NICE National Institute for Health and Care Excellence

NICE Pathways

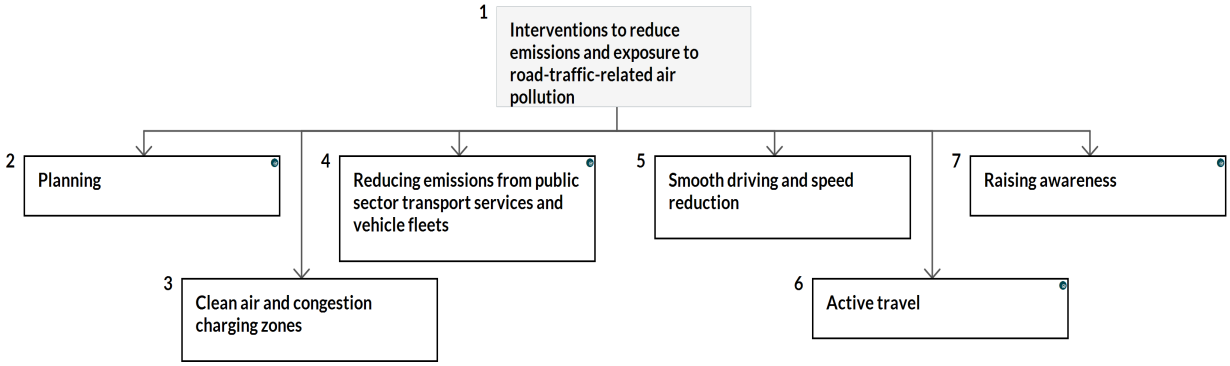
Road-traffic-related air pollution

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/air-pollution
NICE Pathway last updated: 30 October 2020

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Interventions to reduce emissions and exposure to road-traffic-related air pollution

No additional information

2 Planning

'Plan making'

Include air pollution in 'plan making' by all tiers of local government, in line with the Department for Communities and Local Government's National Planning Policy Framework. This includes county, district and unitary authorities, as well as regional bodies and transport authorities. The Local Plan and other strategic planning processes (such as the core strategy, local transport plan, environment and health and wellbeing strategies) should include zero- and low-emission travel, for example cycling and walking (see active travel [See page 8] and the NICE Pathway on walking and cycling). Other strategies for zero- and low-emission travel could include:

- Providing charge points for electric vehicles in workplaces, commercial developments and residential areas.
- Supporting car sharing schemes or car clubs.

When 'plan making' consider:

- siting and designing new buildings, facilities and estates to reduce the need for motorised travel
- minimising the exposure of vulnerable groups [See page 11] to air pollution by not siting buildings (such as schools, nurseries and care homes) in areas where pollution levels will be high
- siting living accommodation away from roadsides
- avoiding the creation of street and building configurations (such as deep street canyons [See page 11]) that encourage pollution to build up where people spend time
- including landscape features such as trees and vegetation in open spaces or as 'green' walls or roofs where this does not restrict ventilation
- including information in the plan about how structures such as buildings and other physical barriers will affect the distribution of air pollutants.

If the local plan does not address air pollution, consider developing local guidance (such as supplementary planning documents, see the Department for Communities and Local Government information on local plans) on how to design buildings and spaces to improve local

air quality until the local plan is amended.

Local development plans

Consider ways to mitigate road-traffic-related air pollution. This could include:

- Taking action to reduce the number of motorised trips. For instance, by:
  - incorporating air quality outcomes in travel plans
  - developing local parking plans
  - supporting car clubs
  - supporting active travel (see the NICE Pathway on walking and cycling).
- Supporting the use of zero- and low-emission vehicles for instance, by providing charging facilities for electric vehicles.
- Managing street trees and vegetation to reduce the risk of restricting street ventilation, where this may contribute to poor air quality (for instance, by the choice of species, siting and pruning regimes).

In consultation with local communities, consider including air quality monitoring and measures to reduce road-traffic-related emissions in the Regulation 123 list of funding options for using the Community Infrastructure Levy (see the Planning Portal information on the Community Infrastructure Levy).

Why we made these recommendations

See information on planning [See page 12].

