A de Bruijn - Erdős theorem in metric spaces?

A corollary of the Sylvester-Gallai theorem asserts that every non-collinear set of \(n\) points in the plane determines at least \(n\) distinct lines; this theorem has been generalized by De Bruijn and Erdős (On a combinatorial problem, Proc. Akad. Wet. Amsterdam 51 (1948), 1277-1279). Chen and Chvátal (Problems related to a de Bruijn–Erdős theorem, Discrete Appl. Math. 156 (2008), 2101–2108) suggested another conceivable generalization:

*True or false? Every finite metric space \((X, d)\) where no line consists of the entire ground set \(X\) determines at least \(|X|\) distinct lines.*

Here, the *line* \(uv\) in a metric space is defined as the union of \(\{u, v\}\) and all the pins containing \(\{u, v\}\), where a *pin* is any three-point set \(\{x, y, z\}\) such that \(d(x, y) + d(y, z) = d(x, z)\).

**Additional references**