



21st European Symposium on Suicide and Suicidal Behaviour August 26-29, 2026, Vilnius

Spatial Assessment of Suicide Sites and Related Determinants in Castilla-La Mancha, Spain (2020-2024): a Forensic-Public Health Perspective

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WHAT IS A SUICIDE HOTSPOT?

- ❖ A location with a disproportionately high number of suicides (Joyner et al., 2025)
- ❖ Key features: a) Recurrent event (more than one suicide or serious attempt documented in a five-year periods); b) Public/semi-public access ; c) Availability of a highly lethality methods; and d) Limited opportunities for early intervention due to relative isolation (Pirkis et al., 2015; Too et al., 2024).

WHY THIS STUDY?

Suicide prevention at hig-risk locations (“hotspots”) can be highly effective, but prevention priorities depend on whether deaths truly cluster spatially (Cox, 2013; Pirkis et al., 2015). The Spanish Suicide Prevention Action Plan 2025–2027 includes the identification and intervention of critical sites as a strategic priority (Ministry of Health, 2025).

OBJECTIVE

Identify and characterize suicide locations in Toledo and Albacete; determine whether recurrent critical sites exist; and derive locally adapted prevention implications.

METHODS

DESIGN	Retrospective observational study
PERIOD	2020-2024
SOURCE	Medico-legal records
VARIABLES	Age, sex, date, province, location, method
STUDY POPULATION /SETTING	Two provinces were included: Toledo (≈740,000 inhabitants) and Albacete (≈390,000 inhabitants), representing a population of approximately 1.13 million inhabitants within the regional population of 2.13 million (National Statistics Institute – INE-, 1 January 2025).

