

Global Trends and Emerging Hotspots in Artificial Intelligence Research for Acute Myeloid Leukemia : A Bibliometric Analysis From 2015 to 2026



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Background

Artificial intelligence (AI) is increasingly applied to AML diagnosis, risk stratification, prognostication, and treatment decision-making.^{1,2} However, the distribution and evolution of AI methodologies, data modalities, and clinical applications across the AML literature remain incompletely characterized. We therefore performed a bibliometric analysis to evaluate publication trends, clinical applications, and emerging research themes in AI-related AML literature.

Objective

To characterize publication trends, clinical applications, data modalities, and emerging themes in AI-related AML literature.

Methods

PubMed search: AML with artificial-intelligence, machine-learning and deep-learning terms. 375 records; 370 published 2015–2026.

- NLP-assisted classification by AI method, data modality, clinical application, and theme.
- Descriptive temporal, thematic, and geographic analysis.

Results

Figure 1. Annual PubMed-indexed AI - AML publications, 2015- 2026

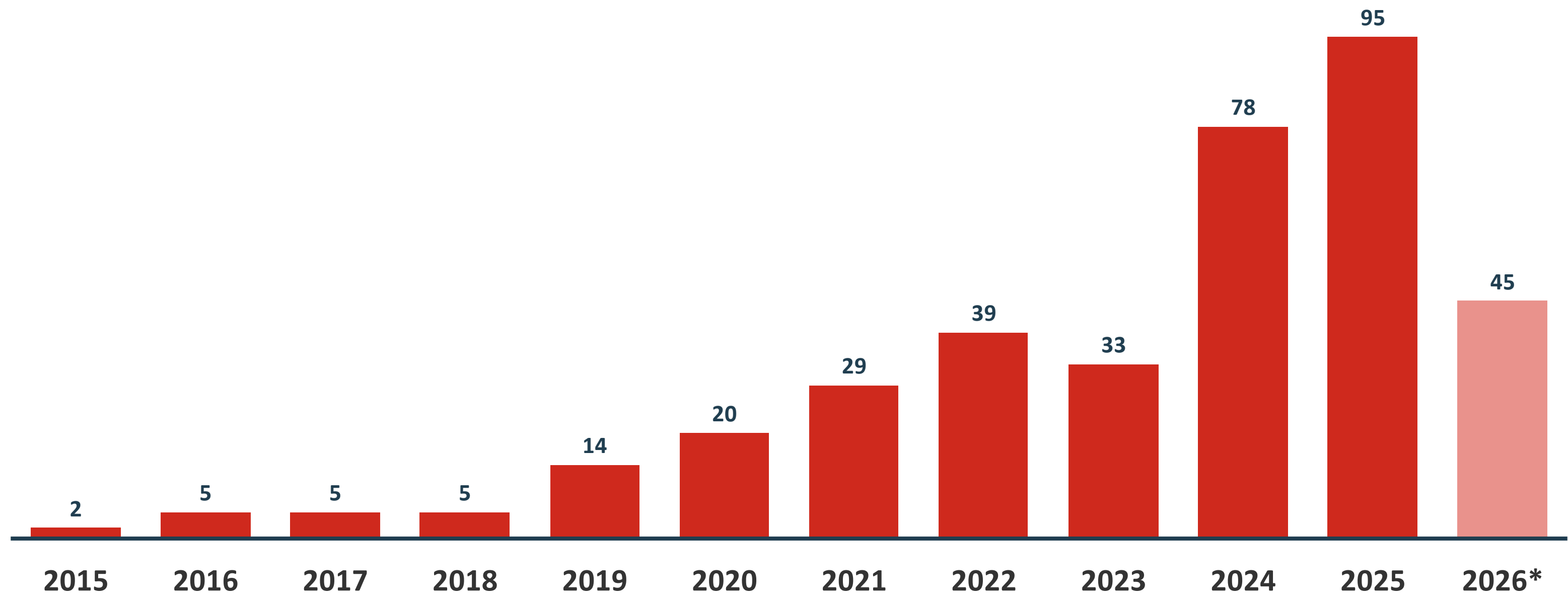


Figure 2. Leading AI/ML methods (% of 311 method-tagged papers)

