



Informing Healthier Choices

*Information and Intelligence for Healthy
Populations*

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Information and Intelligence for Healthy Populations

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Executive summary

- The Government's plans for tackling ill health and health inequalities have been set out in the white paper *Choosing Health* and reinforced recently in *Health Challenge England – next steps for Choosing Health*.
- The *Choosing Health Implementation Plan* included measures to improve the availability and use of relevant information and evidence. One of these was the development of a comprehensive health information and intelligence strategy for England.
- The second Wanless report also called for much better information to identify health problems, make the case for investment in prevention, and to monitor progress made by responsible authorities against their stated objectives.
- The aim of this strategy is to improve the availability, timeliness and quality of health information and intelligence across England and to increase its use to support population health improvement, commissioning of services for health and well-being, and health protection.
- It will support the work of professionals engaged in improving the health and well-being of the population whether they are working in health services, Local Government or elsewhere. It will enhance delivery of *Choosing Health* but also supports implementation of a range of other Government policy objectives.
- A detailed vision for the future is set out under four headings – the “four-box strategy”. The four headings are as follows:
 - Workforce capacity and capability
 - Improved data and information provision
 - Stronger organisations
 - Health information and intelligence portal and underlying systems
- Current plans in each area are summarised in an Annex and these will be periodically updated.
- An implementation team and a steering group have been set up to ensure delivery. The implementation team is working closely with the Association of Public Health Observatories.
- The strategy has already been shaped by extensive consultation and we will continue to consult widely with those working in this area and other groups with an interest including public and patient representatives.

Contents

Executive summary	4
Contents	5
The role and scope of this strategy	6
Aim	7
Objectives	7
Our vision for the future: the “four box strategy”	8
Workforce capacity and capability	8
Improved data and information provision	9
Stronger organisations	10
Health information and intelligence portal and underlying systems	10
A framework for using information and intelligence in practice	11
We will have delivered if	12
Benefits	12
Background	14
Lessons from the second Wanless report	14
Drivers for change and improvement	15
Helpful developments in other areas	16
Annex A: Delivering the vision – how do we get there?	17
Box 1. Workforce capacity and capability	17
Box 2. Improved data and information provision	17
Box 3. Stronger organisations	17
Box 4. Health information and intelligence portal and underlying systems	18
Annex B: Equality impact assessment	19

The role and scope of this strategy

The strategy presented here sets out an approach that will strengthen health information and intelligence resources across England. This includes supporting and developing the skilled information workforce in NHS and Local Government organisations. It also provides a framework to integrate the work of different agencies with a role in this field and to guide the development of innovative information systems where these are needed. As well as necessary attention to processes and infrastructure, the strategy aims to improve the availability of relevant basic data and knowledge to support *Choosing Health* objectives. Consultation on a draft of the strategy, carried out in early 2006, suggested specific areas where more or better data are needed.

Choosing Health was a cross-Government strategy. Work that follows from *Informing Healthier Choices* will also be relevant to many Government Departments and to Local Government. Greater harmonisation of approaches to information for health and well-being across Government and between local agencies is one of the desired outcomes of this strategy.

We also want to highlight in this strategy the need to do what can be done to develop and implement information systems that can adequately monitor inequalities in health. Relevant inequalities are those caused by socio-economic factors, gender, race, ethnicity, disability or sexual orientation. This is a challenging requirement but one that all public services have an obligation to fulfil.

The strategy has already benefited from extensive consultation. We will continue to work with as wide a range of individuals and groups as possible in developing plans for implementation. Although we do not anticipate changes in the underlying principles or overall shape of the strategy, we believe the current delivery plans (summarised in Annex A) will need to be reviewed on an annual basis. We look forward to working with others to progressively refine and expand the work plans.

A Strategy Steering Group and Implementation Team have been established. Delivery plans and progress reports will be published on the Department's *Choosing Health* website.