EUROPE



CASTILLA-LA MANCHA REGION



RESULTS

WHO? | 421 DEATHS

82.4%	56.7	45-59	5:1
MEN	MEAN AGE	TOP AGE GROUP	M:F RATIO

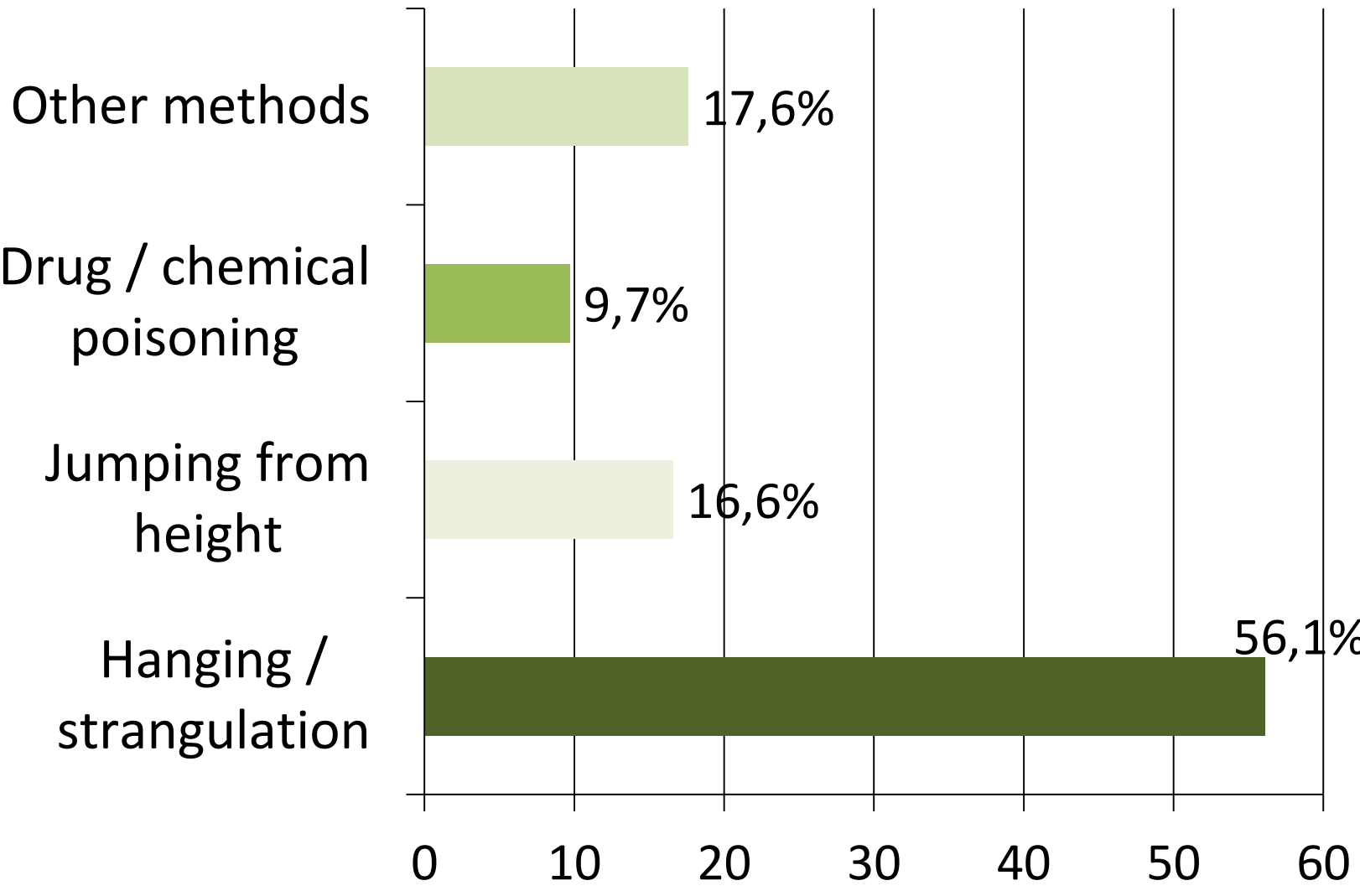
WHERE? | THE CENTRAL FINDING

1 CRITICAL SITE IDENTIFIED

Only one location met the recurrent-site criterion. The identified site was a high bridge in Toledo. Overall, the study indicates limited spatial clustering and emphasizes the importance of the private sphere.

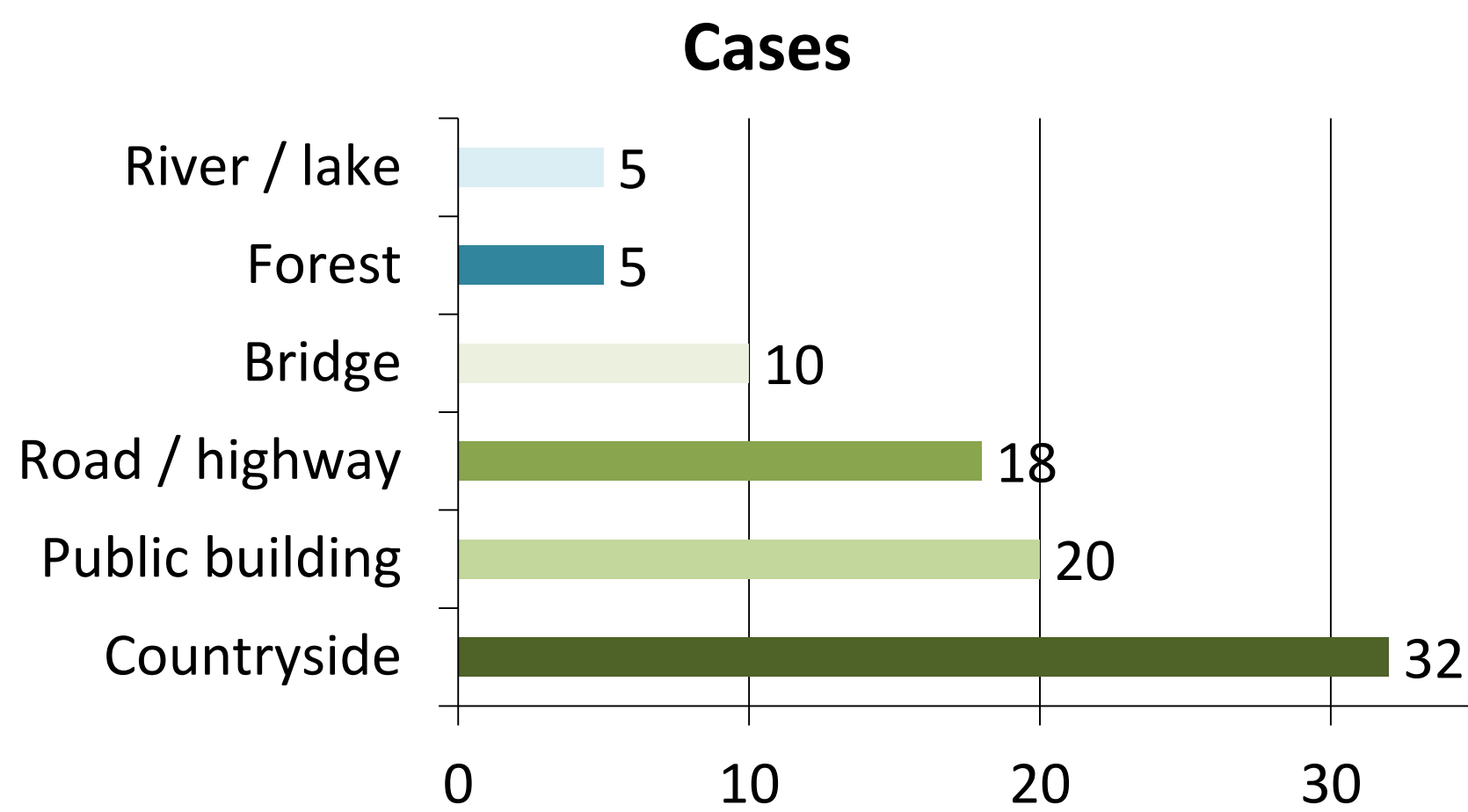
For responsible communication, the exact location of the critical site is not displayed.