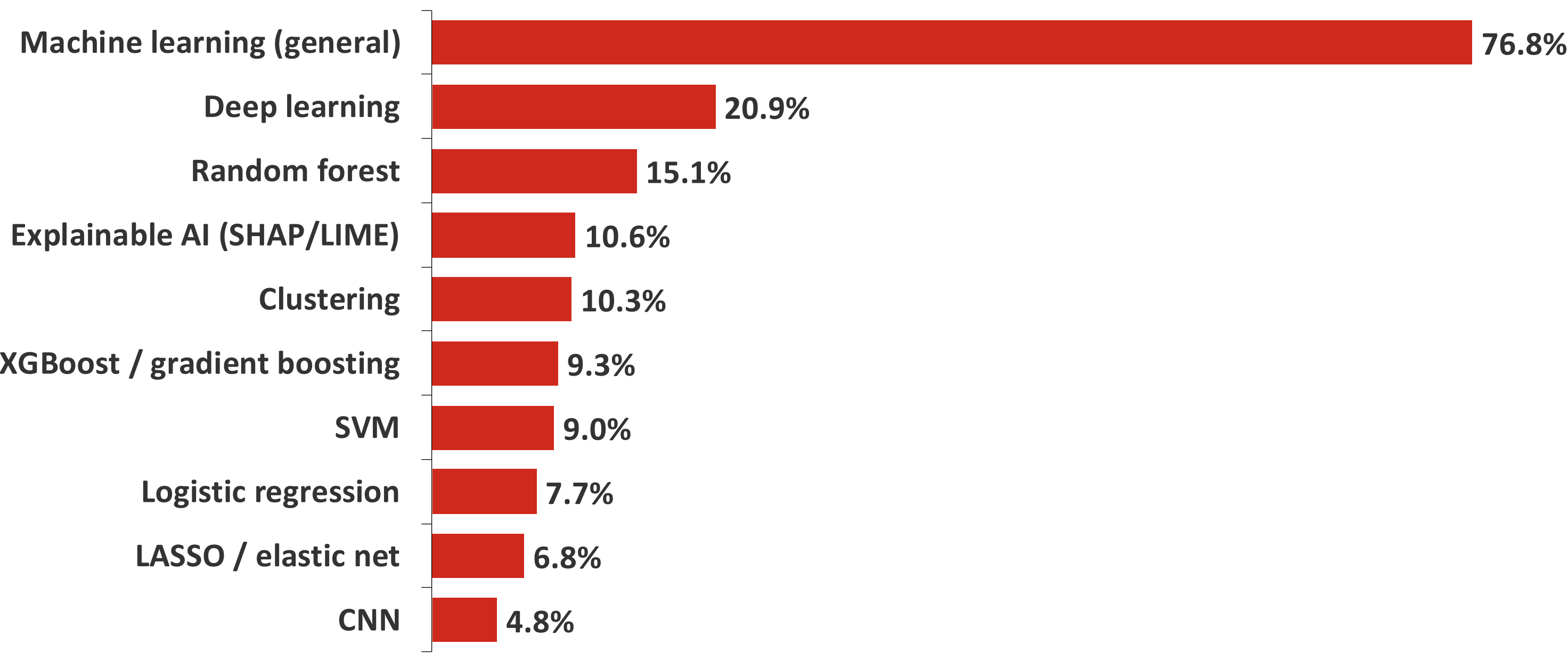


Figure 3. Clinical applications (% of 344 application-tagged papers)

