| **id** | **authors** | **year** | **country** | **title** | **Empirical?** | **Primary Motiv.:  Health Equity?** | **Primary Theme** | **Secondary Theme** | **Targets** | **Spatial Scale** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 37 | Choi et al. | 2019 | Australia | Social, demographic, and economic correlates of food and chemical consumption measured by wastewater-based epidemiology | Yes | Yes | Descriptive Epi/Prevalence Est. | Representativeness | Illicit Drug Use, Prescription Drugs, Diet/Nutritional Markers, Lifestyle/Behavioral | WWTP |
| 7 | Krizman et al. | 2016 | Croatia | Wastewater-based assessment of regional and temporal consumption patternsof illicit drugs and therapeutic opioids in Croatia | Yes | Yes | Descriptive Epi/Prevalence Est. | Feasibility | Illicit Drug Use, Prescription Drugs | WWTP |
| 4 | Thomaidis et al. | 2016 | Greece | Reflection of Socioeconomic Changes in Wastewater: Licit and Illicit DrugUse Patterns | Yes | Yes | Descriptive Epi/Prevalence Est. | None | Illicit Drug Use, Prescription Drugs, Pharmaceuticals/Personal Care Products (PPCP) | WWTP |
| 2 | Zhang et al. | 2019 | China | Wastewater-based epidemiology in Beijing, China: Prevalence of antibiotic use in flu season and association of pharmaceuticals and personal care products with socioeconomic characteristics | Yes | No | Descriptive Epi/Prevalence Est. | Representativeness | Antibiotics/Resistance, Pharmaceuticals/Personal Care Products (PPCP) | WWTP |
| 28 | Lai et al. | 2013 | Australia | Using quantitative wastewater analysis to measure daily usage ofconventional and emerging illicit drugs at an annual music festival | Yes | Yes | Descriptive Epi/Prevalence Est. | Ethics & Social Considerations | Illicit Drug Use | WWTP |
| 30 | Endo et al. | 2020 | USA | Rapid Assessment of Opioid Exposure and Treatment in Cities ThroughRobotic Collection and Chemical Analysis of Wastewater | Yes | Yes | Descriptive Epi/Prevalence Est. | Feasibility | Illicit Drug Use, Prescription Drugs | Neighborhood/ Maintenance hole |
| 11 | Ahmed et al. | 2023 | Australia | National Wastewater Reconnaissance of Analgesic Consumption in Australia | Yes | Yes | Descriptive Epi/Prevalence Est. | None | Prescription Drugs, Pharmaceuticals/Personal Care Products (PPCP) | WWTP |
| 42 | Rousis et al. | 2022 | Australia | Socioeconomic status and public health in Australia: A wastewater-based study | Yes | Yes | Descriptive Epi/Prevalence Est. | Representativeness | Prescription Drugs, Pharmaceuticals/Personal Care Products (PPCP), Biomarkers/Metabolites | WWTP |
| 52 | Haak et al. | 2022 | USA | Spatial and temporal variability and data bias in wastewater surveillance of SARS-CoV-2 in a sewer system | Yes | No | Descriptive Epi/Prevalence Est. | Representativeness | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole |
| 46 | Barbosa et al. | 2022 | Brazil | One-year surveillance of SARS-CoV-2 in wastewater from vulnerable urban communities in metropolitan São Paulo, Brazil | Yes | Yes | Descriptive Epi/Prevalence Est. | Feasibility | SARS-CoV-2 | Upstream Location Neighborhood/ Maintenance hole |
| 34 | Lancaster et al. | 2022 | USA | Socioeconomic status correlations with confirmed COVID-19 cases and SARS-CoV-2 wastewater concentrations in small-medium sized communities | Yes | Yes | Descriptive Epi/Prevalence Est. | Representativeness | SARS-CoV-2 | WWTP |
| 1 | Courjon et al. | 2021 | France | COVID-19 patients age, comorbidity profiles and clinical presentation related to the SARS-CoV-2 UK-variant spread in the Southeast of France | Yes | No | Descriptive Epi/Prevalence Est. | None | SARS-CoV-2 | WWTP |
| 53 | Kuhn et al. | 2022 | USA | Predicting COVID-19 cases in diverse population groups using SARS-CoV-2 wastewater monitoring across Oklahoma City | Yes | No | Descriptive Epi/Prevalence Est. | Feasibility | SARS-CoV-2 | Neighborhood/ Maintenance hole |
| 3 | Price et al. | 2021 | New Zealand | Spatial, temporal and socioeconomic patterns of illicit drug use in NewZealand assessed using wastewater-based epidemiology timed to coincidewith the census | Yes | Yes | Descriptive Epi/Prevalence Est. | Representativeness | Illicit Drug Use | WWTP |
| 8 | Daglioglu et al. | 2020 | Turkey | Comparison of community illicit drug use in 11 cities of Turkey throughwastewater-based epidemiology | Yes | No | Descriptive Epi/Prevalence Est. | None | Illicit Drug Use | WWTP |
