

An exemplar operational risk management strategy

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Foreword

This risk exemplar builds on the base provided by the guidance in the document 'Risk management in the NHS' to provide an operational risk management strategy for trusts. It describes how to identify and quantify risks of all types, clinical and non-clinical, and assesses priorities for action. It also emphasises the need for monitoring and auditing to ensure cost-effective solutions.

On behalf of the Institute of Risk Management, I am pleased to recommend this contribution to the developing role of risk management in the NHS.

Andrew L S Mills FCII, FIRM
Governor
Chair of Education and Training Committee
The Institute of Risk Management

Executive summary

There are significant opportunities for achieving improved quality of care, major costs savings, improved public perception and a reduction in clinical negligence claims by having the correct risk management strategy and implementing “best risk management practice” throughout NHS trusts.

A sound risk management strategy is vital if trust chief executives/ boards are to reap the full benefits of risk management and avoid the dangers of operational risks. This exemplar provides an example of how all trust risks can be integrated, and a trust’s operational risk management strategy produced.

The key elements of the operational risk management strategy are:

- a. the preparation of a risk management plan which has identified:
 - (i) the trust’s existing and future risks;
 - (ii) risk reduction measures – current and future options;
 - (iii) a system for monitoring effectiveness and performance;
 - (iv) plans to improve key risk indicators;
- b. the development of the strategy by the process of:
 - (i) risk analysis;
 - (ii) setting risk targets;
 - (iii) developing risk control options;
 - (iv) evaluating risk control strategies.

By drawing up a risk management strategy and implementing best risk management practice, the following goals can be achieved:

- enhanced quality of care;
- protection against criminal prosecution;
- financial savings from reduced risk, which includes reduction in claims against the trust and optimisation of insurance premium expenditure;
- cost-efficient risk reduction;
- improved public image;
- improved staff morale and productivity.

The process provides, in addition to the benefits outlined, a basis for systematic decision-making and a clear hierarchy of risks.

This document outlines the reasons for the necessity of a sound operational risk management strategy; it gives an overview of the objectives of a risk strategy and explains the stages in the process. The appendices contain an exemplar strategy compiled for a hypothetical trust, and an introduction to the principles and application of frequency/consequence curves, which are part of the risk analysis process.

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1.0 Introduction

1.1 An understanding of the risks that face NHS trusts is crucial to the delivery of healthcare services into the 21st century.

1.2 The development of technology, new drugs, changes in clinical practice, support services, supplies, public expectations and the need to ensure proper use of finite resources, are resulting in new and exciting changes within healthcare services. It is vital that the risks associated with these changes and the ongoing provision of healthcare are effectively managed.

1.3 A risk management strategy has a key role to play in providing the strategic context within which detailed capital and revenue investment plans and business cases can be developed. A risk management strategy will provide the framework in which new and sometimes radical investment proposals can be developed and evaluated. This should ensure that such investment is effective in delivering improved health outcomes.

1.4 Since the loss of Crown immunity between 1987 and 1991, trusts have been responsible for their own liabilities. In cases of non-compliance with statutory requirements, chief executives and managers can be criminally prosecuted and, if the offence is considered serious enough by the courts, a fine and/or imprisonment can be imposed. The number of statutory regulations that a trust must comply with is enormous, ranging from health and safety legislation and fire safety regulations to requirements for the safe storage and disposal of clinical waste. A risk management strategy is essential to place statutory compliance risks in an overall risk context.

1.5 NHS trusts are operating in an increasingly litigious society. Claims for clinical negligence and staff injury can run into hundreds of thousands or even millions of pounds, with potentially dire financial consequences for the trust concerned. Since 1 April 1995 trusts have been able to join the Clinical Negligence Scheme for Trusts (CNST), where contributions are pooled to cover expensive claims. Insurance should be seen as a last resort for risk transfer, after all other avenues have been explored. The management of such risks should still form an integral part of a trust risk strategy.

1.6 The effects of the NHS and Community Care Act 1990 mean that trusts must also respond to the demands of a new healthcare system. Trusts must make effective use of their limited resources if they are to be successful. Unmanaged risk costs unbudgeted money. Eliminating or reducing exposure to unidentified/unwanted/unacceptable risk, and making appropriate provision for those risks that remain, will ensure that the financial impact of purchaser decisions can be absorbed. The risk management strategy is crucial in dealing with low frequency/high consequence financial risks.

