

Covid-19 associated excess mortality in Baliakandi, a rural demographic surveillance site in Bangladesh

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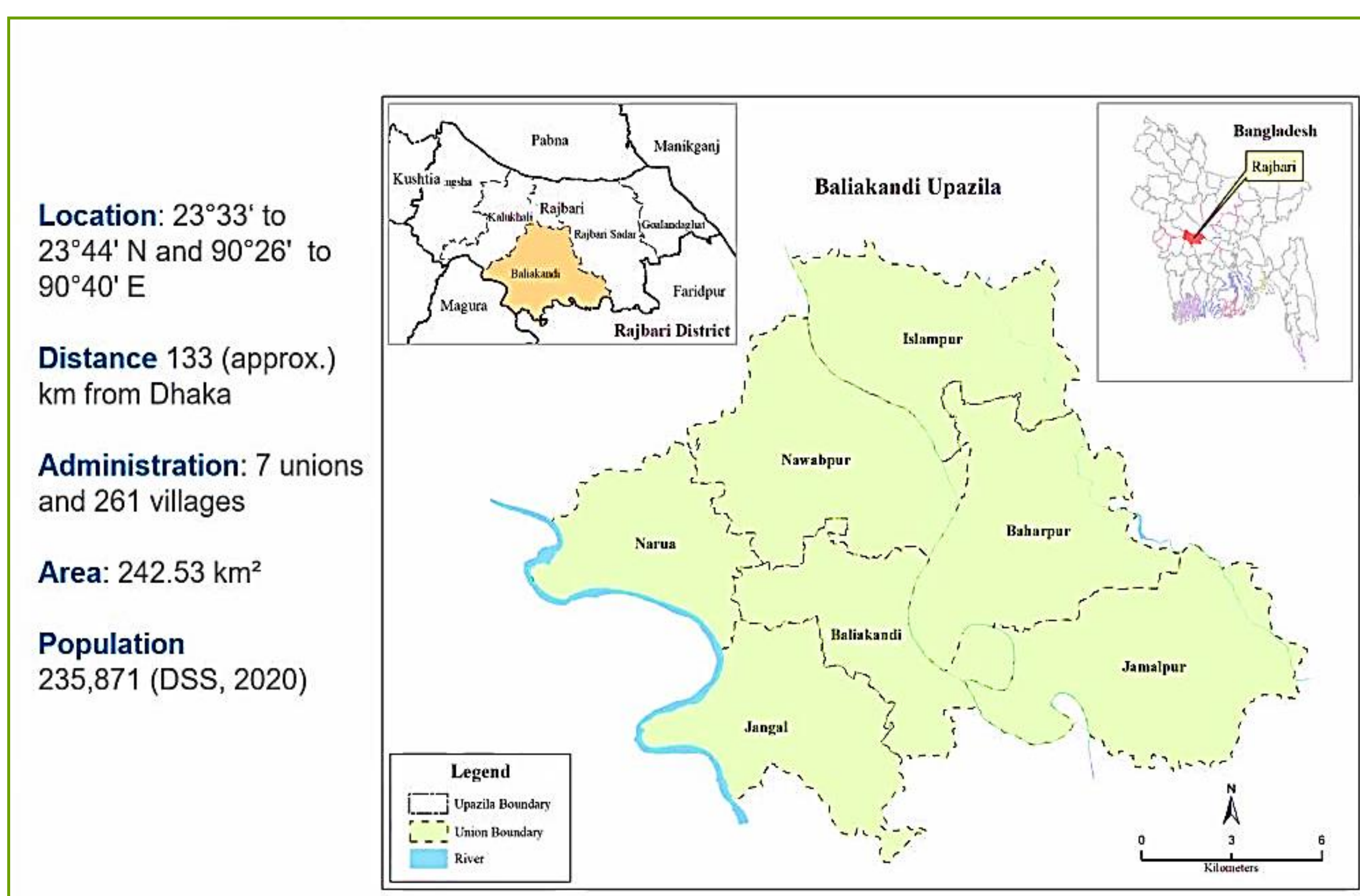
Background

- Covid-19 increased mortality worldwide, directly and indirectly
- 4/5th of excess mortalities US can be attributed to Covid-19 in 2020-21
- Poor testing coverage may cause under reporting
- Bangladesh reported >21,000 Covid-19 deaths since Mar'20-Dec '21
- Baliakandi sub-district reported 25 Covid-19 death through 2021 is likely an underestimate

Objectives:

- Estimate excess mortality in Baliakandi during 2020-21 compared to 2018-19
- Examine differences by age

