Estimation of Adult Mortality Indicator through Sample Vital Registration System (SVRS) in Bangladesh

Md. Alamgir Hossen

Focal Point Officer, SVRS Project

Bangladesh Bureau of Statistics
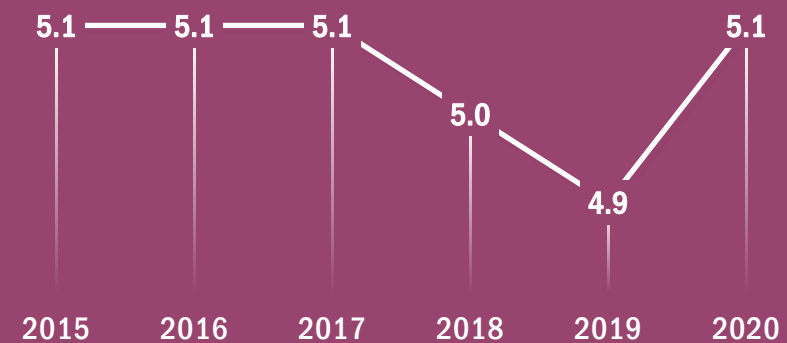
Email: alamgir.hossen@bbs.gov.bd

Background

❖ Bangladesh is still at the very initial stage of setting up the Civil Registration and Vital Statistics System.

❖ Office of the Registrar General, Birth and Death Registration is responsible to ensure registration of birth and death events through local governments according to Birth & Death Registration Act, 2004.

❖ Bangladesh Bureau of Statistics (BBS), the National Statistics Office is responsible to generate and report official statistics according to Statistics Act, 2013

❖ The vital statistics are produced by BBS through Sample Vital Registration System (SVRS) in between the Census years.

COMPLETION OF DEATH REGISTRATION (%)

Year	Value
2015	8.91
2016	13.24
2017	19.39
2018	24.44
2019	50.49
2020	40.91

Source: ORG

CRUDE DEATH RATE (PER THOUSAND POPULATION)

Year	Value
2015	5.1
2016	5.1
2017	5.1
2018	5.0
2019	4.9
2020	5.1

Source: SVRS, BBS

Sample Vital Registration System (SVRS)

BBS introduced the Sample Vital Registration System (SVRS) for the first time in 1980 to estimate the demographic indicators during the intercensal periods.

The vital events in the sample area are collected through a dual recording system developed by Chandrasekaran and Deming.

Vital events information are collected as and when they occur by a locally recruited female registrar from more than 301,000 sample households in 2,012 Primary Sampling Units drawn from Population and Housing Census Frame. There are an average of 1 registrar for about 150 HHs.

Under the system, event of Birth, Death, In-migration, Out-migration, Marriage, Divorce, Contraceptive use, Disability Status, HIV/AIDs are collected along with common household and individual socio-demographic information.

Sample Vital Registration System (SVRS)

