

COMMUNICABLE AND NONCOMMUNICABLE DISEASES: A NARRATIVE REVIEW

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Abstract

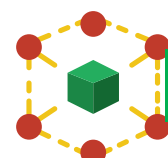
Communicable and noncommunicable diseases represent two broad, overlapping dimensions of modern public health. Communicable diseases are caused by infectious agents and can spread directly or indirectly between people, animals and the environment. Noncommunicable diseases (NCDs), in contrast, are generally long-lasting conditions influenced by genetic, physiological, behavioural and environmental factors. Although the two groups are often discussed separately, real communities experience them together. A person may live with diabetes and also face tuberculosis risk; an infectious outbreak can interrupt cancer or hypertension care; and social conditions such as poverty, overcrowding, pollution and limited access to nutritious food can influence both categories. This narrative review examines the major characteristics, determinants, prevention strategies and health-system implications of communicable and noncommunicable diseases. Current WHO estimates show that NCDs accounted for 74% of global deaths in 2023, while lower respiratory infections remained a major communicable cause of death. The review emphasizes that effective public health cannot rely on a single disease programme. Instead, it requires prevention, vaccination where appropriate, sanitation, surveillance, healthy environments, early detection, affordable treatment, community participation and strong primary health care. A balanced approach that addresses infectious threats while reducing chronic disease risk is essential for healthier and more resilient communities.

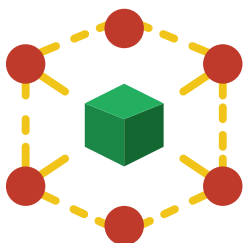
Keywords

Communicable diseases; infectious diseases; noncommunicable diseases; chronic diseases; public health; prevention; health promotion; surveillance; primary health care; risk factors; health equity

1. Introduction

Public health is often described through disease categories, but people do not experience health problems in neat categories. A family may worry about an infectious illness spreading through a household while also managing hypertension, asthma or diabetes. Communities can face poor





sanitation and infectious disease risks at the same time that changing food environments, inactivity and air pollution increase chronic disease.

Communicable diseases arise from infectious organisms such as bacteria, viruses, fungi and parasites. Transmission may occur through respiratory droplets or aerosols, contaminated food and water, direct contact, blood or other body fluids, vectors, or animal-to-human pathways. Examples include tuberculosis, influenza, measles, malaria, dengue and many gastrointestinal infections.

Noncommunicable diseases are generally chronic conditions that are not transmitted from person to person. WHO identifies cardiovascular diseases, cancers, chronic respiratory diseases and diabetes as the major NCD groups. In 2023, NCDs accounted for 74% of deaths globally, and eight of the ten leading causes of death were NCDs. [□cite□turn0search8□turn0search3□](#)

The distinction remains useful because the prevention tools differ, but the public-health response should not become fragmented. Both groups are strongly affected by living conditions, income, education, access to health services and the quality of the physical environment.

2. Understanding Communicable Diseases

Communicable diseases begin with an infectious agent, a susceptible host and an environment that allows transmission. Breaking any link in this chain can reduce spread. Hand hygiene, safe water, food safety, vaccination, ventilation, vector control, early diagnosis and appropriate treatment are examples of interventions that interrupt transmission or reduce its consequences.

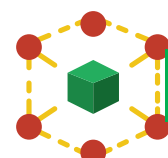
Communicable diseases can be acute, such as many respiratory infections, or persistent, such as tuberculosis or some viral infections. Their public-health importance is not determined only by the number of cases. A disease that spreads rapidly, causes severe illness, affects vulnerable populations or develops drug resistance can place substantial pressure on families and health systems.

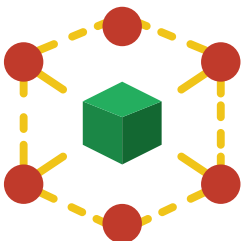
Recent global mortality estimates show that infectious diseases remain important despite the long-term shift toward NCDs. In 2023, lower respiratory infections caused about 2.7 million deaths and were the fourth leading cause of death worldwide. [□cite□turn0search3□](#)

3. Understanding Noncommunicable Diseases

NCDs are usually long-duration conditions resulting from a combination of genetic, physiological, environmental and behavioural factors. The major groups include cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. They may develop gradually, sometimes without obvious symptoms until complications appear.