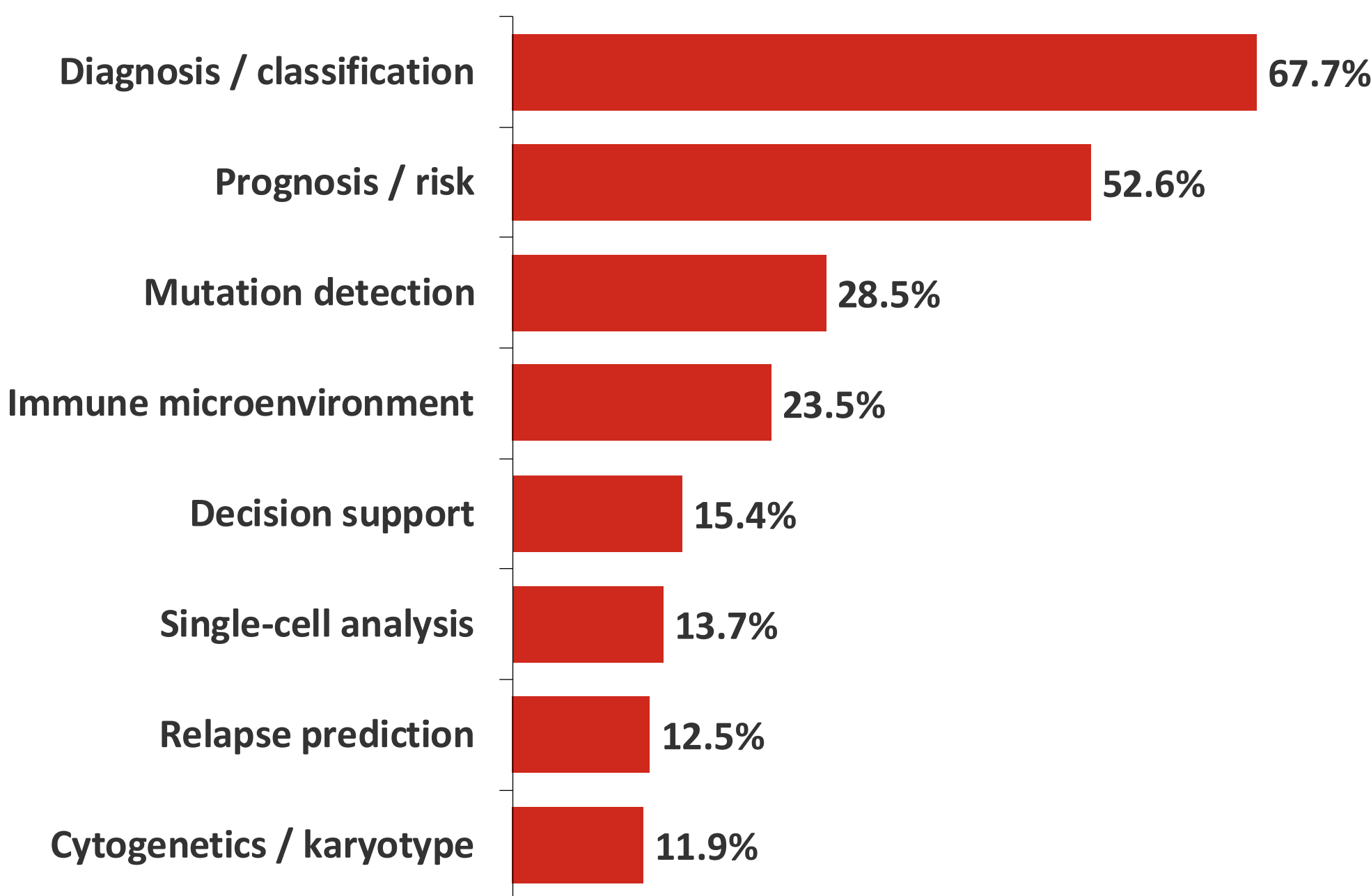


Figure 4. Data modalities (papers, of 211 modality-tagged)