Local registrars collect data monthly using structured questionnaires and are supervised by local BBS officials for quality control.
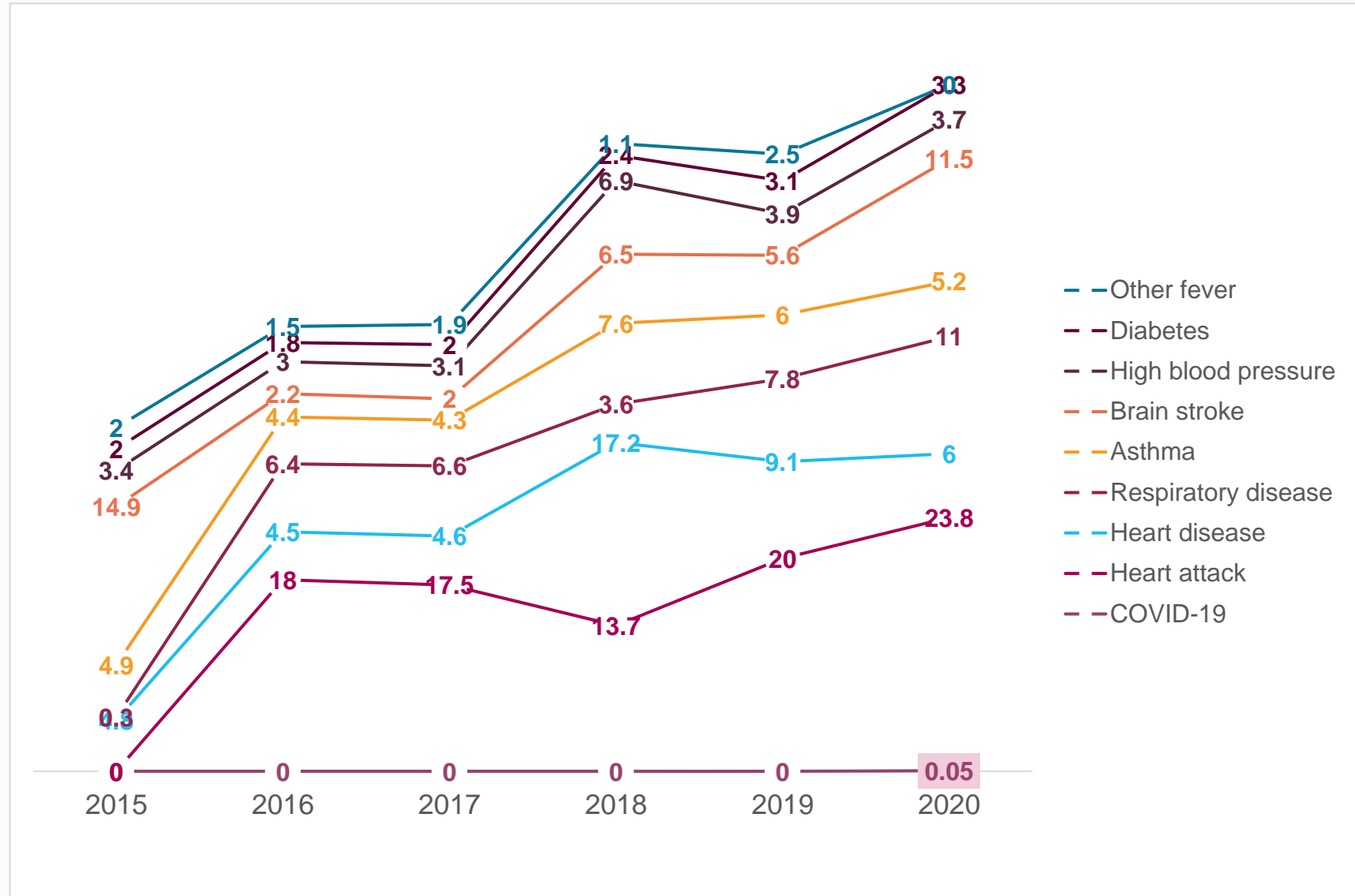
The death schedule contains 8 questions related to the particulars of the deceased persons who died during the index calendar year. It is filled-in as and when a death occurs and is sent to the BBS headquarters in the first week of the following month.

