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**THE IMPACT OF COVID-19 ON THE AMBULATORY
CARE-SENSITIVE CONDITIONS (ACSC)
IN THE ITALIAN PROVINCE OF BOLZANO**

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Province of Bolzano in figures (2022)



Population: 532,616

Area: 7,398 km²

Mean age: 43.3 yrs. (vs 46.2 Italy)

Life expectancy: 83.3 yrs. (vs 82,6 Italy)

% over 65 yrs.: 20.0 (vs 23.8 Italy)

Local health authorities: **1**

Health districts (HDs): **4**

Public Hospitals: **7 + 11 (private structure)**

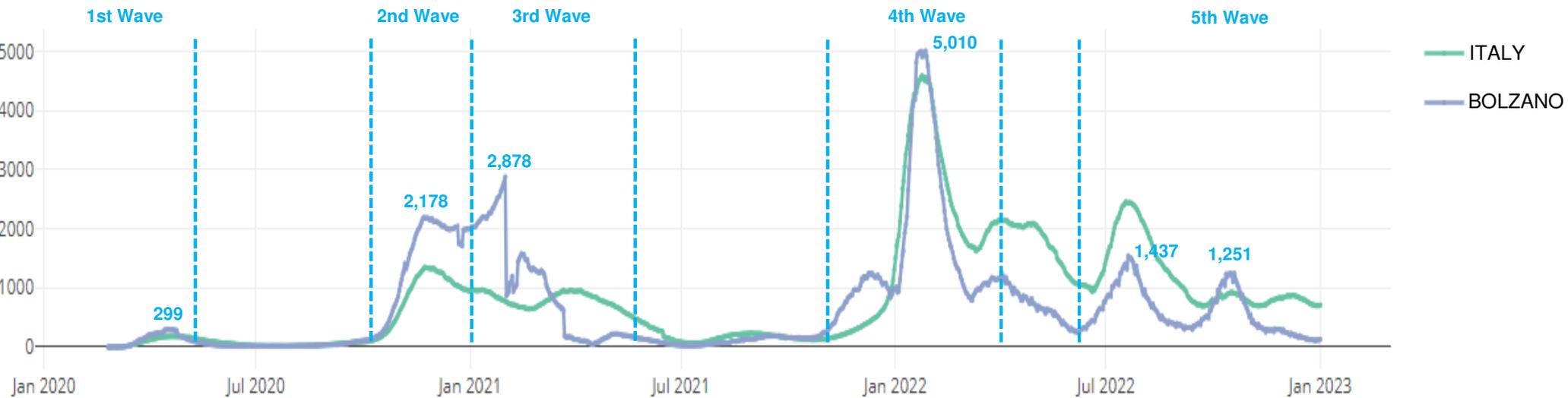


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Province of Bolzano: COVID-19 Impact

Prevalence rates (x 100.000)



Source: MADE - Cruscotto di monitoraggio COVID-19. Epidemiologia&Prevenzione. [https:// epipr ev. it/ 5402](https://epipr.ev.it/5402). Accessed 10 August 2022



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Province of Bolzano: Hospitalization rates

2019



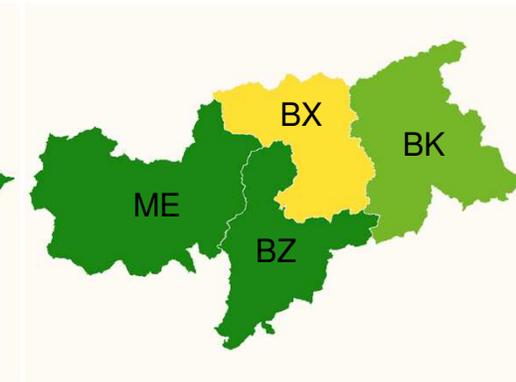
2020



2021



2022



HDs	Rate (x 1.000)	Province = 100
BOLZANO	144.10	94.7
MERANO	150.05	98.7
BRESSANONE	168.75	111.0
BRUNICO	164.78	108.4
PROVINCE	152.08	100.0
MEAN PES REGIONS	134.22	