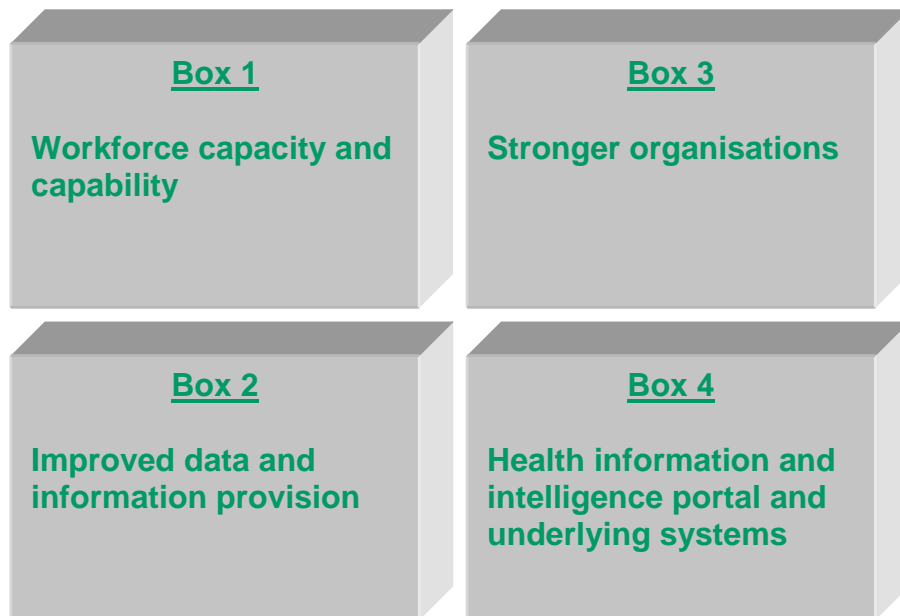
Aim

To improve the availability, timeliness and quality of health information and intelligence across England and to increase its use to support population health improvement, commissioning of services for health and well-being, and health protection.

Objectives

- To support the work of professionals engaged in improving the health and well-being of the population.
- To enhance delivery of *Choosing Health* and *Our health, our care, our say* by making information and knowledge available to local communities to inform their decisions.
- To meet the information and intelligence needs of other key Department of Health and wider health-related Government policy objectives such as commissioning for health and wellbeing, reducing inequalities in health, achieving health literacy, and tracking relevant Public Service Agreement targets locally and nationally.

Our vision for the future: the “four box strategy”



Workforce capacity and capability

Primary Care Trusts, together with their Local Authority partners, will have direct access to well-trained analysts and information specialists. The roles and status of information staff will be clearly defined by reference to a set of model job descriptions linked to Agenda for Change and to a career framework which will enable both vertical and horizontal career progression.

Information staff will often be based in joint NHS/Local Authority public health departments (particularly those in large Primary Care Trusts) and will be closely aligned with the commissioning functions of these organisations. In other cases the staff may be based in agencies serving more than one organisation.

In house information staff will be able to act as informed clients for any additional services that may be provided by commercial organisations, ensuring value for money from such contracts.

Analytical and information staff based at regional level in Observatories, Registries, Government Offices and Strategic Health Authorities will work collaboratively with strong links being made between agencies and organisations with overlapping interests in order to make best use of capacity and skills.

The information and intelligence workforce will be supported and developed through structured training schemes and on-line resources. Attractive progressive careers will be available to

those who want to work in health information and intelligence at all levels. Some may progress to generic public health specialists, whilst some may wish to achieve defined specialist accreditation through the UK Public Health Voluntary Register.

Regionally organised professional networks will ensure that analysts are well informed about current developments and have a chance to influence central policy and development of systems.

Improved data and information provision

Reliable data on key contemporary health challenges will be collected and made available:

- centrally as a by product of care provision (for example information from general practice systems on hypertension or smoking prevalence);
- from special surveys (for example measures of well being, dental health or exercise levels);
- from surveillance systems (including child health systems and disease registers).

Data and knowledge will be shared between organisations locally and nationally where this helps to build a more complete picture of health and its determinants in communities. Linkage of records about the same people will be used to enhance the value of isolated sets of data.

Any sharing of data relating to individuals will be done with strict attention to confidentiality and data security and according to approved protocols. Published information will conform to guidance on disclosure control in order to minimise the risk of identification of individuals.

Well catalogued repositories of useful data and knowledge will be available that can be easily and systematically searched. Basic datasets will be augmented by derived data, for example on deprivation or other area characteristics. Data sources will be supported by comprehensive meta data (data about those data).

Sets of useful composite indicators will continue to be refined and populated, including for example the Health Poverty Index, Health Profiles, and new sets of indicators which consider other issues in detail, such as health protection or cancer.

