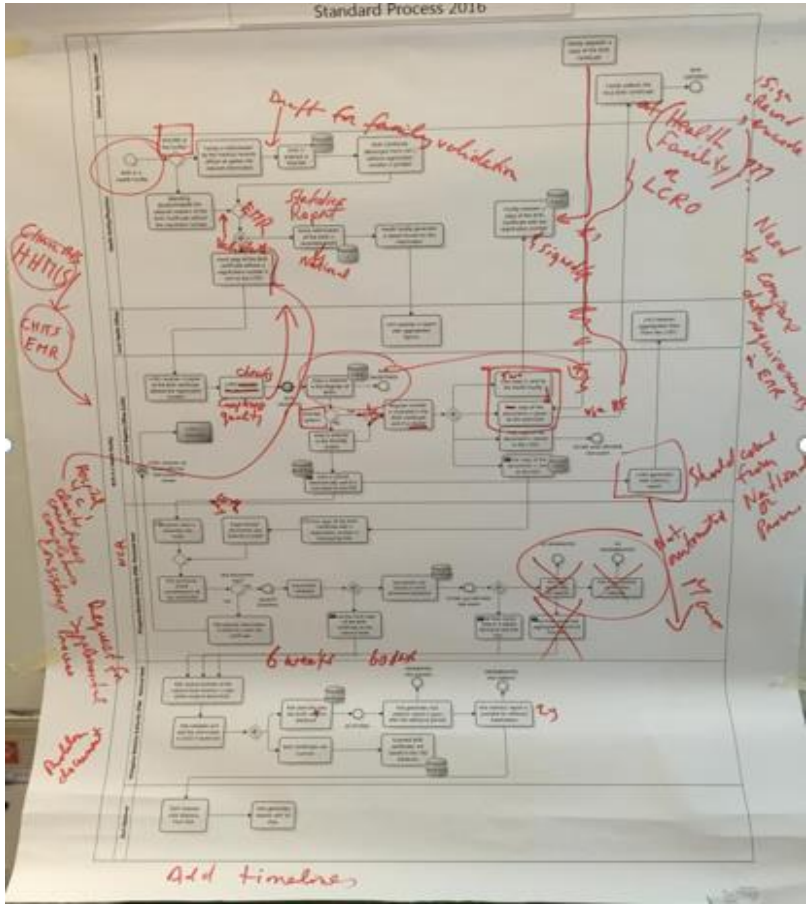
Steps suggested to improve the quality of road traffic deaths data in the country

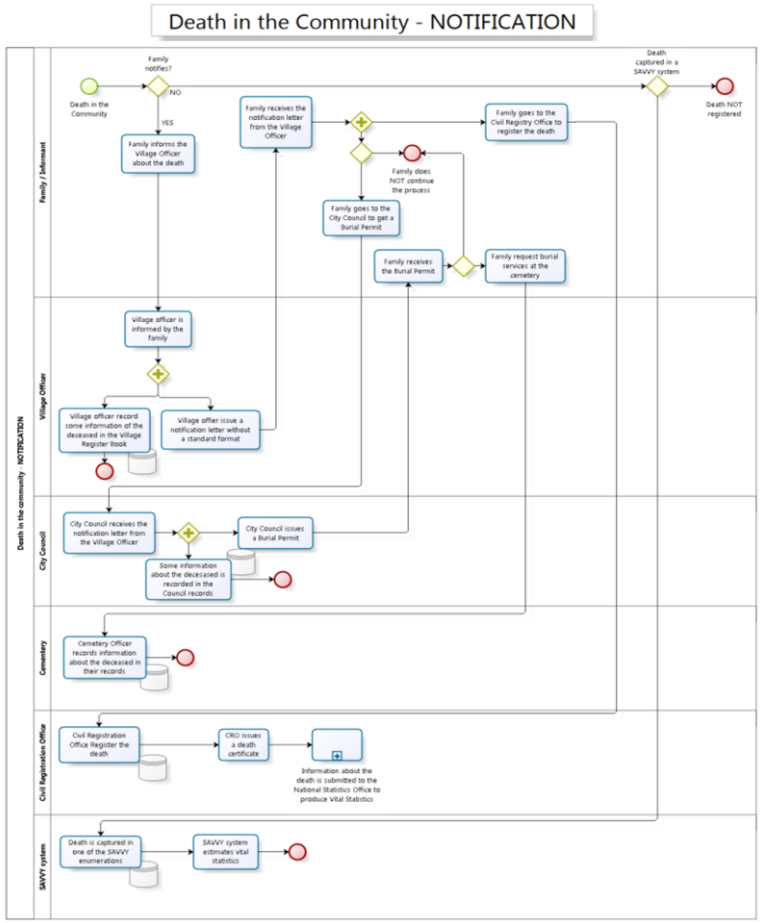
Steps suggested to improve the quality of road traffic deaths data in the country