Rate (x 1.000)	(Mean Province = 100)
116.96	94.8
121.06	98.1
138.28	112.1
133.16	107.9
123.39	100.0
102.43	

Rate (x 1.000)	(Mean Province = 100)
126.13	96.3
127.57	97.4
146.29	111.6
137.55	107.9
131.04	100.0
113.30	

Rate (x 1.000)	(Mean Province = 100)
129.05	95.5
133.07	98.5
148.67	110.0
144.32	106.8
135.13	100.0
116.49	

Source: Mes Lab Institute of Management of Sant'Anna School of Advanced Studies (Pisa, Italy), The Italian Regional Performance Evaluation System (IRPES)



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Ambulatory Care-Sensitive Conditions (ACSC): primary care, ambulatory care...

Conditions for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease *(Agency for Healthcare, AHRQ Prevention Quality Indicators)*

Hospital admissions for ACSC are potentially an avoidable hospitalization

ACSC hospitalization rates can indirectly provide an evaluation to the access to quality primary health care *(Gao J, Moran E, Li YF, et al. Predicting potentially avoidable hospitalizations. Med Care 2014 Feb;52(2):164-71)*

ACSC are classified in

- Chronic conditions → good primary care can prevent complications
- Acute conditions → early intervention can prevent more serious consequences
- Preventable conditions → Immunisation can prevent the illness

(The King's Fund (2012), Emergency hospital admissions of ambulatory care-sensitive conditions: identifying the potential for the reductions)



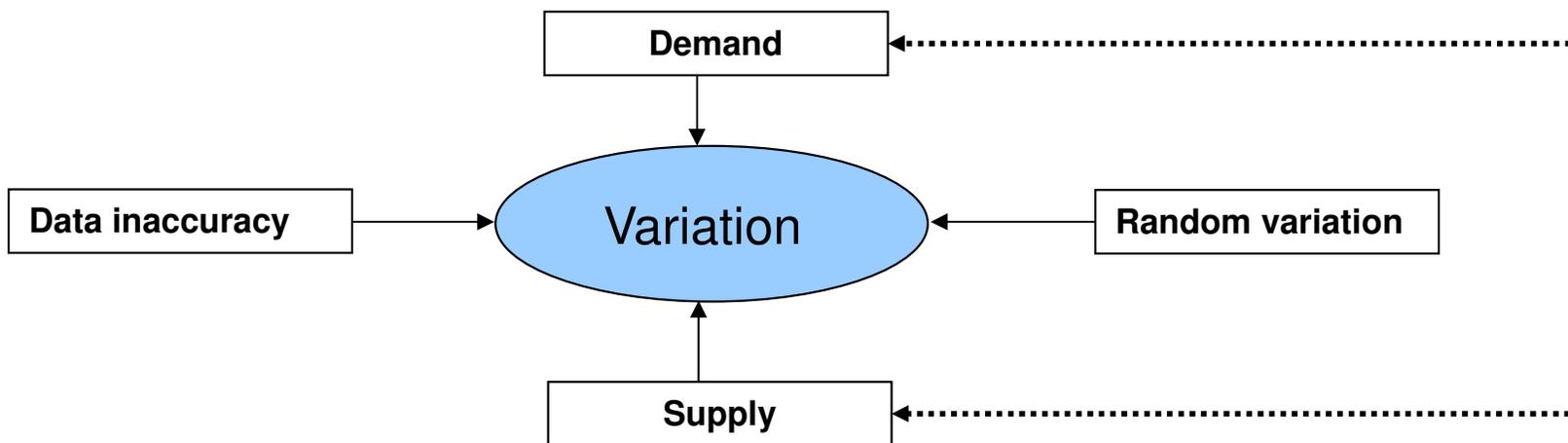
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Ambulatory Care-Sensitive Conditions (ACSC): ...but not only...