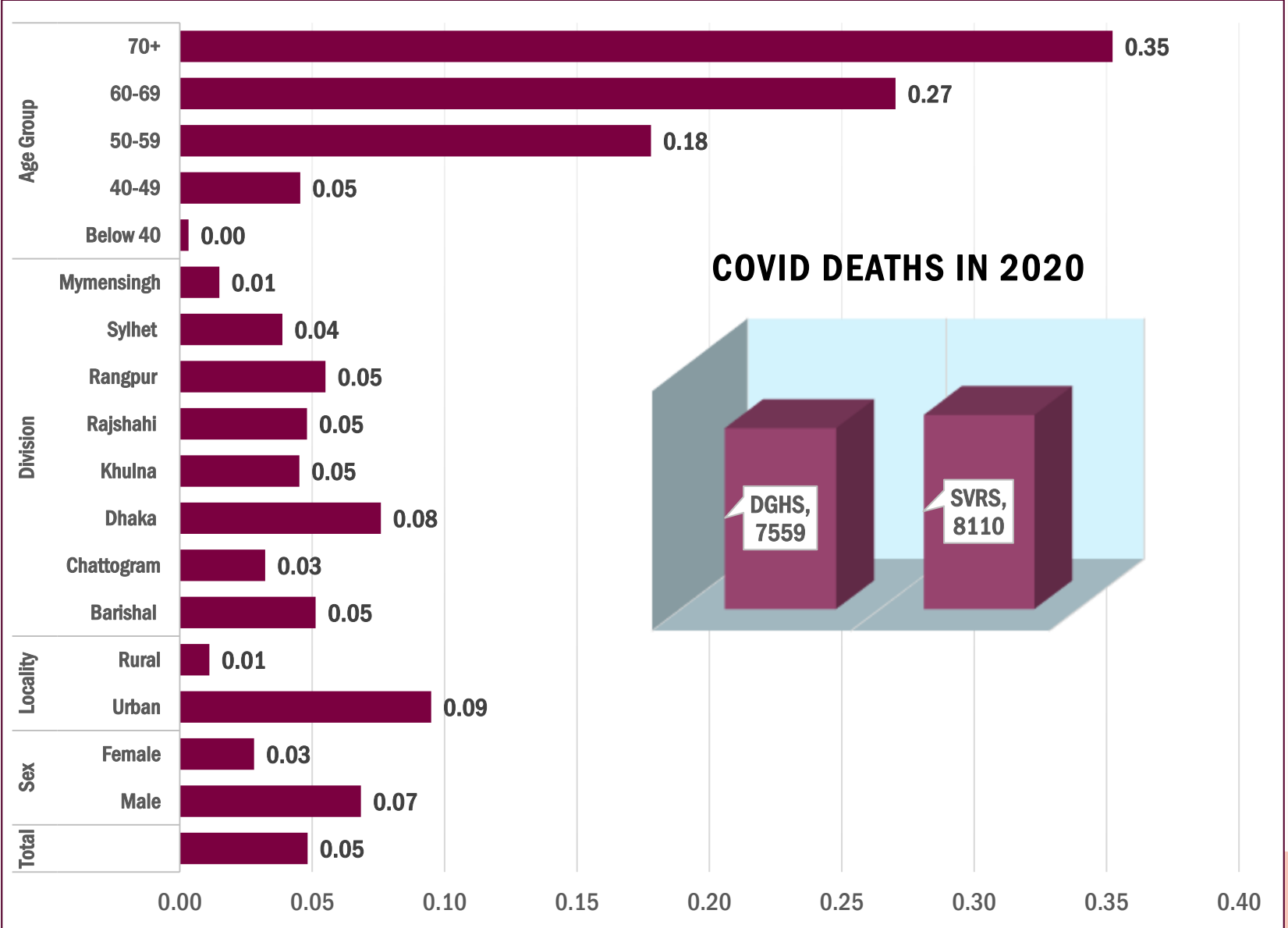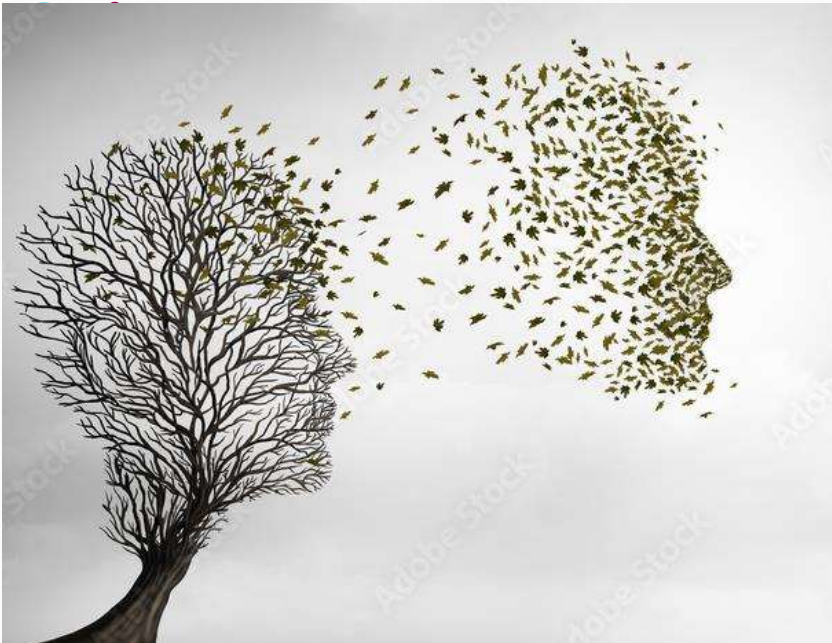# Age specific death rates (ASDR) by residence