Quality standards

The following quality statements are relevant to this part of the interactive flowchart.

1. Strategic plans

2. Planning applications

3 Clean air and congestion charging zones

Clean air zones

Consider introducing a clean air zone that:

- includes restrictions or charges on certain classes of vehicle
- supports zero- and low-emission travel (including active travel)
- includes targets to progressively reduce pollutant levels below EU limits and aim to meet World Health Organization air quality guidelines
- aims to reduce exposure to air pollution across the whole zone rather than focusing on air pollution hotspots.

Identify which classes of vehicles to restrict or charge in a clean air zone based on an understanding of local conditions (such as local sources of road-traffic- related pollution and factors influencing dispersion). Use nationally recognised vehicle types (such as the Euro classification for diesel and petrol vehicles).

Work across local authority boundaries to address regional air pollution and prevent migration of traffic and emissions to other communities, resulting in areas of poor air quality.

Consider support for zero- and low-emission travel. This could include:

- Encouraging walking and cycling (see the NICE Pathway on walking and cycling).
- Encouraging uptake of zero- and low-emission vehicles, for instance:
    - Providing electric charging points.
    - Encouraging public and private sector organisations to use zero- or low-emission vehicles for deliveries to retail, office, residential or other sites in the zone, particularly for the last mile of deliveries in city centres.
- Developing integrated public transport networks (including park and ride schemes) based on low-emission vehicles.

Consider taking action to reduce emissions within the clean air zone. For instance:

- Introducing fuel-efficient driving initiatives including:
    - Bylaws and other action to support 'no vehicle idling' areas, particularly where vulnerable groups [See page 11] congregate (such as outside schools, hospitals and care homes) and in areas where exposure to road-traffic-related air pollution is high.
    - Driver training to reduce emissions (see driver training [See page 6] in reducing emissions from public sector transport services and vehicle fleets).
    - Actions to smooth traffic flow (see smooth driving and speed reduction [See page 7]).
- Action to minimise congestion caused by delivery schedules.
- Using a fleet recognition scheme (such schemes help fleet operators improve efficiency by reducing fuel consumption and emissions: the system recognises operators who meet best

- operational standards).
- Addressing emissions from public sector transport activities (see driver training [See page 6] in reducing emissions from public sector transport services and vehicle fleets).
- Specifying emission standards for private hire and other licensed vehicles.

Congestion charging zones

Where traffic congestion is contributing to poor air quality, consider incorporating a congestion charging zone within the clean air zone.

Consider monitoring outside the zone to identify whether its implementation is causing problems in terms of traffic composition and flow. If so, address any issues identified. For instance, by changing the boundaries to address increased pollution at the margins of the zone or problems caused by diversion of traffic.

Assess the impact of any proposed charges (including exemptions for zero- and low-emission vehicles) on vulnerable groups.

Why we made these recommendations

See information on clean air and congestion charging zones [See page 13].

4 Reducing emissions from public sector transport services and vehicle fleets

Driver training

Consider introducing fuel-efficient driving as part of any test carried out when appointing or re-appraising staff who drive as part of their work.

Consider training staff drivers to reduce their vehicle emissions. This could include:

- reducing rapid accelerations and decelerations, and correct gear selection to improve fuel consumption
- switching off engines, if practical and safe, when parked by the roadside and when dropping off people or deliveries
- vehicle maintenance, including pumping up tyres to the recommended pressure
- emphasising that lower vehicle emissions will reduce both fuel costs and air pollution.

Consider using:

- 'in-vehicle' elements, for instance to ensure vehicles display real-time information about current fuel efficiency, appropriate gear selection and speed
- telematics technology to provide next-day information about driving style.

Consider monitoring fuel efficiency and providing feedback to drivers after training. This could include providing support from colleagues or 'buddies' to improve their driving style and rewards for those who drive efficiently (see the NICE Pathway on behaviour change).

Consider monitoring the fleet's fuel consumption and evaluating the local effect on air pollutant emissions to demonstrate the benefits of training on fuel use and air quality.

Procuring public sector vehicles

Consider making low vehicle emissions (nitrogen oxides and particles) one of the criteria when making routine procurement decisions. This could include selecting low-emission vehicles, including electric vehicles.