Central population registers, such as the Patient Demographic Service, will be confidentially linked to key demographic descriptors (in addition to age and sex) such as deprivation category and ethnic group. Record linkage can then be used to enhance the monitoring of inequalities in access and outcome without the need for additional collection of these sensitive data items. Consideration will be given to how best to handle data on sexual orientation and level of personal disability to allow monitoring of inequality.

Prevalence models will be generated for the common health problems which commissioners need to address. These will allow the current situation in an area or group within the population to be evaluated against an expected level of need.

Informing Healthier Choices: Information and Intelligence for Healthy Populations

Information on the effectiveness of interventions will be integrated with other data to monitor and predict trajectories in health outcomes against realistic targets. This will show which interventions (in which populations) are required to achieve targets such as reduction of inequalities in life expectancy.

There will be a programme of active communication of health information and derived messages to local communities as part of the Department's social marketing approach. Social marketing activities will also generate useful data on population needs and preferences that can inform commissioning for health and well-being.

Stronger organisations

Organisations involved in collecting, managing and analysing information at regional and national level will work within a clear framework that defines their roles, provides a governance structure and secures their funding. They will work together to build and maintain appropriate systems, to monitor and improve the quality of the underlying data, and to support users.

The national screening programmes will be fully supported by national information systems.

Strategic Health Authorities will ensure that Primary Care Trusts are fit for purpose in relation to information and intelligence functions.

Communities of practice will be actively supported through integrated knowledge management resources which easily identify local sources of relevant experience and know-how.

Health information and intelligence portal and underlying systems

Problem-based health information and intelligence systems at national and local level will be designed around the needs of users. A suitable "front-end" or "desktop" will be developed that provides easy access to existing electronic resources, many of which are currently widely dispersed.

Underlying information systems will be developed in line with users' expressed requirements. New opportunities will be sought to present real-time data of sufficient scope and validity to be of real value. In some cases this will be from health-care IT systems managed by Connecting for Health but other data sets, including survey data, will also be used when appropriate.

Wherever possible, information from multiple sources will be linked either on an individual or area basis. This linkage will take place in a limited number of secure confidential systems. These systems will then report suitably aggregated or anonymised results to users. This will reduce the need to disclose identifiable data but increase the value of individual data sets.

Output from population health information systems will be accessible to the public as well as to professionals in order that we can approach the "fully-engaged" scenario envisaged by Wanless.

A framework for using information and intelligence in practice

The following framework shows how the use of information is a continuum from data collection, through management and analysis, to interpretation, communication and action. Each stage requires careful design, adequate resources and quality assurance.

Data collection	<p>Data should be collected directly, for example in surveys, or (for activity data) as a by product of routine public (or private) sector activity.</p> <p>Data should be of known validity and completeness.</p> <p>Available data should cover the causes of health and illness including wider determinants as well as health outcomes, information on levels and quality of services provided and equality of access and outcome.</p> <p>The same data should not be collected twice for different purposes.</p>
Data management	<p>Data should be efficiently shared, collated, validated, linked, anonymised, and archived as appropriate using secure systems.</p> <p>Person-level data should be handled in such a way that the rights and interests of the individuals concerned are acknowledged and respected while striking a proportionate balance with the public benefit.</p>
Analysis	<p>The systems involved should allow a range of approaches to analysis, including:</p> <ul style="list-style-type: none"> • ad hoc, query-based analysis; • the regular production of specified indicators; • surveillance for unexpected trends and outcomes; • modelling of prevalence and health outcomes against targets; • data feeds for disease registers including cancer registries; • area based analyses from national to small-area with comparisons.
Interpretation in context	<p>The results of the analyses must be interpreted in the context of:</p> <ul style="list-style-type: none"> • statistical and methodological issues including data quality; • evidence from research; • experience of practice; • local knowledge.
Communication of messages	<p>The messages derived from the interpretation of the information and evidence must be communicated to relevant audiences using a range of media appropriate to the target audience or audiences.</p>

We will have delivered if ...

- Those working in information and intelligence in the NHS and in Local Government are well trained, with appropriate skills and are enjoying rewarding careers.
- Information about the population's health, inequalities in health and the wider determinants of health is being widely used by the public and professionals to improve health and well-being in England.
- NHS organisations responsible for commissioning for health and health-care consider themselves to be information led and knowledge driven organisations.