ACSC could be related to:

- preferences of the patient/patient's family
- availability of diagnostic and therapeutic interventions
- resources availability



Source: King's Fund (2011), *Variation in Health Care*



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Ambulatory Care-Sensitive Conditions (ACSC): Objective/Methods of the study (1)

- Was there unwarranted variation between the HDs before COVID-19?
- Was there unwarranted variation between the HDs during COVID-19?
- Is there unwarranted variation between the HDs after COVID-19?



Small Area Variation Analysis (SAVA)

- describe how hospitalization rates vary across geographic areas
 - variation has been calculated by the Systematic Component of Variation (SCV)

SCV	}	≤ 1	No variation
		(1 – 3]	Minimal variation
		(3 – 6]	Medium variation
		(6 – 10]	High variation
		> 10	Extremely high variation



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Ambulatory Care-Sensitive Conditions (ACSC): Data

Selection Criteria:

- ✓ Hospital Discharges (01.01.2019-31.12.2022)
 - ✓ 2019 → *before COVID-19*
 - ✓ 2020-2021 → *during COVID-19*
 - ✓ 2022 → *after COVID-19*

- ✓ Resident patients

- ✓ Age ≥ 18 years

- ✓ Diagnosis ACSC defined by Codes ICD-9-CM



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Ambulatory Care-Sensitive Conditions (ACSC): Data (2)

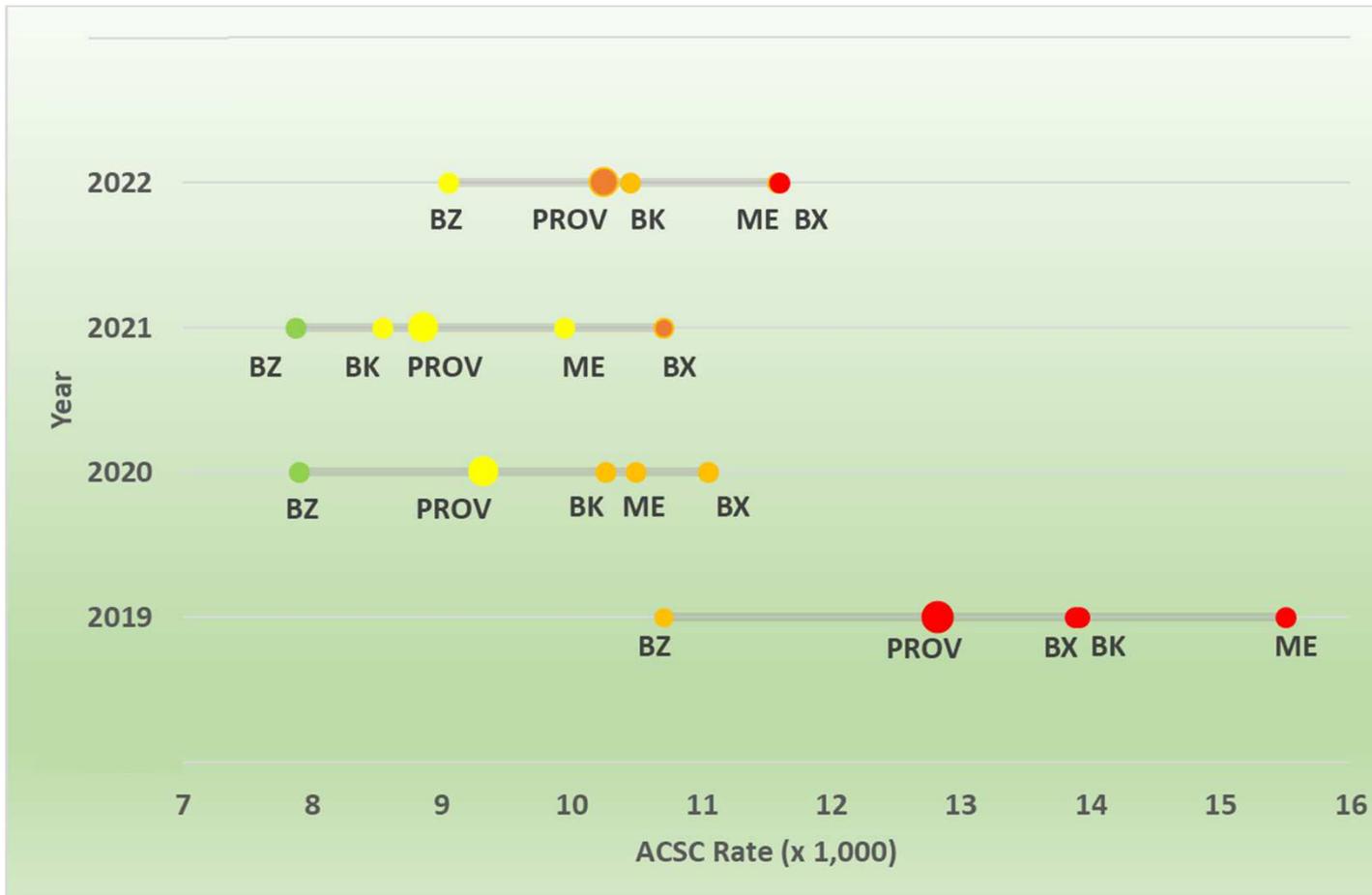
ACUTE	CHRONIC	AVOIDABLE ILLNESS
Convulsion and epilepsy	Congestive Heart Failure	Bacterial Pneumonia
Ear, nose and throat infections	COPD	Immunization-related
Cellulitis	Hypertension	Tuberculosis
Dehydration and Gastroenteritis	Diabetes with complications	
Kidney/urinary infection	Angina	
Pelvic inflammatory disease	Asthma	
Dental Conditions		
Nutritional deficiency		
Hypoglycemia		