| 67 | Yang et al. | 2022 | Australia | A nationwide wastewater-based assessment of metformin consumption across Australia | Yes | Yes | Descriptive Epi/Prevalence Est. | Feasibility | Prescription Drugs | WWTP |
| 9 | Shao et al. | 2022 | China | Evaluation of eight psychoactive drugs used in Chinese cities bywastewater-based epidemiology | Yes | Yes | Descriptive Epi/Prevalence Est. | None | Prescription Drugs | WWTP |
| 6 | Li et al. | 2022 | China | Young population consume twice as much artificial sweetener than thegeneral population - A wastewater-based assessment in China | Yes | No | Descriptive Epi/Prevalence Est. | None | Artificial Sweeteners | WWTP Upstream Location |
| 45 | Ahmed et al. | 2020 | Australia | Wastewater-based estimation of the prevalence of gout in Australia | Yes | Yes | Descriptive Epi/Prevalence Est. | None | Biomarkers/Metabolites | WWTP |
| 55 | Charles et al. | 2022 | Singapore | Prevalence and characterization of antibiotic resistant bacteria in raw community sewage from diverse urban communities | Yes | No | Descriptive Epi/Prevalence Est. | None | Antibiotics/Resistance | Building Level |
| 38 | Daughton | 2012 |  | Using biomarkers in sewage to monitor community-wide human health: Isoprostanes as conceptual prototype | No | No | Frameworks | Representativeness | Biomarkers/Metabolites, Stress Hormones | WWTP Upstream Location |
| 57 | Daughton | 2018 |  | Monitoring wastewater for assessing community health: Sewage Chemical-Information Mining (SCIM) | No | Yes | Frameworks | Feasibility | Diet/Nutritional Markers, Stress Hormones, Biomarkers/Metabolites, Lifestyle/Behavioral | WWTP |
| 20 | Adhikari et al. | 2022 |  | Opportunities and limits of wastewater-c epidemiology for tracking global health and attainment of UN sustainable development goals | No | Yes | Frameworks | Feasibility | 5+ Targets | WWTP |
| 61 | Keshaviah et al. | 2021 | USA | Developing a Flexible National Wastewater Surveillance System for COVID-19 and Beyond | No | No | Frameworks | Ethics & Social Considerations | SARS-CoV-2, Other Infectious Diseases, Illicit Drug Use, Biomarkers/Metabolites | WWTP Upstream Location |
| 40 | Prado et al. | 2023 | Latin America | Wastewater-based epidemiology for preventing outbreaks and epidemics in Latin America – Lessons from the past and a look to the future | No | Yes | Frameworks | Feasibility | SARS-CoV-2, Other Infectious Diseases, Antibiotics/Resistance | WWTP Upstream Location Neighborhood/ Maintenance hole Building Level |
| 22 | Donia et al. | 2021 |  | COVID-19 Crisis Creates Opportunity towards Global Monitoring & Surveillance | No | Yes | Frameworks | Feasibility | SARS-CoV-2, Metagenomics | WWTP Neighborhood/ Maintenance hole Building Level |
| 64 | Thompson et al. | 2020 |  | Making waves: Wastewater surveillance of SARS-CoV-2 for population-based health management | No | Yes | Frameworks | Ethics & Social Considerations | SARS-CoV-2, Other Infectious Diseases | WWTP Neighborhood/ Maintenance hole Upstream Location |
| 23 | Erickson et al. | 2021 |  | "Waste Not, Want Not" - Leveraging Sewer Systems and Wastewater-BasedEpidemiology for Drug Use Trends and Pharmaceutical Monitoring | No | No | Frameworks | Feasibility | Illicit Drug Use, Pharmaceuticals/Personal Care Products (PPCP), Environmental Toxins | WWTP Neighborhood/ Maintenance hole Building Level |
| 14 | Kasprzyk-Hordern et al. | 2023 |  | Wastewater-based epidemiology for the assessment of population exposure tochemicals: The need for integration with human biomonitoring for globalOne Health actions | No | No | Frameworks | Feasibility | 5+ Targets | WWTP |
| 68 | Kasprzyk-Hordern et al. | 2022 |  | Wastewater-based epidemiology in hazard forecasting and early-warning systems for global health risks | No | Yes | Frameworks | Feasibility | Antibiotics/Resistance, Other Infectious Diseases, Biomarkers/Metabolites, Environmental Toxins | WWTP |
| 66 | Wu et al. | 2022 |  | Making waves: Wastewater surveillance of SARS-CoV-2 in an endemic future | No | Yes | Frameworks | None | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole Building Level |
| 51 | Goncalves et al. | 2022 |  | Centralized and decentralized wastewater-based epidemiology to infer COVID-19 transmission – A brief review | No | Yes | Frameworks | Feasibility | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole Building Level |