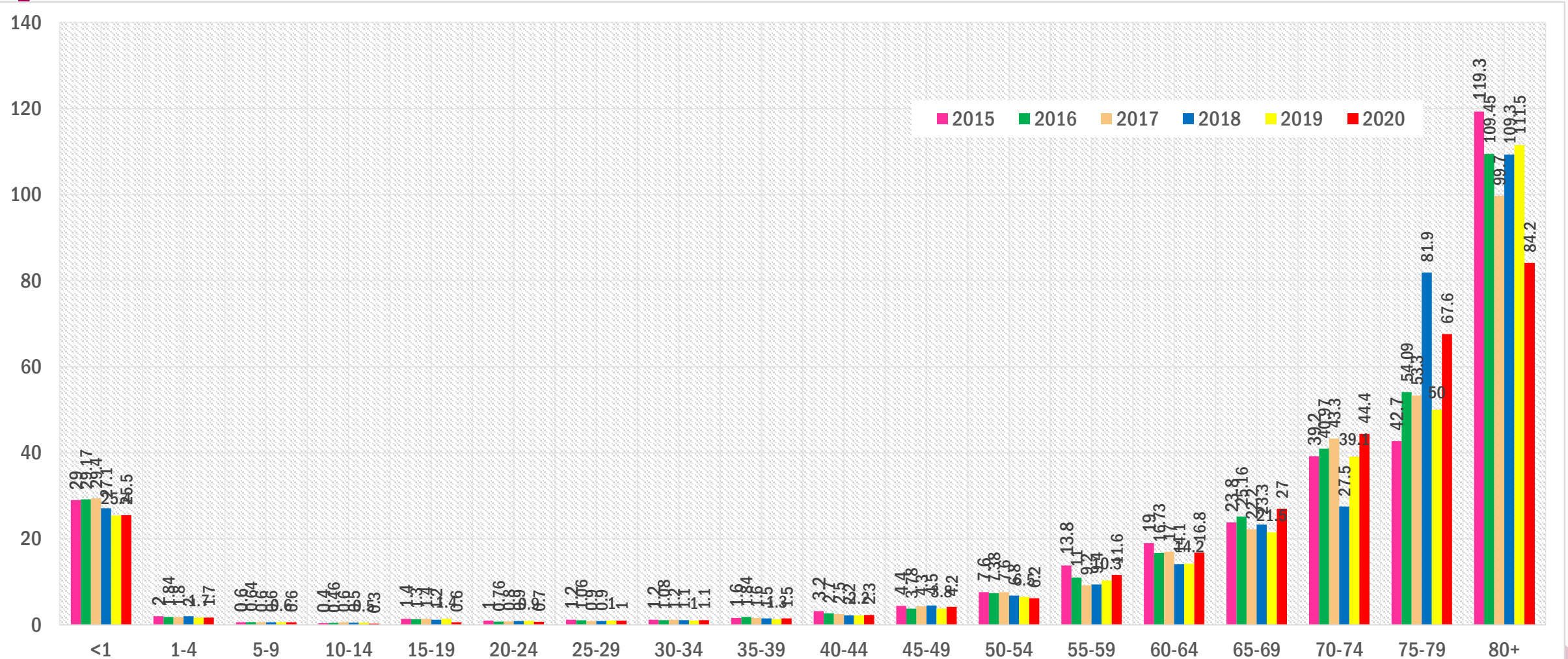
Major causes of deaths of elderly (60+ years) persons