1.7 The risk management strategy should be reviewed regularly as part of the trust's business planning cycle. This will ensure that risks resulting from changes in the trust and its annual business plan are managed adequately.

2.0 Management overview

2.1 An operational risk management strategy can be defined as:

“ a plan for identifying, reducing and managing risk in an optimum way in relation to a trust’s service and business needs” .

2.2 The objective is to provide a concise document which clearly identifies the strategic-level changes that are needed to manage key risk indicators, thus enabling the trust’s board to monitor performance and so continue to deliver healthcare to the satisfaction of patients and purchasers.

2.3 The operational risk management strategy aims to describe in one document:

- a. the trust’s existing future risks:
 - (i) where they arise;
 - (ii) their location;
 - (iii) their causes;
 - (iv) their frequency;
 - (v) their consequences;
 - (vi) their risks;
- b. what risk reduction measures are in place (and options for improvement);
- c. how the remaining risks are dealt with;
- d. what the current level of performance of risk management is;
- e. plans which have been formulated to improve key risk indicators.

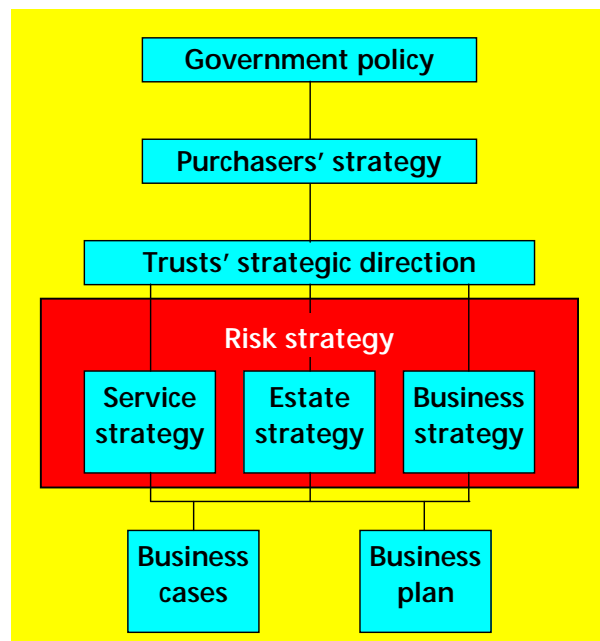
2.4 An operational risk management strategy is principally concerned with operational risks and the policies and procedures needed to manage risk, and so deliver service objectives from year to year. It should not be confused with the risk assessment required by the Capital Investment Manual for capital investment. Hence it does not need to describe the risks associated with proposed acquisitions and disposals, estate development control plans, estate rationalisation plans, estate investment programmes etc. However, there does need to be a clear consideration of operational risk in capital investment projects. Similarly, the risk strategy need not contain detailed policies and procedures for every aspect of the strategy, as these will be dynamic and change on a regular basis. *

2.5 A risk management strategy is one component of a trust’s overall operational management process. Together

with the service and business strategies it is a manifestation of the trust’s strategic direction.

2.6 The relationship between the risk management strategy and other strategic and operational documents is shown in Figure 1.

Figure 1 The relationship between the risk strategy and other strategic and operational documents



2.7 Risk strategies should be developed in an integrated way with the service and business strategies. Ideally, all three should be developed in a single multidisciplinary exercise using the risk management concepts described in ‘Risk management in the NHS’ (EL(93)111), NHS Executive, Department of Health 1993.

2.8 Whilst business planning in the NHS is rightly service-led, the risk implications must be properly evaluated annually. The overall aim is to develop plans that:

- a. meet the healthcare needs of the population;
- b. make the best use of available resources;

* For further guidance on the assessment and management of risk relating to capital investment, see:

‘Capital Investment Manual’, NHS Executive, HMSO, 1994.

‘Economic Appraisal in Central Government’, HM Treasury, 1997. (the Green Book)

‘Managing risk and contingency for works projects’ (CUP Guidance No. 41) HM Treasury, 1993.

- c. are technically achievable;
- d. are financially affordable;
- e. optimise the use of funds for the management of risk.

2.9 The benefits for a trust in having a formal risk strategy include:

- systematic decision-making;
- a clear hierarchy of risks;
- improved understanding of the nature of risks;
- management and staff ownership of risk issues;
- improved morale and productivity;
- maintaining a safe environment for patients and staff.