| 31 | Gwenzi | 2022 |  | Wastewater, waste, and water-based epidemiology (WWW-BE): A novel hypothesis and decision-support tool to unravel COVID-19 in low-income settings? | No | Yes | Frameworks | Feasibility | SARS-CoV-2 | WWTP Building Level |
| 26 | Sharara et al. | 2021 |  | Wastewater network infrastructure in public health: Applications andlearnings from the COVID-19 pandemic | No | Yes | Frameworks | Feasibility | SARS-CoV-2 | Neighborhood/ Maintenance hole WWTP Building Level |
| 12 | Chaudhuri et al. | 2023 | India | Building health system resilience and pandemic preparedness usingwastewater-based epidemiology from SARS-CoV-2 monitoring in Bengaluru,India | Yes | Yes | Frameworks | Feasibility | SARS-CoV-2 | Upstream Location WWTP |
| 58 | Dawadi et al. | 2022 | Nepal | Understanding COVID-19 Situation in Nepal and Implications for SARS-CoV-2 Transmission and Management | Yes | No | Frameworks | Feasibility | SARS-CoV-2 | WWTP Upstream Location |
| 39 | Haque et al. | 2022 | Bangladesh | Wastewater surveillance of SARS-CoV-2 in Bangladesh:Opportunities and challenges | No | Yes | Frameworks | Feasibility | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole |
| 36 | Medina et al. | 2022 | USA | The need of an environmental justice approach for wastewater based epidemiology for rural and disadvantaged communities: A review in California | No | Yes | Frameworks | Ethics & Social Considerations | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole |
| 62 | Pandey et al. | 2021 |  | SARS-CoV-2 in wastewater: Challenges for developing countries | No | Yes | Frameworks | Feasibility | SARS-CoV-2 | WWTP Upstream Location |
| 15 | Travis et al. | 2021 | USA | Providing a Safe, In-Person, Residential College Experience During the COVID-19 Pandemic | Yes | Yes | Frameworks | Feasibility | SARS-CoV-2 | Building Level |
| 17 | van Dyken et al. | 2014 | Australia | Monitoring substance use in prisons: Assessing the potential value ofwastewater analysis | Yes | No | Feasibility | Ethics & Social Considerations | Illicit Drug Use, Prescription Drugs | Building Level |
| 59 | Driver et al. | 2022 | USA | Implementing wastewater monitoring on American Indian reservations to assess community health indicators | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | Illicit Drug Use, Prescription Drugs | Neighborhood/ Maintenance hole Upstream Location |
| 60 | Jarvie et al. | 2023 | USA | Monitoring of COVID-19 in wastewater across the Eastern Upper Peninsula of Michigan | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Upstream Location Building Level |
| 54 | Layton et al. | 2022 | USA | Evaluation of a Wastewater-Based Epidemiological Approach to Estimate the Prevalence of SARS-CoV-2 Infections and the Detection of Viral Variants in Disparate Oregon Communities at City and Neighborhood Scales | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole |
| 47 | Bueno et al. | 2022 | Brazil | Wastewater-based epidemiology: A Brazilian SARS-COV-2 surveillance experience | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole |
| 44 | Murni et al. | 2022 | Indonesia | The feasibility of SARS-CoV-2 surveillance using wastewater and environmental sampling in Indonesia | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole |
| 19 | Acosta et al. | 2022 | Canada | Longitudinal SARS-CoV-2 RNA wastewater monitoring across a range of scales correlates with total and regional COVID-19 burden in a well-defined urban population | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole |
| 65 | Wehrendt et al. | 2021 | Argentina | A rapid and simple protocol for concentration of SARS-CoV-2 from sewage | Yes | No | Feasibility | None | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole |
| 48 | D'Aoust et al. | 2021 | Canada | COVID-19 wastewater surveillance in rural communities: Comparison of lagoon and pumping station samples | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Upstream Location |
| 24 | Mota et al. | 2021 | Brazil | Assessing spatial distribution of COVID-19 prevalence in Brazil using decentralised sewage monitoring | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole |
| 16 | Yeager et al. | 2021 | USA | Wastewater Sample Site Selection to Estimate Geographically ResolvedCommunity Prevalence of COVID-19: A Sampling Protocol Perspective | Yes | Yes | Feasibility | Representativeness | SARS-CoV-2 | WWTP Upstream Location Neighborhood/ Maintenance hole |