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Province of Bolzano: SAVA Results (1)



SCV 1.11 (1.08 - 1.14)

MINIMAL

SCV 1.64 (1.55 - 1.73)

MINIMAL

SCV 1.98 (1.93 - 2.03)

MINIMAL

SCV 2.05 (1.95 - 2.15)

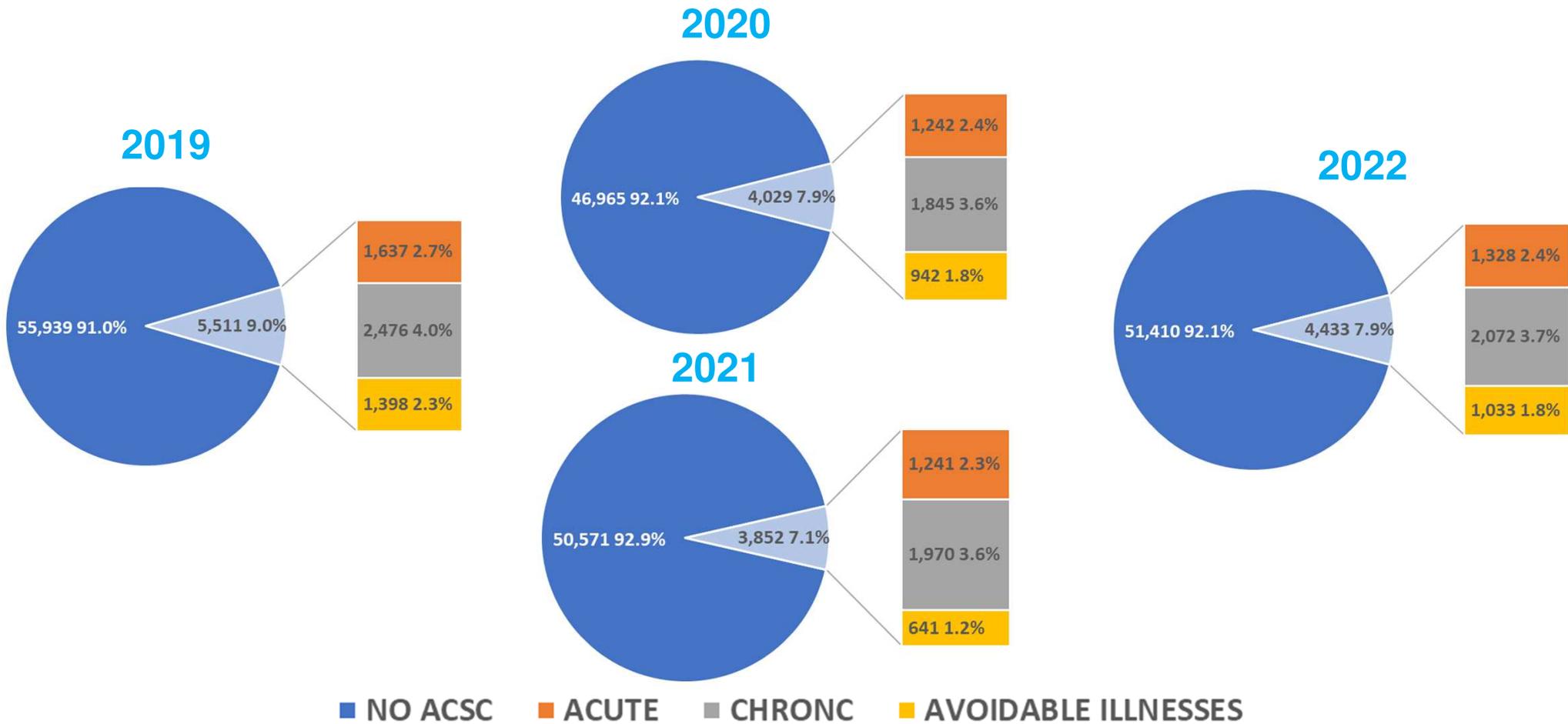
MINIMAL



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Province of Bolzano: SAVA Results (2)





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Province of Bolzano: SAVA Results (3)

Category	2019 (%, rate x 1,000, SCV)	2020 (%, rate x 1,000, SCV)	2021 (%, rate x 1,000, SCV)	2022 (%, rate x 1,000, SCV)
CHRONIC CONDITIONS	44.9% 5.76 0.83 (0.80 – 0.86) NO VARIATION	45.8% 4.27 2.89 (2.67 – 3.11) MINIMAL	51.1% 4.53 3.89 (3.50 – 4.28) MEDIUM	46.7% 4.79 0.54 (0.48 – 0.60) NO VARIATION
ACUTE CONDITIONS	29.7% 3.81 0.85 (0.75 – 0.95) NO VARIATION	30.8% 2.87 1.25 (1.14 – 1.36) MINIMAL	32.2% 2.85 2.50 (2.31 – 2.69) MINIMAL	30.0% 3.07 2.57 (2.42 – 2.72) MINIMAL
AVOIDABLE ILLNESS	25.4% 3.25 11.17 (10.71 – 11.63) VERY HIGH	23.4% 2.18 6.39 (6.22 – 6.56) HIGH	16.6% 1.47 2.13 (1.94 – 2.32) MINIMAL	23.3% 2.39 7.30 (6.95 – 7.65) HIGH



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Conclusions

- The Province of Bolzano and other Italian regions have seen a decrease in hospital admissions for several non-COVID-19 procedures, including ACSC.
- The four HDs' internal variance has consistently been at a very low level over the course of observation, but the ACSC rates are higher than the other Italian regions
- The chronic diseases among the ACSC had higher levels of variance, which are probably more associated with appropriate primary care
- Data related to the avoidable illness could be biased by data inaccuracy
- Rates after Covid-19 laid below 2019, did the primary care really improve?

AUTONOME PROVINZ
BOZEN - SÜDTIROL



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DI BOLZANO - ALTO ADIGE

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AUTONOMOUS PROVINCE OF SOUTH TYROL

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For any questions



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*Thank
you*



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