2.10 Good, comprehensive, multidisciplinary, strategic planning can avoid some of the problems encountered in the past that are associated with the management of risks in the NHS being fragmented, inconsistent or left to divine intervention. Savings released by good risk management can be redirected into patient care.

3.0 The process

3.1 The process followed for the development of a risk strategy has four discrete stages:

Stage 1: Risk analysis

Stage 2: Setting risk targets

Stage 3: Developing risk control options

Stage 4: Evaluating risk control strategies.

Stage 1 – Risk analysis

3.2 The initial stage of the process is aimed at addressing the question “What are the current and future risks?” It comprises a comprehensive analysis of the current risk position and performance of the trust in relation to the services it provides and the human resources and physical assets that it utilises. The key objective of this stage is to set a baseline for the development of risk reduction options.

3.3 One of the key factors in the strategic management of operational risks is their categorisation. Risk categories should be – amongst other things – specific, significant, consistent, measurable and comprehensive. Categories may be defined in any number of ways including by target, hazard, consequence, activity, department, safeguards and/or legislation etc.

Stage 2 – Setting risk targets

3.4 The second stage of the process is concerned with addressing the question “What do we want our levels of risk to be?” Its objective is to establish realistic targets for risk in terms of services and assets, taking into account the local and national pressures for risk reduction and resource availability. These pressures include:

- a. policies of the Department of Health and NHS Executive such as:
 - (i) ‘The Health of the Nation’;
 - (ii) ‘The Patient’s Charter’;
 - (iii) ‘Priorities and planning guidance for the NHS’;
 - (iv) ‘Choice and opportunity – primary care: the future’;
- b. changes in legislation and enforcement:
 - (i) new acts and regulations;
 - (ii) new European Union directives;
 - (iii) changes in enforcer or enforcement policy;

(iv) recent case histories;

c. changes in clinical practice:

- (i) increase in day cases and minimally invasive techniques;
- (ii) early discharge/shorter lengths of stay;
- (iii) more patients being treated at home;
- (iv) hospital outreach services;
- (v) home-based care;
- (vi) new drugs;
- (vii) new equipment and technology;

d. performance issues:

- (i) achieving NHS performance standards;
- (ii) resource availability;
- (iii) current strengths and weaknesses;
- (iv) improve public perception and image;

e. local organisation issues:

- (i) impact of GP fundholding;
- (ii) purchaser strategies;
- (iii) trust mergers and partnerships.

3.5 Setting risk targets is the most difficult stage of a strategic planning exercise, because it requires a trust to visualise future developments and the impact they will have upon the trust. It is therefore important for the trust to develop visions, however unclear the future may seem to be.

3.6 The approach adopted for setting targets usually has three main elements:

- a. individual discussions and interviews with key members of the trust’s management team and clinical staff, to identify their vision of the future for their own area of activity;
- b. a multidisciplinary interactive workshop, which includes as diverse a group of interested participants as possible. The workshop should address possibilities for the future in a global context and specifically discuss future performance targets. The workshop should allow existing performance and practices to be challenged and attempt to reach a consensus view on implementation and coordination of the risk management strategy across all disciplines;
- c. computer modelling, where changes in existing risk performance variables such as risk reduction claims experience, insurance premiums and excess, are fed

into a simple computer model which allows the effects of such changes to be examined. If there is not a comprehensive database containing loss information, this should be established and kept up to date. The lack of a comprehensive database, however, is not a barrier to this process.

Stage 3 – Developing risk control options

3.7 Having addressed the questions of “What are the current risks?” and “What do we want our risk levels to be?” this stage is concerned with the question “How do we get there?” It uses the information and the outputs of the two previous stages to develop realistic and feasible strategic options for the management of risk. It is important to stress that these options are not developed in a vacuum; they are informed and heavily influenced by the work of the two previous stages.

3.8 The strategic options for risk control usually embrace numerous risk reduction and risk transfer options. These can ultimately become trust policies or procedures, or be used to feed into a business case.

Stage 4 – Evaluating risk control strategies

3.9 Having developed a number of feasible strategic options in stage 3, stage 4 is concerned with evaluating the options and identifying the preferred one(s).

3.10 All options are evaluated in terms of financial and non-financial benefits.

3.11 A second interactive, multidisciplinary workshop is usually held to carry out the appraisal of options in terms of non-financial benefits. Established techniques such as ranking, weighting and scoring of options are used at the workshop to assist participants in the decision-making process.