WHO reported at least 43 million NCD deaths in 2021, representing 75% of non-pandemic-related deaths. Cardiovascular diseases accounted for at least 19 million deaths, cancers for about 10 million,





chronic respiratory diseases for about 4 million and diabetes for more than 2 million when diabetes-related kidney disease deaths are included. □cite□turn0search0□

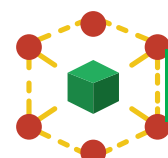
NCDs are sometimes described as diseases of old age, but that description is misleading. About 18 million NCD deaths occurred before age 70 in 2021, and 82% of these premature deaths occurred in low- and middle-income countries. □cite□turn0search0□

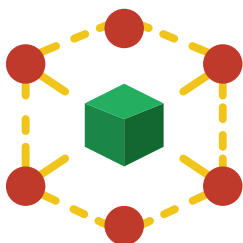
Table 1. Major differences between communicable and noncommunicable diseases

Feature	Communicable diseases	Noncommunicable diseases
Main cause	Infectious agents such as viruses, bacteria, parasites or fungi.	Complex interaction of genetic, physiological, behavioural and environmental factors.
Transmission	May spread between people, animals and environments depending on the disease.	Generally not transmitted person-to-person.
Examples	Tuberculosis, measles, influenza, malaria, dengue.	Heart disease, stroke, cancer, diabetes, chronic lung disease.
Key prevention	Vaccination, sanitation, hygiene, vector control, ventilation and infection prevention.	Healthy environments, tobacco control, physical activity, healthy diets, risk-factor reduction and screening.
Health-system priority	Surveillance, rapid diagnosis, outbreak response and appropriate treatment.	Prevention, early detection, long-term treatment and continuity of care.

4. Major Risk Factors

The causes of disease rarely exist in isolation. For communicable diseases, risk can increase with overcrowding, unsafe water, poor sanitation, inadequate ventilation, limited vaccination coverage, environmental disruption and barriers to timely diagnosis. For NCDs, WHO highlights tobacco use,





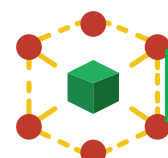
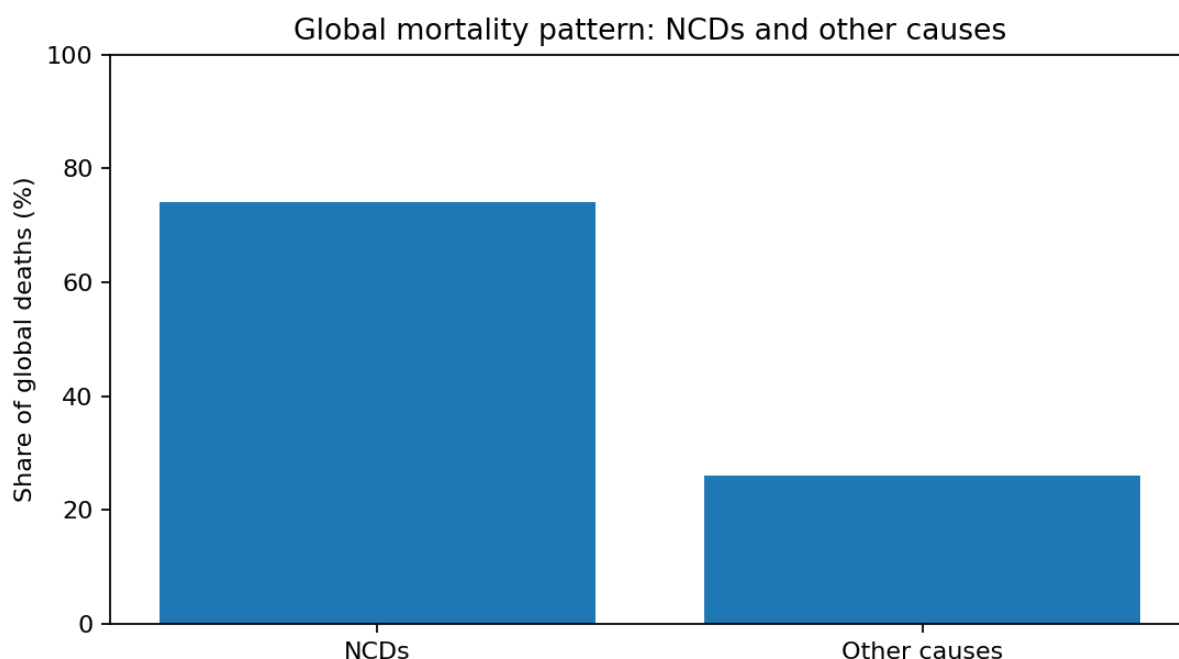
physical inactivity, harmful alcohol use, unhealthy diets and air pollution as major modifiable risk factors. These behaviours are themselves influenced by social, commercial and physical environments. ☐ cite ☐ turn0search0 ☐ turn0search7 ☐

