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Sommario/riassunto	<p>The Special Issue on Advances in Water Distribution Networks (WDNs) explores four important topics of research in the framework of WDNs, namely simulation and optimization modelling, topology and partitioning, water quality, and service effectiveness. With regard to the first topic, the following aspects are addressed: pressure-driven formulations, algorithms for the optimal location of control valves to minimize leakage, the benefits of water discharge prediction for the remote real time control of valves, and transients generated by pumps operating as turbines. In the context of the second topic, a topological taxonomy of WDNs is presented, and partitioning methods for the creation of district metered areas are compared. In relation to the third topic, the vulnerability to trihalomethane is assessed, and a statistical optimization model to minimize heavy metal releases is presented. Finally, the fourth topic focusses on the estimation of non-revenue water, including leakage and unauthorized consumption, and on the assessment of service under intermittent supply conditions.</p>