Why we made these recommendations

See information on reducing emissions from public sector transport services and vehicle fleets [See page 11].

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

3. Reducing emissions from public sector vehicle fleets

5 Smooth driving and speed reduction

Consider promoting a smooth driving style by using:

- speed limits and average speed technology on the roadside
- real-time information to tell drivers what the current optimum driving speed is
- 20mph limits without physical measures to reduce speeds in urban areas where average speeds are already low (below around 24mph) to avoid unnecessary accelerations and decelerations
- signs that display a driver's current speed to reduce unnecessary accelerations.

See also the recommendations on driver training in reducing emissions from public sector transport services and vehicle fleets [See page 6].

Where physical speed reduction measures are used to reduce road danger and injuries (20mph zones, see the NICE Pathway on preventing unintentional injuries among under-15s: local highways authorities), consider using them to encourage drivers to maintain a reduced, steady pace along the whole stretch of road, rather than road humps that may increase acceleration- and braking-related emissions.

Why we made these recommendations

See information on smooth driving and speed reduction [See page 15].

6 Active travel

Provide support for active travel (see the NICE Pathways on walking and cycling and physical activity and the environment).

Provide a choice of cycle routes, including routes that avoid highly polluted roads. Ideally use quiet streets or segregated routes.

Where busy roads are used consider:

- Providing as much space as possible between the cyclist and motorised vehicles.
- Using dense foliage to screen cyclists from motor vehicles, without stopping air pollution from dispersing or reducing the visibility or safety of cyclists near junctions. Also take into account concerns about personal safety.
- Reducing the time cyclists spend at highly polluted sites, including some junctions, where this can be done without increasing the time that other groups spend exposed to poor air quality.

Why we made these recommendations

See information on active travel [See page 15].

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

1. Strategic plans

7 Raising awareness

Whole population

Base actions to raise awareness of road-traffic-related air pollution (and so change people's behaviour) on NICE's Pathways on:

- behaviour change and
- community engagement (in particular, on developing a local approach).

Ensure healthcare professionals are aware that information on air quality is available, what it means for patients and what actions are recommended.

Consider providing information on air quality (using the Department for Environment, Food and Rural Affairs' Daily Air Quality Index with weather forecasts and the pollen index. This could be provided through local, national and social media.

Consider providing information on:

- How health is affected by exposure to air pollutants in the long term as well as during specific periods of poor air quality.
- The impact of local pollution on air quality inside, as well as outside, a vehicle (levels of pollution are not always lower inside).
- How to reduce air pollutants and people's exposure, including the need to:
  - Reduce the number of motor vehicle journeys, if possible.
  - Drive in a style that minimises emissions by: avoiding rapid accelerations and decelerations, restricting the time spent with an engine 'idling' and ensuring the vehicle is correctly maintained (see the Energy Saving Trust's driving advice).
  - Change routes to avoid highly polluted areas and adding to traffic congestion.

Consider public awareness initiatives such as car-free days or National Clean Air Day to raise awareness of air pollution.

Businesses

Consider giving businesses information on how they can reduce road-traffic-related air pollution and improve fuel efficiency. For example, they could:

- help their drivers develop an energy-efficient driving style (see reducing emissions from public sector transport services and vehicle fleets [See page 6])

- schedule deliveries to minimise congestion
- encourage employees to cycle to work (see the NICE Pathway on walking and cycling).

Vulnerable groups

Healthcare professionals should be aware of vulnerable groups [See page 11] who are particularly affected by poor outdoor air quality. When notified of poor outdoor air quality, during any contact with vulnerable groups healthcare professionals should give general advice on how to avoid contributing to levels of air pollution and raise awareness of how to minimise exposure. This could include advice to:

- Avoid or reduce strenuous activity outside, especially in highly polluted locations such as busy streets, and particularly if experiencing symptoms such as sore eyes, a cough or sore throat.
- Use an asthma reliever inhaler more often, as necessary.
- Close external doors and windows facing a busy street at times when traffic is heavy or congested to help stop highly polluted air getting in.

(See also the Department for Environment, Food and Rural Affairs' information about the Daily Air Quality Index.)