This is where the two disease categories begin to overlap. Air pollution, for example, can worsen chronic respiratory and cardiovascular disease while also affecting vulnerability during respiratory infections. Poverty may increase exposure to infectious disease and simultaneously make long-term NCD care difficult to afford. A public-health approach therefore needs to address the conditions that shape health, not just the diseases that appear at the end of the pathway.

5. Global Burden and Changing Disease Patterns

The global disease profile has changed considerably over recent decades. Longer life expectancy, urbanization, economic development, improved vaccination and better infectious-disease control have contributed to an epidemiological transition in many populations. At the same time, ageing, sedentary lifestyles, unhealthy food environments, tobacco exposure and air pollution have increased the importance of chronic disease.

WHO's 2026 Global Health Estimates report that NCDs accounted for 74% of deaths globally in 2023, compared with 58% in 2000. Eight of the ten leading causes of death in 2023 were NCDs. However, communicable diseases have not disappeared. Lower respiratory infections remained a leading cause of death, and infectious threats can become major emergencies when new pathogens emerge or established pathogens spread rapidly. ☐ cite ☐ turn0search8 ☐ turn0search3 ☐



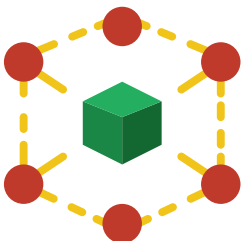


Figure 1. Global mortality pattern using WHO's 2023 estimate for the share of deaths due to NCDs. The figure is descriptive rather than a comparison of individual diseases.

6. Prevention of Communicable Diseases

Prevention begins before infection occurs. Immunization is among the strongest tools for diseases for which effective vaccines exist. Safe drinking water, sanitation, hand hygiene and food safety reduce many gastrointestinal infections. Good ventilation and appropriate infection-prevention practices can reduce respiratory transmission. Vector-control measures are essential for diseases transmitted by mosquitoes and other vectors.

Surveillance is another foundation. A health system needs to know when disease patterns change. Timely reporting can identify clusters, trigger investigation and guide public-health action. Laboratory capacity adds confidence to diagnosis and helps distinguish similar illnesses.

Public education works best when it is practical and respectful. People are more likely to follow preventive advice when they understand why it matters and when recommended actions are realistic within their living conditions.