HOW? | MOST FREQUENT METHODS



Hanging/strangulation/suffocation accounted for more than half of deaths; jumping was the second most frequent method.

PUBLIC-PLACE PATTERNS



Among locations potentially classifiable as critical, men predominated (97/108 cases).

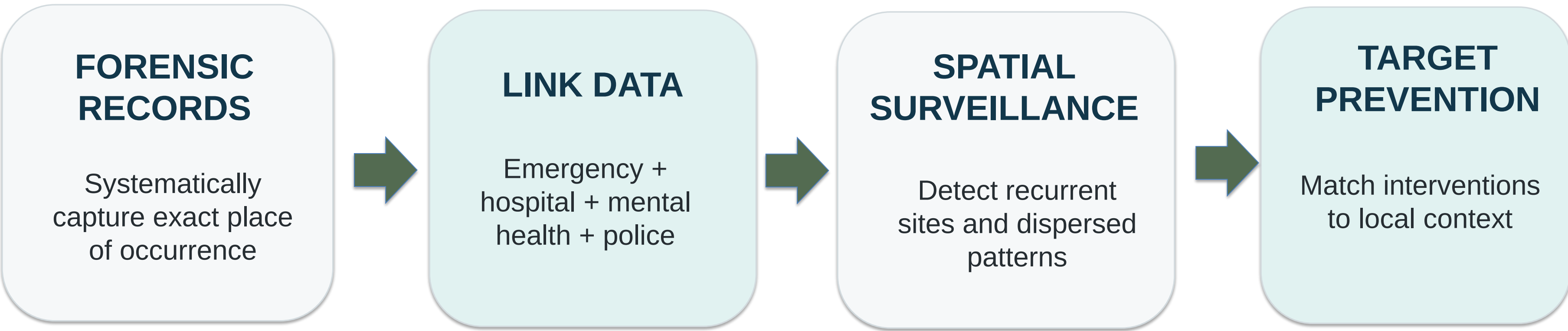
CONCLUSIONS

LIMITATIONS & NEXT STEPS

- Completed suicides only; non-fatal attempts were not included.
- Analysis was limited to Toledo and Albacete because registration systems differed across provinces.
- Administrative record completeness and coding may vary.

NEXT: harmonize location recording, extend to all five provinces, and link forensic data with emergency, hospital, mental-health and police sources.

FROM FORENSIC DATA TO PREVENTION POLICY



Transferable message: spatial surveillance is valuable not only for finding hotspots, but also for demonstrating when hotspot-centered prevention is insufficient.



Combine physical barriers where feasible with signage, crisis resources, surveillance and responsible communication.

PREVENTION STRATEGY

- IDENTIFIABLE HIGH-RISK SITES:**
Prioritize physical barriers / means restriction; complement with help-seeking signage, crisis resources and surveillance where appropriate.
- DISPERSED PUBLIC LOCATIONS:**
Use broader place-based strategies adapted to rural and semi-urban contexts rather than relying only on hotspot interventions.
- PRIVATE SETTINGS:**
Strengthen early detection and prevention approaches relevant to deaths occurring outside public hotspots.

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NOTE: The results presented in this poster have been published in: Vallejo-Sánchez B, Solano-Pinto N, Huertes-Del Arco A, Muñoz V, Casillas M, Arroyo C, Moreno F. (2025). Identification and Analysis of Critical Suicide Sites and Factors in Castilla-La Mancha (2020-2024): Forensic and Healthcare Collaboration for Prevention. *Behav Sci*, 19;16(1):7. <https://doi.org/doi: 10.3390/bs16010007>.