Benefits

- The strategy will provide more comparable information on levels of health in communities, trends over time and patterns within communities. This will be available in an accessible form alongside information on the major causes of ill health. Access to evidence of what can be done to help will also be easier.
- Better information on health needs and on the effectiveness of interventions should lead to more effective commissioning of services for health and well-being, and better value for money in the procurement of public services aimed at tackling the causes of ill health.
- The strategy provides a framework for identifying new opportunities for information collection and analysis that will enhance and refine our knowledge of inequalities in health and provide a mechanism for closer monitoring of progress in tackling them.
- The development of automated linked data systems, including data from primary care, will enhance surveillance of a wide variety of health threats while protecting individuals' confidentiality.
- Better use of existing data, confidential sharing of data between organisations, and centralisation of some systems should reduce the burden of information collection on care services.
- Access to good quality data and knowledge will support more effective and efficient ways of working, improved sharing of expertise and best practice, leading to better professional development and higher staff morale.
- Information and messages communicated to the public will help inform their decisions and choices about their own health and well-being and will help realise "the public's priorities" as defined in *Our health, our care, our say*. Public awareness and understanding of population health issues will be greater. Public action and support for health improvement initiatives is likely to increase.

Informing Healthier Choices: Information and Intelligence for Healthy Populations

- More strategic decisions will be made on the basis of a common understanding of health priorities, the impact of public and private sector programmes on health, and the likely value for money of efforts to improve health.
- Co-ordinated action across agencies will be more likely and will be more effective, because all agencies will have shared knowledge of the health challenges in their local communities.

Background

“Good, relevant, timely information is needed to identify health problems early, to help decide what to do, how to do it and to track progress.”

Choosing Health, 2004

Cholera epidemics in the eighteenth century only started to come under control when patterns of infection were shown to relate to supply of contaminated drinking water. Today we face different health challenges, many of which are caused by unhealthy lifestyle choices and social inequalities. Good information and intelligence will be as important now as we know they were in the past in taking effective action to improve health.

Government can address ill health, and inequalities in health, by allowing everyone the opportunity to make healthier decisions about their own lives. It is also sometimes possible to improve social and environmental conditions directly, for example by introducing a ban on smoking in enclosed public places. This combined approach was set out in *Choosing Health* and has been reinforced recently in *Health Challenge England – next steps for Choosing Health*.

The *Choosing Health Implementation Plan* included measures to improve the availability and use of good quality relevant information and evidence. One of these was the development of a comprehensive health information and intelligence strategy.

Lessons from the second Wanless report

In his second report, *Securing Good Health for the Whole Population*, Wanless concluded that good information is needed:

- to identify important health problems early;
- to make the case for change and investment.

If the public are to engage in a dialogue on health, people need access to meaningful information about local health issues. This basic knowledge allows them to express their preferences from an informed position.

Wanless also believed that better information was needed to monitor the progress being made against national and local objectives by responsible authorities.

“Objectives to improve health outcomes and tackle key risk factors, such as smoking and obesity, need to be given equal weight in the NHS performance management and inspection systems to waiting times. These need to impact both on Primary Care Trust managers and, through the new opportunities created by PMS and the GMS contract, on front line professionals... The Department of Health should reinforce the role of SHAs in relation to the performance management of the public health function within PCTs,” ...
Securing Good Health for the Whole Population, 2004

Drivers for change and improvement

- The *Choosing Health* White Paper itself has focussed attention on health improvement issues across Government and between agencies locally.
- Policy guidance on *Commissioning a Patient Led NHS* placed considerable emphasis on the use of population data to inform choices as does the general programme for reform of the NHS set out in *Health reform in England: update and next steps*.
- The document *Health reform in England: update and commissioning framework* stressed the importance of population-based information (including financial information) to guide commissioning for health and well-being.
- The draft *Commissioning Framework for Health and Well-being*, published for consultation in March 2007, emphasises the need for information and evidence to support Joint Strategic Needs Assessments. It also confirms our view that effective decision making depends on the sharing and use of relevant information across agencies.