7. Prevention of Noncommunicable Diseases

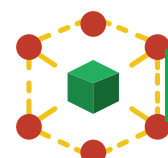
Many NCDs are preventable or their complications can be reduced through a combination of individual and population-level measures. WHO emphasizes tobacco control, healthy diets, physical activity, reduction of harmful alcohol use and action on air pollution. □cite□turn0search2□

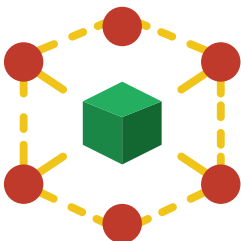
However, telling people to 'make healthier choices' is not enough. Healthy choices depend partly on whether safe spaces for physical activity exist, whether nutritious food is affordable and available, whether tobacco and alcohol marketing is regulated, and whether people can access preventive care. Public policy can therefore shape health outcomes just as strongly as individual behaviour.

Early detection is also important. Blood pressure measurement, diabetes assessment, appropriate cancer screening and evaluation of persistent respiratory symptoms can identify problems before severe complications develop. Once disease is diagnosed, continuous treatment and follow-up are needed.

Table 2. Practical public-health strategies

Level	Communicable disease actions	NCD actions
Individual/family	Vaccination where indicated, hand hygiene, safe food/water practices,	Avoid tobacco exposure, regular activity, balanced diet, healthy sleep and





	appropriate respiratory precautions.	appropriate preventive checks.
Community	Health education, sanitation, vector control, outbreak preparedness and accessible testing.	Healthy schools and workplaces, safe public spaces, healthy food environments and community screening.
Health system	Surveillance, laboratory services, vaccination programmes, infection prevention and rapid response.	Primary-care screening, affordable medicines, continuity of care and rehabilitation.
Policy level	Preparedness plans, vaccination policy, sanitation infrastructure and cross-border coordination.	Tobacco and alcohol regulation, air-quality policies, food policy and universal health coverage.

8. The Role of Primary Health Care

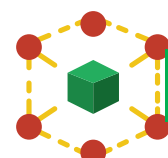
Primary health care is the natural meeting point between communicable and noncommunicable disease prevention. The same clinic can provide childhood vaccination, blood-pressure measurement, health education, maternal care, infection assessment and chronic disease follow-up. Integrating services reduces the need for families to navigate separate systems for every health concern.

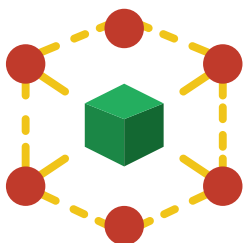
For NCDs, WHO emphasizes that detection, screening and treatment can be delivered through a primary-health-care approach. Early and affordable management can reduce complications and the need for more expensive care later. [cite turn0search4](#)

For communicable diseases, primary care provides the first opportunity to recognize unusual symptoms, initiate appropriate treatment, provide vaccination and refer patients when necessary. Strong primary care therefore acts as both a shield and an early-warning system.

9. Health Inequality and Social Determinants

Disease burden is strongly shaped by social conditions. People living in poverty may face overcrowded housing, unsafe water, environmental pollution and limited access to nutritious food.





The same person may also have difficulty paying for long-term medicines or travelling to a health facility.

WHO reports that 73% of NCD deaths occurred in low- and middle-income countries in 2021, and 82% of premature NCD deaths occurred in these settings. [\[cite turn0search0\]](#) These figures show why NCD prevention cannot be separated from economic and social policy.

Communicable disease control also depends on equity. Vaccination, diagnostic services and preventive information have to reach people in remote communities, displaced populations and other groups who may be poorly served by routine systems. Public health succeeds when services reach the people who need them most, not only those who can reach services easily.

10. Interaction Between Communicable and Noncommunicable Diseases

The relationship between the two groups is increasingly important. Infectious disease can worsen outcomes in people with chronic conditions, while NCDs can increase vulnerability to severe outcomes from some infections. Health emergencies can also interrupt routine care, leaving people without medicines, screening or follow-up.

There are also shared environmental drivers. Air pollution contributes to chronic respiratory and cardiovascular disease and can make respiratory health more difficult. Poor housing and sanitation increase infectious disease risk while reflecting the same structural inequalities that influence chronic disease.

The practical lesson is that health systems should avoid treating communicable and noncommunicable diseases as competing priorities. Both require investment in prevention, surveillance, primary care, health workers, reliable data and community trust.