3.12 Sensitivity analysis is also carried out. This involves considering the underlying assumptions which have been made, and examining how any change in these assumptions would impact on the preferred option(s).

Appendix 1 – An exemplar operational risk management strategy

This exemplar describes a typical operational risk management strategy for an NHS trust. The content of a risk strategy will vary according to the size and nature of the trust, its existing asset base, and its planned service and business strategies. Using hypothetical data, this exemplar has been developed for an acute trust, but the format and principles are appropriate for other types of trust such as community services, mental health and ambulance services.

ABC NHS Trust

Operational Risk Management Strategy

Date:

Issue:

1.0 Introduction

1.1 This operational risk management strategy describes the trust's existing risk profile and the changes that may affect it over the next decade. It is one component of the trust's overall vision of the future and, together with the trust's service and business strategies, it is a manifestation of the trust's strategic direction.

1.2 The strategy aims to describe in one document:

- a. the trust's existing and future risks, and an analysis of the current level of risk control;
- b. all the probable changes that may affect the level of risk for ABC NHS Trust over the next decade;
- c. a comprehensive risk control strategy including all risk reduction proposals for:
 - (i) clinical risks;
 - (ii) risks to patients, staff and visitors;
 - (iii) financial risks;
- d. plans for improvements in key risk indicators.

1.3 This risk strategy is principally concerned with the trust's operational activities and any major proposals for change over the next decade, to ensure that it can achieve its service objectives.

1.4 This risk strategy should not be confused with the numerous operational policies and procedures that are required on a day-to-day basis in order to operate and maintain trust activities such as clinical procedures, emergency planning procedures, the safety plan, the business plan etc. These are separate documents available from specific directorates and departments, which should be used to support and detail the risk strategy.

1.5 The overall aim of this document is to provide a concise, user-friendly working document that clearly identifies the changes to be made to the risk control strategy over the next few years. Additionally, it provides a series of targets in terms of key risk indicators, that will enable the trust to monitor progress towards the achievement of its objectives.

1.6 The risk strategy has been developed from a total business planning exercise in accordance with standard procedures. The exercise has addressed three fundamental questions:

Where are we now?

Where do we want to be?

How do we get there?

1.7 The starting point of the exercise was a detailed analysis of all the healthcare services provided by the trust, and the resources (finance, manpower and assets) used to provide these services. This was followed by the development of a number of options that would enable the trust to manage its risks whilst responding to changes in clinical practice, government policy, and local priorities and needs over the next few years. A comprehensive option appraisal exercise, involving the views of a wide range of experts, showed that one option was preferred. This option will deliver the benefits of risk control to ensure that the trust will be able to maintain and improve the already high-quality services it provides to patients, whilst at the same time improving efficiency and effectiveness to ensure good value for money. The implications of this option for the trust's operations are described in this operational risk management strategy.

2.0 The existing risks

2.1 The aim of this part of the risk strategy is to give a comprehensive but simple “picture” of the trust’s existing risks and risk control strategy.

2.2 The trust’s profile is as follows:

- The trust currently has a turnover of £27 million and is based on two sites – Hetheringley District General Hospital and Sidcupe Health Centre.
- The total existing use value is £30 million.
- The average number of daily beds is 250.
- The trust employs approximately 1000 people.
- The Hetheringley hospital undertakes 10,500 and 2250 ordinary acute and maternity admissions respectively and 5300 day cases per year. There are also 48,000 and 5200 out-patient attendances per year to acute and maternity respectively, and 21,000 admissions to accident and emergency (A&E).

2.3 A large part of the trust’s estate (51%) is over 40 years old, and this is reflected in the high level of statutory compliance backlog maintenance.

2.4 Financially, the trust is relatively small and serves a predominantly rural population. There are two much larger nearby trusts serving the much larger urban populations to the south and east of Hetheringley.

2.5 The trust has a well-organised risk management group that meets regularly, and there are policies and procedures in most departments covering the major risk areas. The risk management structure within the trust is, however, dispersed amongst various directorates: clinical under “Operations”; health and safety under “Human Resources”; business under “Business Development” etc.

2.6 The trust is a member of the Clinical Negligence Scheme for Trusts (CNST) and has just been assessed for accreditation to level 1 within the scheme. The current CNST premium is £25,000 per year, and this is expected to rise significantly over the next seven years. The level of excess is also £25,000. Employees’ liability insurance and third party insurance both have premiums of £25,000 per year and excesses of £50,000.