- ❖ Deaths are recorded under 100 major causes.

- ❖ ICD-10 has not been introduced yet.

- ❖ Piloted verbal autopsies which will be incorporated soon for recording cause of deaths.

COVID-19 Deaths per Thousand Populatoin in SVRS

COVID DEATHS IN 2020

Category	Group	Value
Age Group	70+	0.35
	60-69	0.27
	50-59	0.18
	40-49	0.05
	Below 40	0.00
Division	Mymensingh	0.01
	Sylhet	0.04
	Rangpur	0.05
	Rajshahi	0.05
	Khulna	0.05
	Dhaka	0.08
	Chattogram	0.03
	Barishal	0.05
Locality	Rural	0.01
	Urban	0.09
Sex	Female	0.03
	Male	0.07
Total		0.05

DGHS, 7559

SVRS, 8110

COVID-19 Death SVRS vs. DGHS
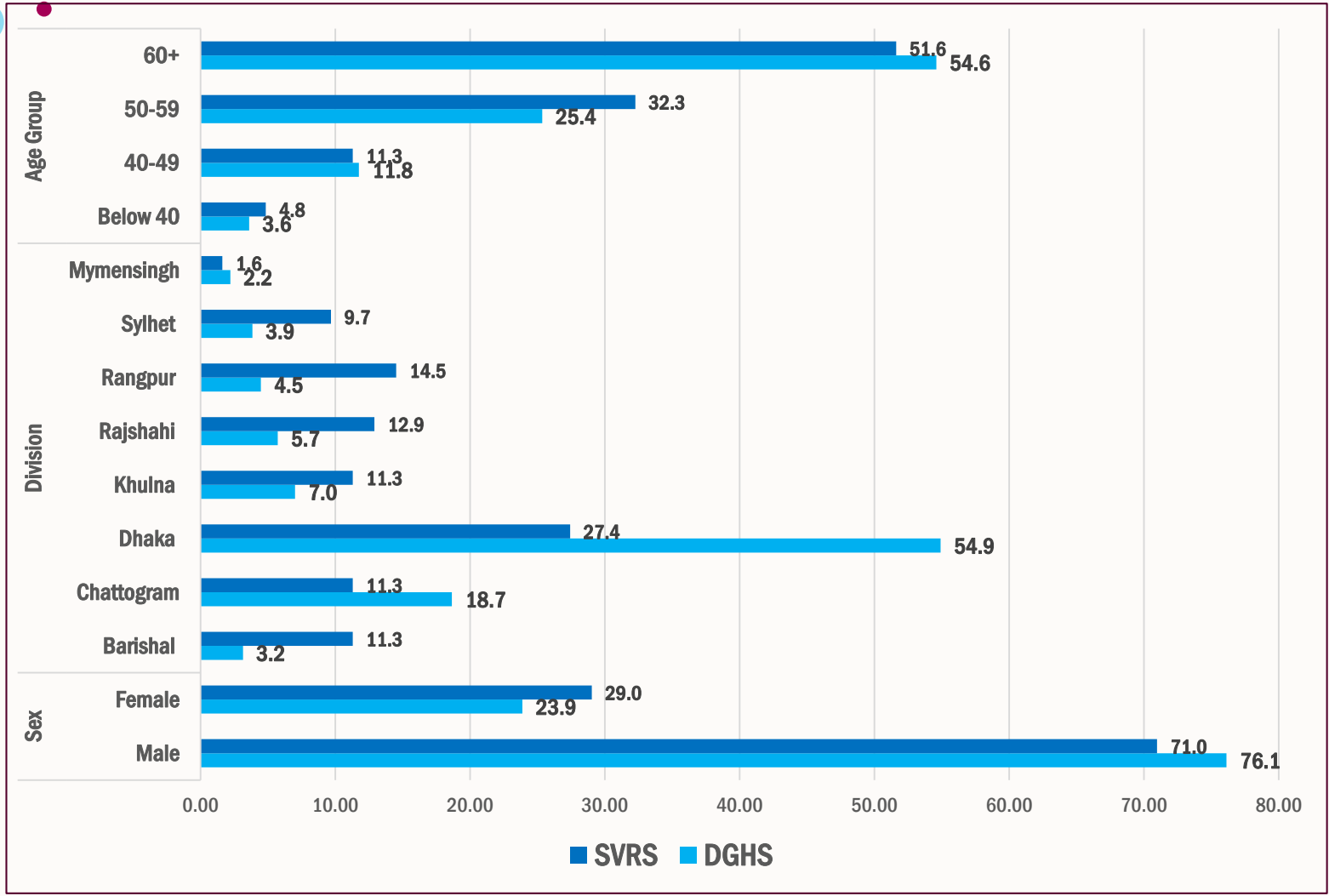
- **Possible reason of difference may be lead by due to referring critical patients to the hospitals located in another region.**
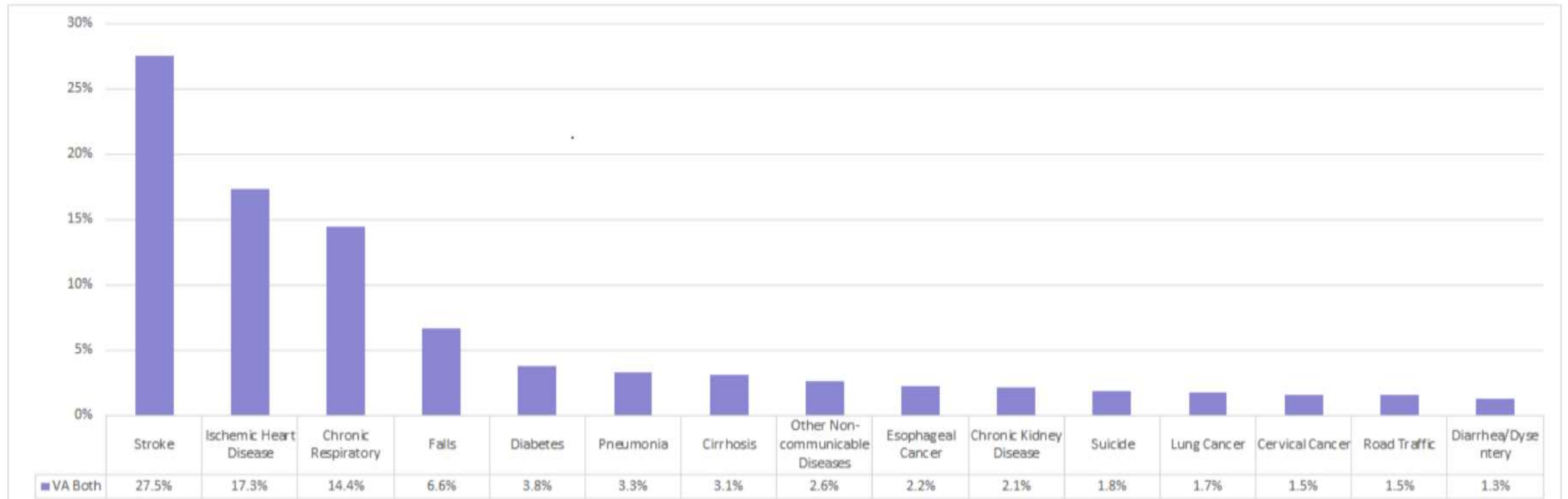
Piloting of Verbal Autopsy by BBS