Why we made these recommendations

See information on raising awareness [See page 16].

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

4. Advice for people with chronic respiratory or cardiovascular conditions

Streets flanked by buildings on both sides. They can be categorised using the ratio of the height of the buildings to the width of the road, with a deep canyon having taller buildings relative to the width. The geometry of the canyon and its orientation to the prevailing wind influence the flow of air. This can lead to the formation of vortices and the recirculation of air that trap pollutants emitted within the canyon. It can also restrict dispersion, potentially leading to areas of high air pollution.

Children, older people and people with chronic health problems are among the most vulnerable to air pollution. Short-term (for example day-to-day) peaks of elevated air pollution are linked with increased hospital admissions for people with respiratory and cardiovascular conditions. The Royal College of Physician's report on air pollution Every breath we take: the lifelong impact of air pollution noted that it can affect the growth of an unborn baby and may be linked to premature birth.

Reducing emissions from public sector transport services and vehicle fleets

Driver training

Some evidence showed that changes to driving style may be used to lower levels of local pollution, as well as reducing fuel use. It also showed that people can be encouraged to make these changes. Some evidence suggests that if large numbers of people change their driving style this, combined with other measures to reduce traffic, could have a positive effect on the environment. An expert also told the committee that fuel consumption could be reduced by around 20% to 25% by adopting efficient driving techniques, with a realistic long-term reduction of between 5% and 10%. Based on this evidence and their own experience, the committee felt that providing support to help people change their driving style was justified. They also noted that this would be cost-neutral because of the savings generated by better fuel efficiency. Because the evidence was uncertain, the committee recommended these as actions to consider. The committee was aware of NICE's guidance on behaviour change: individual approaches and added a link to this but did not specify the type of rewards for those who drive efficiently.

Procuring public sector vehicles

The committee agreed by consensus that procurement of less polluting vehicles will help public sector organisations to reduce road-traffic-related air pollution. Members noted that this could be done as older vehicles are replaced. Because the evidence was uncertain, they recommended this as an action to consider.

For more information see reducing emissions from public sector transport services and vehicle fleets in the NICE guideline on air pollution: outdoor air quality and health.

Planning

'Plan making'

Some evidence suggests that strategic plans can have an important influence on air pollution. Based on the epidemiological evidence on the health impacts of air pollution, particularly for vulnerable groups and committee consensus, the committee recommended several approaches. This includes action to encourage a move to zero- and low-emission travel (including active travel) by linking to NICE's recommendations on physical activity: walking and cycling.

Some expert testimony, supported by the committee's own expertise, suggests that the layout of new developments will affect motorised travel. The committee agreed that it is important to take account of how air pollution disperses and where people spend time because these factors will influence their exposure. Some evidence showed that street trees and green walls or roofs have a mixed effect on street air quality – in some cases they restrict street ventilation causing poorer air quality, in others, they improve it. Because the evidence was uncertain, the committee recommended this as an action to consider.

The committee agreed by consensus that if air pollution is not included in the current local plan, other local policies should be developed until it is updated. Because the evidence was uncertain they recommended this as an action to consider.

Local development plans

Evidence on actions to address road-traffic-related air pollution suggested that travel plans could offer an opportunity to re-evaluate journeys to work and help a more general move away from car travel. Committee members also noted from their experience that these plans could support zero- and low-emission travel and could be implemented as part of the planning approval process. Evidence indicated that the species, siting and management of trees and vegetation is important in reducing the risk of adversely affecting air quality. Because the evidence was weak the committee recommended this as an action to consider.

Based on their expertise, the committee agreed that it is appropriate to use funds from developers, via the Community Infrastructure Levy, to pay for work to address air pollution

issues. They also agreed that this is best carried out in consultation with local communities. Because the evidence was uncertain the committee recommended this as an action to consider.

For more information see planning in the NICE guideline on air pollution: outdoor air quality and health and development management in the NICE guideline on air pollution: outdoor air quality and health.