- Mapping the data systems
- Development of a plan of action
- Encourage the country to harmonize data on RTD
- Link the different sources of data available

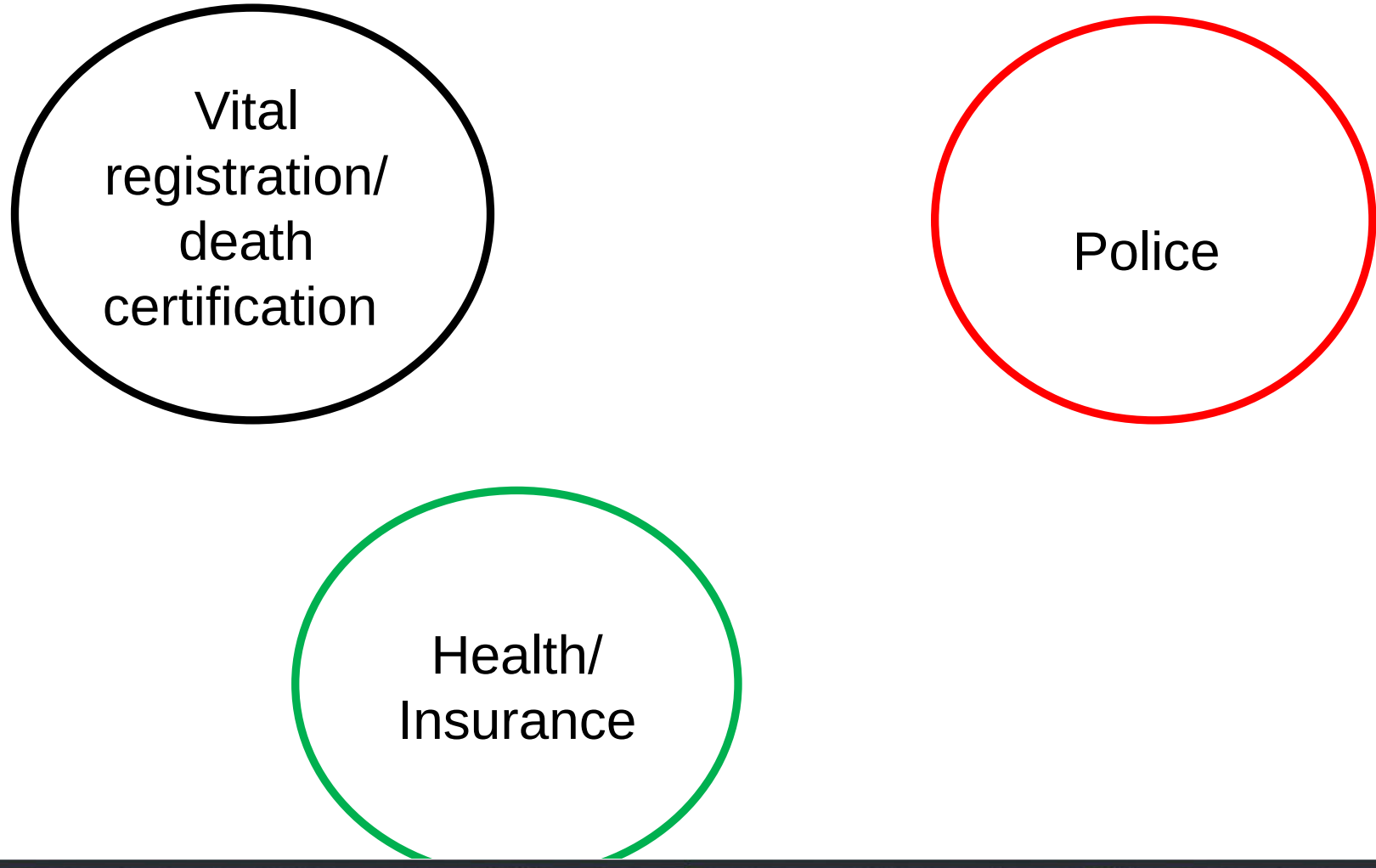


Business Process Mapping Implementation





Finding the missing deaths



Examples of integrating different sources of data

Tunisia*

- Reported data 1369
- Integrated data 2196
- WHO Estimated data 2569

Turkey

- Reported data 5409
- Integrated data 7263
- WHO Estimated data 7488

*Preliminary

Thailand

- Reported data 8137
- Integrated data 21222
- WHO Estimated data 24237

Dominique Republic

- Reported data 1363
- Integrated data 3118
- WHO Estimated data 3684

Country and upcoming work

Country work

- Côte d’Ivoire, Morocco, Myanmar, Nepal, Senegal, Tanzania and Zambia
- Tunisia (second exercise)

Upcoming work

- Philippines, Saudi Arabia, United Arab Emirates
- Mapping the data systems of the countries in #regions & supporting them to integrate data
- Collaboration with regional road safety observatories on collection & quality data

Recommendation and challenges in data

- Data on road traffic fatalities are not robust in many countries
  - ✓Underreporting is a major problem
- Most countries rely on police data systems only