2.7 Site plans for each site are shown in Figures 2 and 3.

Analysis of existing risks

2.8 As part of the trust’s assessment of its current position, an analysis of its activities and risk history has been completed. This includes an analysis and interrogation of the trust’s databases and key managers, and covers the following aspects:

- the number and nature of clinical negligence claims and settlements;
- the number and type of accidents and incidents to patients, visitors and staff;
- the strategic position of the trust including demographic analyses, purchaser policies etc;
- the level of staff absences;
- the number and cost of losses to property;
- fines and penalties;
- adverse public relations image.

2.9 The analysis of the existing risks was carried out in accordance with ‘Risk management in the NHS’ (EL(93)111), NHS Executive, 1993. The risks have been collated into the categories listed in paragraph 2.11.

2.10 Categorisation is one of the key factors in the strategic management of operational risks. Risk categories should be – amongst other things – specific, significant, consistent, measurable and comprehensive. Categories may be defined in any number of ways, including by target, hazard, consequence, activity, department, safeguards and/or legislation etc.

2.11 To meet these objectives, the following risk categories have been adopted:

- 1 Direct patient
 - 1.1 Accident and Emergency
 - 1.2 Anaesthetics and surgery
 - 1.3 Obstetrics and gynaecology
 - 1.4 Paediatrics and neonatal care
 - 1.5 Medicine
 - 1.6 Mental health
 - 1.7 Primary healthcare
 - 1.8 Other clinical activities
- 2 User
 - 2.1 Health and safety
 - 2.2 Security

BLOCK REFERENCE KEY:

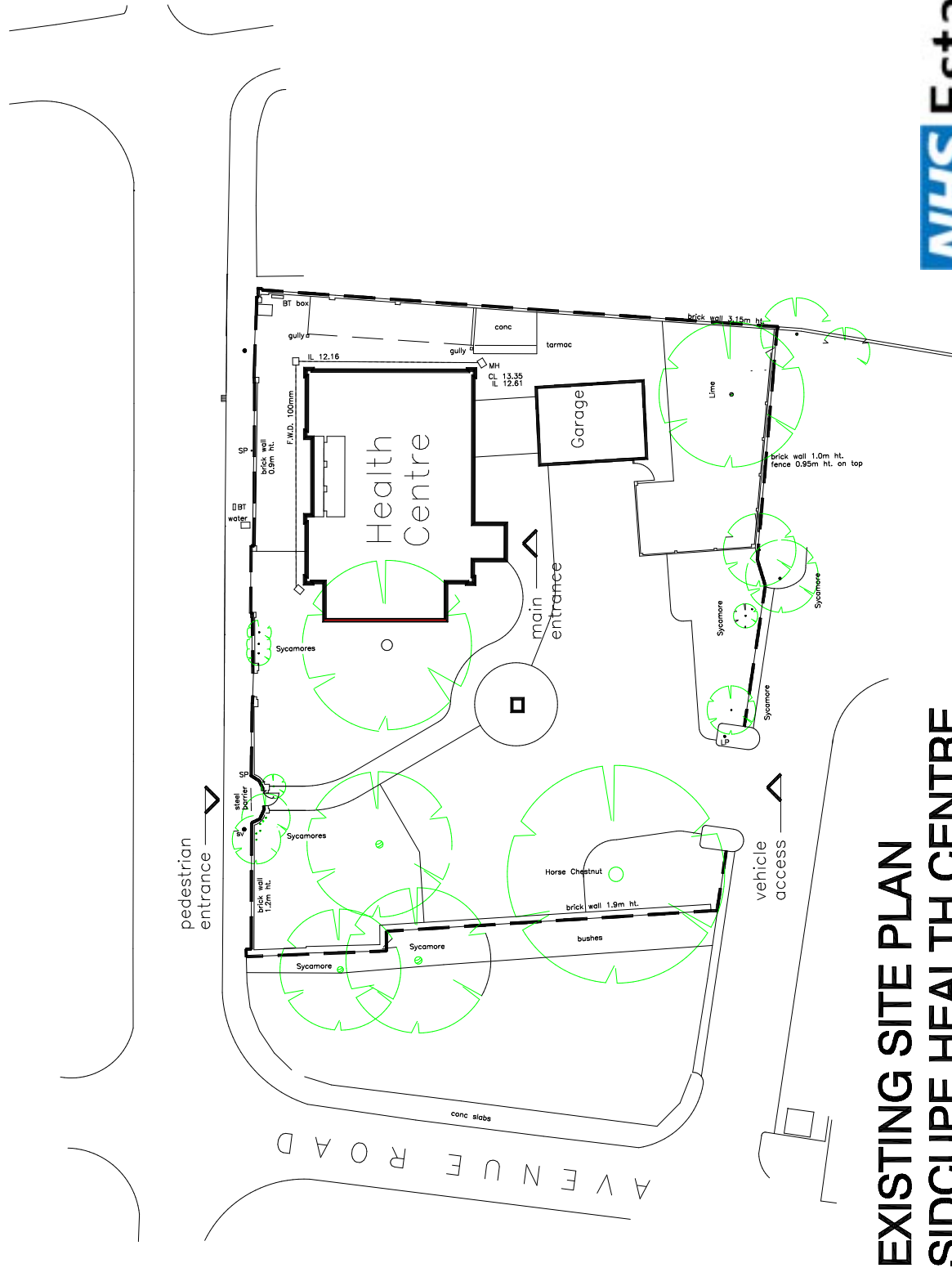
- | | |
|------------------------|--------------------------|
| 1. boilerhouse | 46. nurses home |
| 2. incinerator | 47. store |
| 3. store 3 | 48. plantroom ducts |
| 4. store 2 | 49. operating theatre |
| 5. store 1 | 50. sterile services |
| 6. estates offices | 51. accident & emergency |
| 7. mortuary | 52. x-ray |
| 8. linen | 53. icu |
| 9. maternity gf. | 54. day unit |
| 10. maternity ff. | 55. ward 5 |
| 11. maternity 2nd | 56. ward 6 |
| 12. maternity 3rd | 57. rehabilitation |
| 13. midwifery school | 58. pathology |
| 14. stores | 59. medical physics |
| 15. main kitchen | 60. pharmacy |
| 16. dining room | 61. outpatients |
| 17. jackson ward | 62. opd boilerhouse |
| 18. library | 63. fracture clinic |
| 19. ward 3 | 64. gas meter |
| 20. anaesthetics | 65. garages |
| 21. ward 2 | 66. houses 1-7 |
| 22. computer centre | 67. d-residence |
| 23. ward 1 | 68. social club |
| 24. switch room | 69. plantroom |
| 25. ward 8 | 70. c-residence |
| 26. boardroom | 71. gardeners |
| 27. ward 10 | 72. gardeners |
| 28. ward 11 | 73. houses 6-9 |
| 29. admin/personnel | 74. b-residence |
| 30. old hospital | 75. e-residence |
| 31. diabetics centre | 76. garages |
| 34. finance department | 77. a-residence |
| 38. ward 7 | 78. plantroom |
| 39. day unit | 79. education centre |
| 40. gen hv intake | 80. gas meter |
| 43. safe haven | 81. radio room |
| 44. patient info | 82. chapel |
| 45. conference | 83. |