Clean air and congestion charging zones

Clean air zones

Some evidence suggested that area-wide action is needed to reduce the use of polluting vehicles and to encourage a shift to zero- and low-emission travel. Some of this evidence showed that existing low-emission zones (the current nearest equivalent to a clean air zone) have only slightly improved air quality. This is partly because of the failure of new technology to reduce individual vehicle emissions under real driving conditions. But it is also probably linked to the limited scope of existing low-emission zones, in terms of class of vehicles restricted, and the failure to address the overall volume of traffic. Some evidence suggested that reducing air pollution below current EU limits would provide more health benefits. The committee agreed that stricter targets should be considered because there is a lack of evidence on how effective a lower threshold would be. They also recognised that there are likely to be greater health benefits if pollution is lower than the legislative limits, so reduction to these limits is a minimum and should not be the maximum target for reducing air pollution. Members agreed that targets should be developed with health goals in mind but that, in practice, these will be expressed as air pollution targets. Members agreed that the focus should not be limited to taking action to reduce air pollution hotspots alone. Because the evidence was uncertain the committee recommended this as an action to consider.

Cost-effectiveness evidence suggested that low-emission zones could be cost effective. Committee members agreed that it was important to aim for consistency across the country, particularly in relation to the vehicle types that are restricted.

Both air pollutants and their sources are mobile, so actions in one area may affect another. No evidence looked at this empirically, but the committee agreed it would be useful to take a wider geographical approach, involving cooperation across local authority boundaries. The evidence was uncertain (based on committee consensus) but the committee felt it was particularly important not to simply move the problem to another community so they made a strong recommendation.

The committee noted that active travel (such as walking and cycling) was linked to a range of other health benefits. This is covered by evidence used to develop other NICE guidelines. Some evidence suggested potential benefits could be gained from using zero- and low-emission vehicles. This supported expert testimony on the actions of the Department for Environment Food and Rural Affairs to speed up the transition to a low-emission economy. The committee agreed that infrastructure (in particular, charging points) is needed to achieve significant uptake of zero- or low-emission motor vehicles. Because the evidence for all these actions was uncertain, the committee recommended these as actions to consider.

There was some evidence on addressing driving style and traffic flow and this supported the committee's knowledge of how air pollution is produced. They agreed that training to reduce idling and to encourage people to change their driving style is unlikely to have any negative effects. No direct evidence was found on local deliveries or private hire vehicles. However, based on the committee's experience, they suggested action to combat the large contribution that they can both make to air pollution. They agreed that air pollution from congestion related to deliveries might be addressed by thinking about delivery schedules and by training and accreditation of fleets using a fleet recognition scheme. In addition, it may help reduce fuel use, resulting in reduced emissions. Because the evidence was uncertain, they recommended this as an action to consider.

Congestion charging zones

Some evidence, together with the committee's experience, suggested that congestion charging could contribute to a package of measures and incentives to address air pollution where congestion was identified as a significant cause. Because the evidence was uncertain, the committee recommended this as an action to consider.

Members agreed that it was important to monitor outside the zone to identify whether traffic is moving elsewhere and resulting in poor air quality in those areas. They also agreed that adjustments should be made in such cases. Because the evidence was uncertain (committee consensus), the committee recommended this as an action to consider.

The committee agreed that people living in deprived areas are more likely to be exposed to higher levels of air pollution and so might gain more from changes that reduce it. But at the same time, they may be less likely to be able to afford new vehicles and so might be disadvantaged by a charging scheme. The committee agreed that the potential impact that charging may have on inequalities should be taken into account. This was based on uncertain evidence (committee consensus) but the committee felt it was particularly important so they

made a strong recommendation.

For more information see clean air zones in the NICE guideline on air pollution: outdoor air quality and health.

Smooth driving and speed reduction

Evidence on using lower speed limits, encouraging smoother driving and providing real-time information showed that reducing 'stop–go' driving could help reduce emissions of air pollutants. This was supported by the committee's understanding of air pollution and the effect of accelerations and decelerations. The committee agreed that signs displaying drivers' current speed would encourage a smoother driving style. Because the evidence was uncertain they recommended these as actions to consider.

Some evidence on physical speed reduction measures like humps and bumps suggested that individual measures may increase motor vehicle emissions by encouraging decelerations and accelerations. But evidence from area-wide schemes does not back this up. So where physical measures are needed to reduce road injuries, the committee agreed that area-wide schemes should be designed to minimise the impact on air pollution. Because the evidence was uncertain the committee recommended this as an action to consider.