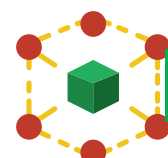
11. Health Promotion and Community Participation

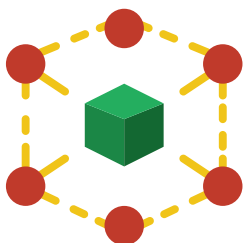
Humanized public health begins with listening. Communities have local knowledge about disease patterns, barriers to care and acceptable solutions. Health messages are more effective when they respect language, culture, literacy and lived experience.

For communicable disease prevention, community participation can improve vaccination uptake, hygiene practices, early reporting and outbreak response. For NCDs, communities can support physical activity, healthy eating, tobacco-free environments and adherence to long-term treatment.

The goal is not to make every person responsible for every health problem. Instead, responsibility should be shared among individuals, families, schools, workplaces, communities, health professionals, governments and the private sector.

12. Surveillance and Health Information





Good decisions depend on good information. Communicable disease surveillance focuses on identifying cases, clusters and changes in transmission. NCD surveillance monitors mortality, risk factors, disease prevalence, treatment coverage and health-system performance.

Digital records and population-level data can improve continuity of care, but data must be collected ethically and used responsibly. Simple indicators can be powerful when they are timely and linked to action. A health department that knows where vaccination coverage is low or hypertension treatment is failing can direct resources more effectively.

13. Integrated Prevention and Care

A practical public-health model is a continuum rather than a collection of separate programmes. Primary prevention aims to stop disease before it begins. Early detection identifies problems when treatment can be more effective. Treatment and long-term control reduce complications, while rehabilitation and palliative care help people live as well as possible with serious illness.

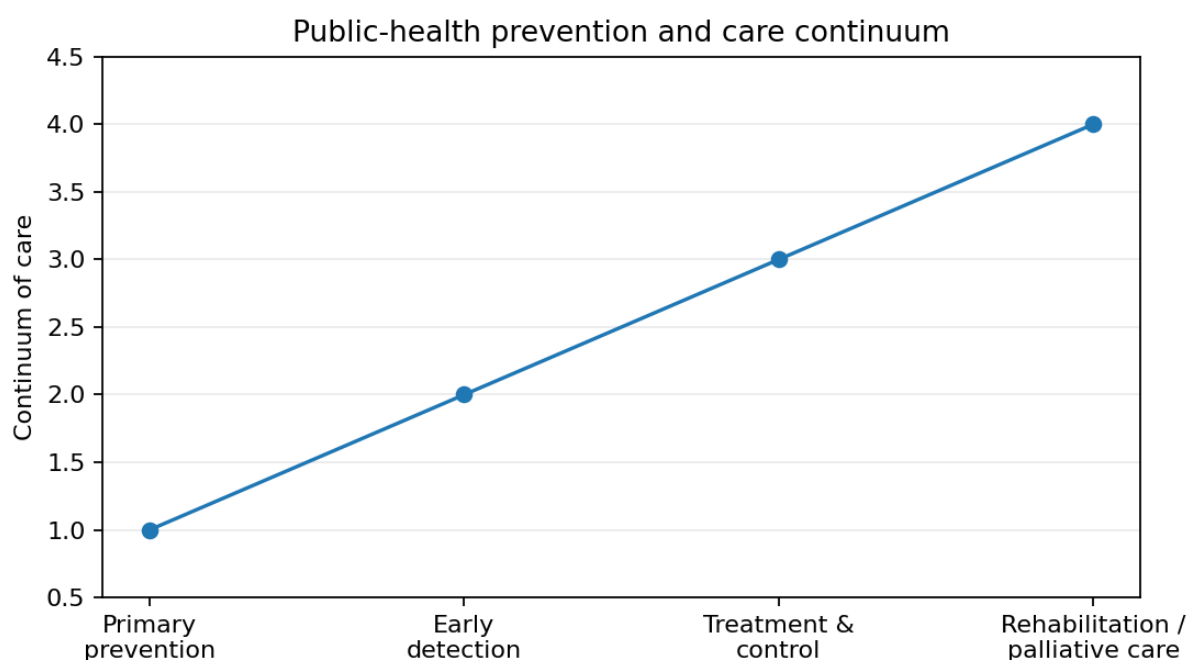
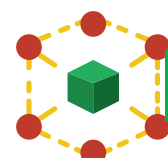
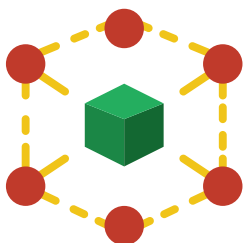