❖ BBS has piloted a VA Survey to generate cause of death data through statistical survey in June 2021 in collaboration with DGHS.

❖ BBS used a stepwise plausibility analysis and software tool created by the University of Melbourne to analyze the plausibility of the outcomes of over 310 VAs gathered.

❖ Utilized those new data to better identify the primary causes of community fatalities in randomly selected 50 PSUs across Bangladesh.

Age Category	Number of VA	Proportion of VA	Proportion of deaths (GBD Estimates)
Adult	283	92%	85%
Child	11	4%	7%
Neonate	12	4%	8%
Total	309	100%	100%

Table 1: Age wise category of VA

Piloting of Verbal Autopsy by BBS

Leading causes of adult death - Top 15 VA

	Stroke	Ischemic Heart Disease	Chronic Respiratory	Falls	Diabetes	Pneumonia	Cirrhosis	Other Non-communicable Diseases	Esophageal Cancer	Chronic Kidney Disease	Suicide	Lung Cancer	Cervical Cancer	Road Traffic	Diarrhea/Dysentery
■ VA Both	27.5%	17.3%	14.4%	6.6%	3.8%	3.3%	3.1%	2.6%	2.2%	2.1%	1.8%	1.7%	1.5%	1.5%	1.3%

❖ Pilot survey suggested that VA can be a good method for quick analysis and interpretation of cause of population death data.

❖ Recommended to use this approach for all SVRS deaths to identify the CoD aligning with ICD-10

Thank You