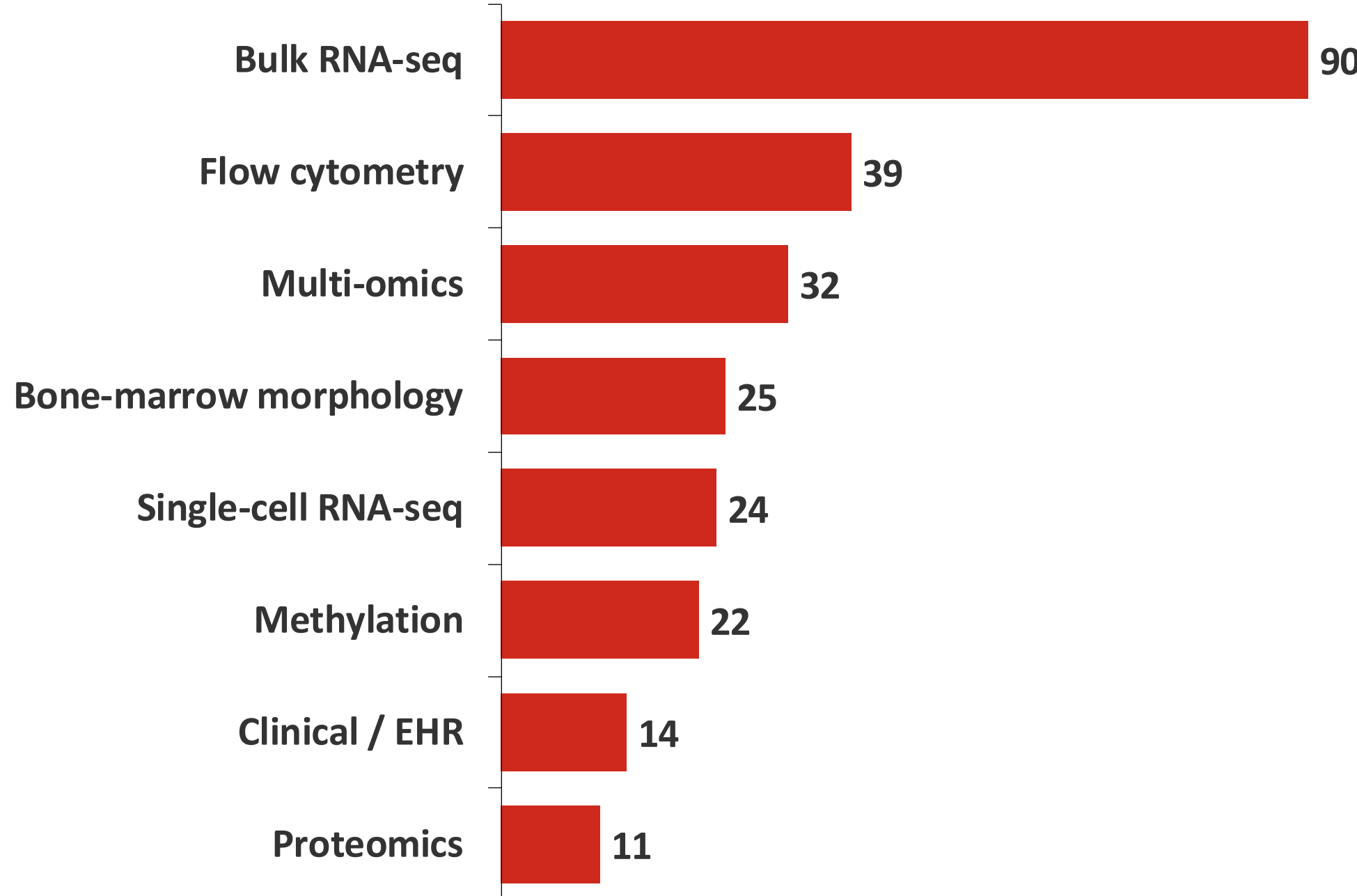
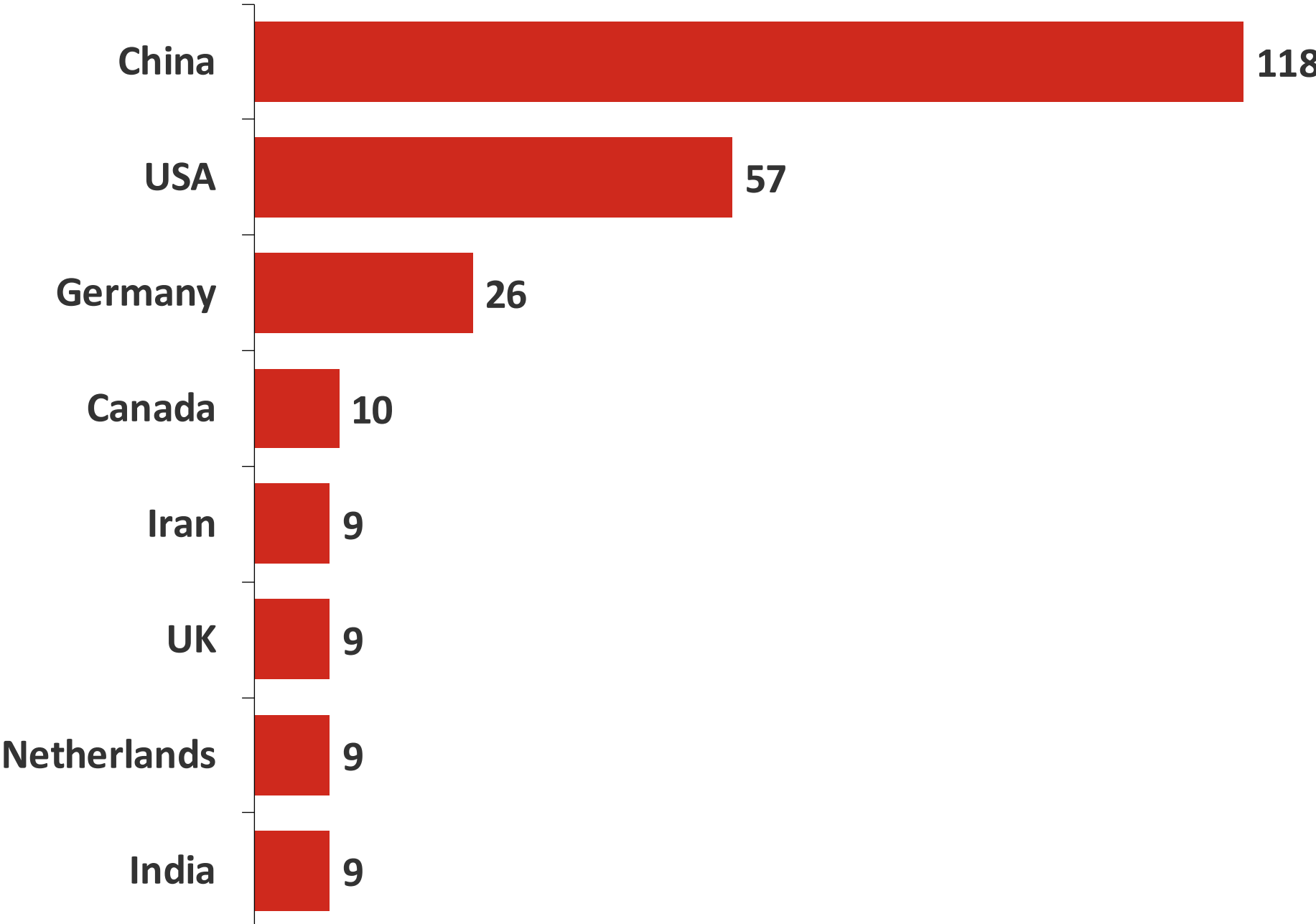


Figure 5. First-author country (papers, of 323 country-tagged)



Categories are not mutually exclusive, so percentages within a domain sum to more than 100%. Denominators: AI method n=311, clinical application n=344, data modality n=211, first-author country n=323. *2026 reflects partial-year indexing and is not a full-year total.

Conclusion

AML AI research expanded rapidly from 2 publications in 2015 to 95 in 2025, driven largely by molecular diagnostics and prognostic modelling. However, clinical translation has not kept pace with research growth. Classical machine learning remains dominant , transformer/LLM approaches remain uncommon (~1%), and treatment selection, response monitoring, external validation, and prospective evaluation are underrepresented. Future research should prioritize interpretable, externally validated AI tools integrated into real-world AML workflows.

Contact and disclosures

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Funding: No funding was received for this work.

Disclosures: The authors report no conflicts of interest.

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