Figure 2. Conceptual prevention-and-care continuum applicable across communicable and noncommunicable diseases.

14. Challenges for Public Health

- Unequal access to preventive and curative health services.
- Limited health workforce and health-system capacity.
- Urbanization, pollution and changing food environments.
- Antimicrobial resistance and emerging infectious threats.





- Low awareness of chronic disease risk and symptoms.
- Interrupted care during epidemics, disasters or conflict.
- Financial barriers to medicines, diagnostics and follow-up.
- Health misinformation and declining trust in institutions.
- Fragmented programmes that separate infectious and chronic disease services.

15. Recommendations

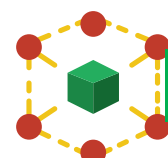
- Strengthen primary health care as the shared foundation for communicable and noncommunicable disease services.
- Maintain vaccination, sanitation, infection prevention and disease surveillance systems.
- Expand early detection and affordable treatment for hypertension, diabetes, cancers and chronic respiratory disease.
- Address tobacco exposure, unhealthy diets, physical inactivity, harmful alcohol use and air pollution through both policy and community action.
- Use local data to identify underserved populations and direct resources toward them.
- Protect essential health services during outbreaks and other emergencies.
- Train health workers to communicate clearly, respectfully and without stigma.
- Integrate health education and prevention into schools, workplaces and community settings.
- Measure health equity, not only overall national averages.

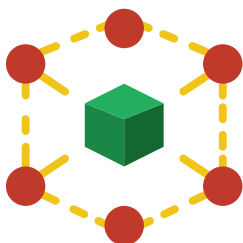
16. Discussion

The traditional separation between communicable and noncommunicable diseases is useful for classification but less useful when designing real-world health services. Both categories are shaped by social determinants, environmental conditions, health-system strength and access to care. The global shift toward NCDs does not mean infectious diseases can be ignored. Likewise, the continued presence of infections should not delay investment in chronic disease prevention.

The strongest response is therefore integrated. Vaccination, sanitation and outbreak preparedness should continue alongside tobacco control, healthy environments, screening and chronic disease management. Primary care can bring these functions together in a way that is more convenient for families and more efficient for health systems.

A humanized approach also recognizes that health behaviour occurs within circumstances. Prevention messages should be accompanied by practical opportunities to act. If healthy food is unaffordable, a simple nutrition lecture is unlikely to change outcomes. If a vaccination clinic is inaccessible, telling families to vaccinate does not solve the underlying problem. Public health must combine information with supportive systems.





17. Conclusion

Communicable and noncommunicable diseases remain major and interconnected public-health challenges. Infectious diseases can spread rapidly and require surveillance, prevention and timely response, while NCDs often develop over years and require sustained risk reduction, early detection and continuing care. The current global pattern shows a large and growing NCD burden, but infectious diseases continue to cause substantial illness and death and can generate sudden health emergencies.

The most effective response is not to choose one disease group over the other. Public health should build strong primary care, equitable access, reliable surveillance, health-promoting environments and community trust. Vaccination, sanitation and infection prevention must sit alongside tobacco control, healthy diets, physical activity, pollution reduction and affordable chronic disease care.

Ultimately, healthier communities are created when prevention becomes part of everyday systems rather than an occasional campaign. By addressing both communicable and noncommunicable diseases together, health systems can protect people from immediate infectious threats while also reducing the long-term burden of chronic illness.

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