Figure 1: Baliakandi Sub-district, HDSS CHAMPS Bangladesh Site



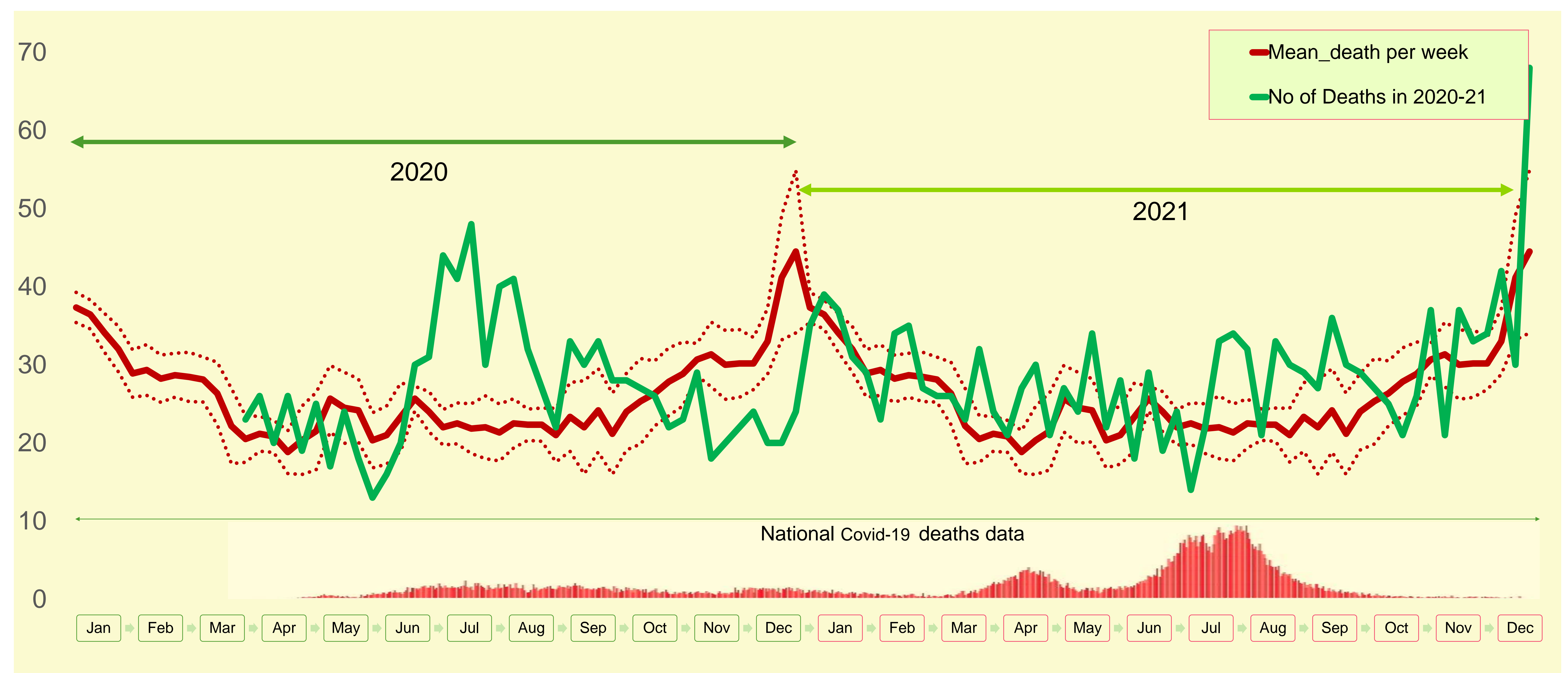
Methods:

- Demographic information collected every 3 months
- Population was 236,488 distributed with in 261 villages
- Death of same, previous and after weeks of 2018-19 and 1-11 weeks of 2020
- Average death/wk = $\frac{\text{Death of same, previous and after weeks of 2018-19 and 1-11 weeks of 2020}}{\text{Total Number of weeks}}$
- Excess mortality in each week calculated for 2020 (Mar-Dec) and 2021
- Excess mortality extracted by age group and rate calculated in population level

Table 1: Sex and age group distribution of excess mortality In 2020 and 2021 in Baliakandi

Variables	Avg Death (2018-19)	Death in 2020 (Mar-Dec)	Death in 2021	Excess Mortality	Excess death (100,000 population)
Total population	1364	1516	1446	230	100
Sex					
Male	727	854	740	121	104
Female	636	662	706	109	92
Age Group					
0-14 years	213	220	178	-28	-43
15-44 Years	134	152	124	-1	-0.5
45-64 Years	308	318	362	68	157
65-79 Years	368	410	452	126	1044
80 and above	341	374	372	64	1996

Figure 2: Excess mortality and country Covid-19 deaths waves in the year 2020 and 2021 in Baliakandi sub-district In Bangladesh



Results:

- Major excess death happened in mid 2020, during initial peak of Covid-19 deaths
- 2nd and 3rd waves of Covid-19 deaths coincided, but trend continued for months when national deaths lowered
- End of the year high mortality probably due to more number of days in the last week

Conclusion:

- Reduced death in younger and excess death in older age group can imply covid-19 induced
- Large discrepancy between official number and estimated deaths (25 vs 230)
- Negative deaths of young age group during calculation undermine the total mortalities

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