“Good population-needs information from general practices, local authorities and public health data will enable services to be targeted at very specific local needs at neighbourhood level and be sensitive to the needs of excluded and disadvantaged groups.”

Commissioning Framework, July 2006

- The White Paper entitled *Our health, our care, our say* has emphasised the need for better, more accessible information available to the public. It also called for a stronger, better defined role for Directors of Public Health in their work with Local Authority Overview and Scrutiny Committees and in contributing to joint reviews of the health and well-being of their populations. The White Paper emphasises the need for better information and intelligence sharing between Primary Care Trusts and Local Authorities in order to support the commissioning process including joint commissioning.
- Policy developments since the publication in 2002 of *Delivering 21st Century IT Support for the NHS* mean that there are a number of key areas of the Department’s business where better information support is needed. These include developments in commissioning, payment by results, patient choice, and the commitment to an 18 week target for time from referral to treatment.
- The Race Relations Act and the Disability Discrimination Act 2005, require public bodies to positively promote race equality and disability equality. Similar gender equality legislation came into force in April 2007, and it is likely that provisions covering sexual orientation, religion and belief, and age will follow. There is therefore an increasing legal as well as moral and social imperative to implement information systems that are adequate to support

action to tackle inequalities. This applies not only to inequality due to socioeconomic factors, but also in relation to age, disability, gender, race, religion or belief, or sexual orientation. Equality Impact Assessments will be required for many new initiatives.

- There is a continuing need for information and intelligence in the form of surveillance systems to ensure patient and public safety, including responding to emergencies.
- Further development of the Government's social marketing activities requires reliable information on the likely benefits of changes in lifestyle.

Helpful developments in other areas

- There is cross Government support for data-sharing between public agencies with appropriate safeguards to protect privacy. The potential benefits of such sharing are highlighted in the Council for Science and Technology report *Better use of Personal Information: opportunities and risks*. A Cabinet Committee on data-sharing has been established and the Office of the Information Commissioner is preparing guidance on data-sharing for public services.
- The need to strengthen the evidence base in public health is being addressed by the UK Clinical Research Collaboration, which is developing a comprehensive public health research strategy including funding for Public Health Research Centres for Excellence.
- The new NHS Research and Development strategy, *Best Research for Best Health*, confirms the Department of Health's commitment to using the new NHS IT system to support research. A joint advisory group has been set up by Connecting for Health and the UK Clinical Research Collaboration to ensure that this is possible.
- The Service Implementation Directorate of Connecting for Health published in March 2006 an updated strategy for the National Knowledge Service entitled *Best Current Evidence*. The emphasis of this strategy is on knowledge to support clinical decision making but the principles also apply to efforts to improve the health of whole populations.

Annex A: Delivering the vision – how do we get there?

Current plans for delivering the vision set out in *Informing Healthier Choices* are summarised below.

Box 1. Workforce capacity and capability

- Set up and maintain a workforce development strategy and steering group for information and intelligence
- Develop career frameworks and model job descriptions for information and intelligence roles in different organisations
- Identify the training required for each level of staff to ensure competence at that level.
- Identify, collate and make available existing curricula and training courses in health information and intelligence
- Commission new courses to fill gaps
- Develop on-line training resources
- Strengthen existing regional information analysts forums as a means of continuing consultation

Box 2. Improved data and information provision

- Collect and collate data on height & weight of children in England
- Extract, collate and make available record level GP risk factor data nationally
- Improve the quality & completeness of indicators of inequality including data on ethnicity, disability and sexual orientation
- Identify new data collection opportunities for: mental health; drug misuse, sexual health, ethnicity and diversity
- Produce Health Profiles annually for all Local Authorities and for England
- Develop and make available prevalence models for coronary heart disease, hypertension chronic respiratory disease, and other long term conditions
- Implement a social marketing communication plan based on messages in Health Profiles
- Support performance management of Public Service Agreement and other public health targets
- Undertake a scoping exercise on disease registers