| 43 | Jakariya et al. | 2022 | Bangladesh | Wastewater-based epidemiological surveillance to monitor the prevalence of SARS-CoV-2 in developing countries with onsite sanitation facilities | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | Upstream Location Neighborhood/ Maintenance hole Building Level |
| 35 | McQuade et al. | 2023 | Bangladesh | Real-time sewage surveillance for SARS-CoV-2 in Dhaka, Bangladesh versus clinical COVID-19 surveillance: a longitudinal environmental surveillance study (December, 2019–December, 2021) | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | Upstream Location Neighborhood/ Maintenance hole |
| 21 | Ali et al. | 2022 | Ethiopia | Community Wastewater-Based Surveillance Can Be a Cost-Effective Approach to Track COVID-19 Outbreak in Low-Resource Settings: Feasibility Assessment for Ethiopia Context | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | WWTP |
| 29 | Pico-Tomàs et al. | 2023 | Spain | Surveillance of SARS-CoV-2 in sewage from buildings housing residents withdifferent vulnerability levels | Yes | Yes | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | Building Level |
| 18 | Fielding-Miller et al. | 2023 | USA | Safer at school early alert: an observational study of wastewater andsurface monitoring to detect COVID-19 in elementary schools | Yes | Yes | Feasibility | Frameworks | SARS-CoV-2 | Building Level |
| 13 | Chigwechokha et al. | 2022 | LMICs | Advancing the Use of Fecal Sludge for Timelier and Better-Quality Epidemiological Data in Low- and Middle-Income Countries for Pandemic Prevention | No | Yes | Feasibility | None | SARS-CoV-2 | Upstream Location |
| 5 | Li et al. | 2022 | USA | Surveillance of SARS-CoV-2 in nine neighborhood sewersheds in DetroitTri-County area, United States: Assessing per capita SARS-CoV-2estimations and COVID-19 incidence | Yes | No | Feasibility | Descriptive Epi/Prevalence Est. | SARS-CoV-2 | Neighborhood/ Maintenance hole |
| 41 | Prichard et al. | 2014 |  | Sewage epidemiology and illicit drug research: The development of ethical research guidelines | No | Yes | Ethics & Social Considerations | None | Illicit Drug Use | WWTP Building Level |
| 32 | Hall et al. | 2012 |  | An analysis of ethical issues in using wastewater analysis to monitor illicit drug use | No | Yes | Ethics & Social Considerations | None | Illicit Drug Use | WWTP Building Level |
| 49 | Doorn | 2022 |  | Wastewater research and surveillance: an ethical exploration | No | Yes | Ethics & Social Considerations | None | 5+ Targets | Neighborhood/ Maintenance hole WWTP |
| 63 | Ram et al. | 2023 |  | Ethical and Legal wastewater surveillance | No | Yes | Ethics & Social Considerations | None | SARS-CoV-2, Illicit Drug Use, Diet/Nutritional Markers | WWTP Neighborhood/ Maintenance hole Building Level |
| 56 | Coffman et al. | 2021 |  | Preventing Scientific and Ethical Misuse of Wastewater Surveillance Data | No | Yes | Ethics & Social Considerations | Representativeness | SARS-CoV-2, Illicit Drug Use, Other Infectious Diseases, Lifestyle/Behavioral | WWTP Neighborhood/ Maintenance hole Building Level |
| 10 | LaJoie et al. | 2022 | USA | Nationwide public perceptions regarding the acceptance of using wastewaterfor community health monitoring in the United States | Yes | Yes | Ethics & Social Considerations | None | 5+ Targets | WWTP Neighborhood/ Maintenance hole Building Level |
| 33 | Hrudey et al. | 2021 |  | Ethics Guidance for Environmental Scientists Engaged in Surveillance of Wastewater for SARS-CoV‑2 | No | Yes | Ethics & Social Considerations | None | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole Building Level |
| 50 | Gable et al. | 2020 |  | Legal and ethical implications of wastewater monitoring of SARS-CoV-2 for COVID-19 surveillance | No | Yes | Ethics & Social Considerations | None | SARS-CoV-2 | WWTP Neighborhood/ Maintenance hole Building Level |
| 27 | Tscharke et al. | 2019 | Australia | Harnessing the Power of the Census: Characterizing Wastewater TreatmentPlant Catchment Populations for Wastewater-Based Epidemiology | Yes | Yes | Representativeness | Feasibility | NA | WWTP |
| 25 | Hart et al. | 2020 | USA | Simulated 2017 nationwide sampling at 13,940 major U.S. sewage treatmentplants to assess seasonal population bias in wastewater-based epidemiology | Yes | Yes | Representativeness | Feasibility | Pharmaceuticals/Personal Care Products (PPCP), Stress Hormones, Biomarkers/Metabolites | WWTP |