  - ✓Only a few countries (41 countries) report the use of combined (health and transport) databases to WHO for their official fatality numbers.
- Different definitions used
  - ✓Countries still have no consistent definition of road traffic death for use in police databases; 118 countries use a 30-day definition for their official road traffic fatality data.

Conclusion

- At least collect data on minimum data sets
- Integrate data from different sectors: health, transport, police and insurance…
- Making effort to improve quality of data (CRVS data coverage and VA)

EuroMed Transport
SUPPORT PROJECT

World Health Organization

فهم وتضييق الفروق
بين البيانات المعلنة
من قبل البلد وتقديرات
منظمة الصحة العالمية
عن حالات الوفيات
الناجمة عن حوادث المرور

Data systems

A ROAD SAFETY MANUAL
FOR DECISION-MAKERS
AND PRACTITIONERS

good practice

World Health Organization
FIA Foundation for the Automobile and Society

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GLOBAL STATUS REPORT ON ROAD SAFETY 2018

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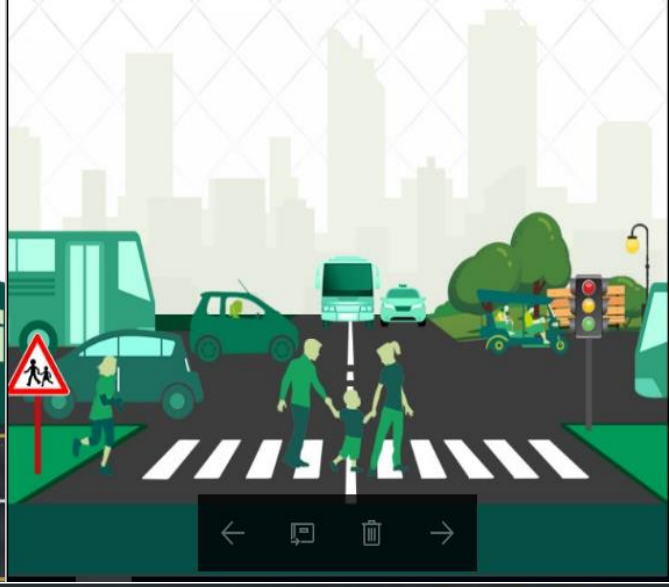
ROAD SAFETY




thank you
danke
謝謝
ngiyabonga
شكراً جزيلاً
teşekkür ederim
gracias
спасибо
Баярлалаа
рахмат
dank je
dziękuję
bedankt
hvala
mochchakker
go raibh maith
sukriya
kop khun krap
arigatō
grazie
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