Box 3. Stronger organisations

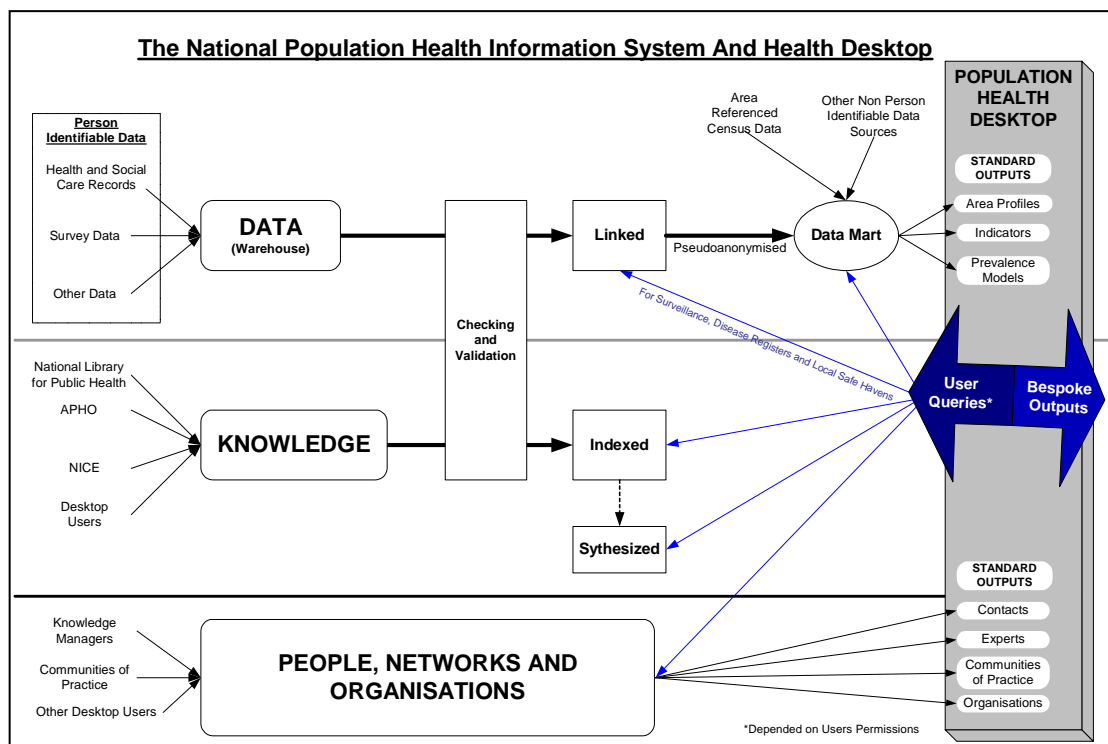
- Ensure that Primary Care Trusts and Local Authority partners have access to adequate information staff and other health information resources
- Develop guidance and tools to support the information and intelligence needs of commissioning
- Review and re-procure the National Clinical and Health Outcomes Knowledge Base

Informing Healthier Choices: Information and Intelligence for Healthy Populations

- Strengthen the infrastructure supporting the Association of Public Health Observatories and renew the agreement specifying the role of Public Health Observatories
- Integrate and harmonise regional information functions including Cancer Intelligence Units, Public Health Observatories, regional Health Protection Agency Units and Government Offices for Regions information functions
- Develop the population health role of NICE

Box 4. Health information and intelligence portal and underlying systems

- Create an accessible population health web portal (“desktop”)for professional and public users to existing data and knowledge sources (see below)
- Develop information systems to extend the functions of the portal to meet requirements.
- Produce toolkits to support data sharing and linkage at local level.
- Produce guidance on data-sharing based on real examples and protocols
- Commission a National Library for Public Health and develop knowledge management systems to support communities of practice in public health and commissioning for health
- Set up a user group for the Secondary Uses Service (SUS) to elaborate population health requirements for SUS and supporting systems
- Work with UK Clinical Research Collaboration and Connecting for Health on the proposed enhanced Secondary Uses Service project



Annex B: Equality impact assessment

It is important that strategies such as this one promote equality and address inequality wherever possible. After assessing the likely impact of this strategy we believe:

- Most of the measures proposed in this strategy will benefit all groups equally.
- The strategy recognises the need to collect much better information on ethnicity, disability and sexual orientation in order to document any inequalities in access to services or health outcomes and to monitor changes.
- The detailed plans for collecting and using this sensitive information have not yet been determined but the process will include equity impact assessments where appropriate.
- Where the outputs of the strategy are intended for a general audience it will be important to ensure that access to those outputs is non-discriminatory with respect to ethnic origin or disability.