For more information see smooth driving and speed reduction in the NICE guideline on air pollution: outdoor air quality and health.

Active travel

The committee agreed that it was important to support a general shift from motor vehicles to more active travel. They also agreed that this needed doing in a way that minimises cyclists' exposure to air pollution for example, by providing a choice of cycle routes.

In addition, weak evidence suggested that increasing the space between cyclists and motor traffic helps protect cyclists from air pollution. Although this evidence was uncertain, it agrees with the committee's understanding of the sources and dispersal of air pollutants.

Some evidence suggested that where it is not possible to create cycle routes using quiet streets, separating cycle routes from motor traffic and reducing the time spent by cyclists in areas of high pollution, including busy sites, helps protect them from air pollution. Some evidence suggested that using dense foliage as a barrier may sometimes help protect cyclists

from motor vehicle emissions, but the impact on the distribution of air pollutants needs to be taken into account. The committee agreed that the evidence supported its understanding of the dispersal of air pollutants. They also noted that it was important to take account of the need for cyclists to be visible to reduce the risk of collisions and to help normalise cycling. Because the evidence was uncertain the committee recommended this as an action to consider.

For more information see walking and cycling in the NICE guideline on air pollution: outdoor air quality and health.

Raising awareness

Whole population

Evidence on the impact of air pollution on health provided justification for action to raise awareness of the issues and ways to mitigate the problems. The committee agreed that community support is always important when aiming for sustainable changes in behaviour. This supported the evidence on interventions to change behaviours related to air pollution. Members noted that this is in line with other NICE guidelines.

The committee agreed that local, national and social media techniques are useful ways to disseminate information about the Daily Air Quality Index, particularly to vulnerable groups. Because the evidence was uncertain the committee recommended this as an action to consider.

The committee agreed that it is important to give the public information on how road-traffic-related air pollution affects their health and on how their transport choices (such as driving during episodes of high pollution) contribute to this. Because the evidence was uncertain the committee recommended this as an action to consider.

Some evidence relating to partial or occasional traffic restrictions suggested a limited effect. But the committee agreed that such restrictions offer the opportunity to demonstrate the positive benefits. So the consensus was that it is reasonable to use them as part of occasional awareness-raising activities. Because the evidence was uncertain the committee recommended this as an action to consider.

Businesses

The committee agreed that it is reasonable to make businesses aware of the need to reduce air pollution, by encouraging active travel and more energy-efficient driving. Members noted that

scheduling deliveries to avoid times when streets are congested might also reduce the contribution businesses make to congestion and the resulting pollution. Because the evidence was uncertain the committee recommended this as an action to consider.

Vulnerable groups

The committee agreed that information provided by healthcare professionals is likely to be important in highlighting the effect of air pollution on health. So it is important to ensure health professionals are aware of the facts and can communicate them to vulnerable groups. Because the evidence was uncertain the committee recommended this as an action to consider.

For more information see awareness raising in the NICE guideline on air pollution: outdoor air quality and health.

Glossary

average speed technology

(cameras with automatic number plate reading (ANPR) digital technology, placed in multiple locations (at least 2, at a minimum of 200 m apart) along a stretch of road to monitor a vehicle's average speed)

electric vehicles

(any vehicle that uses one or more electric motors for propulsion; it includes electric bikes and electrically assisted pedal cycles)

smooth driving

(driving in a way that assesses the road ahead to avoid unnecessary braking and acceleration, which increase the amount of fuel used and emissions)

street ventilation

(air in a street flows in a pattern determined by many factors, including the shape and design of buildings: it mixes with air from outside the street; if there are sources of pollution in the street (primarily vehicles) the air flow is restricted)

telematics

(technologies that store and send information on the speed, position, acceleration and deceleration of road vehicles; this, together with global positioning system (GPS) data, can be used to compare driving styles and estimate the impact on fuel consumption, emissions or wear and tear)

Sources

Air pollution: outdoor air quality and health (2017) NICE guideline NG70

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.