BLOCK LAYOUT PLAN HETHERINGLEY DISTRICT GENERAL HOSPITAL



Figure 2



**EXISTING SITE PLAN
SIDCUPE HEALTH CENTRE**

Figure 3

- 2.3 Fire
- 2.4 Buildings, plant and equipment
- 2.5 Infection
- 2.6 Environment

3 Financial.

2.12 The categories and sub-categories can be further defined. For example, sub-category 2.1 “Health and safety” includes all issues from asbestos and legionella to radiation and work equipment. Sub-category 2.2 “Security” includes personal safety, violence, theft, vandalism, fraud, corruption etc. Sub-category 2.3 “Fire” includes life, property and business protection issues. Similarly, sub-category 2.4 “Buildings, plant and equipment” includes reliability, availability and performance and sub-category 2.5 “Infection” includes food, waste and human related issues. Finally, category 3 “Financial” includes factors such as service profile, volume, demographic changes, funding, image etc.

2.13 Results from the analysis are presented in a series of summarised frequency/consequence (FC) curves (see paragraphs 2.14 to 2.21 and Appendix 2).

Frequency/consequence curves

2.14 Frequency/consequence (FC) curves and their analysis are not a precise science. The data serves to represent a large volume of risk information in an easily digestible form. Calculations to more than one or two significant figures are meaningless. In most cases, qualitative assumptions and processes are acceptable.

2.15 FC curves illustrate risk level by plotting an event’s frequency against its consequence. On the example shown in Figure 4, events with a consequence of £1000 or more occur approximately twice a year; events with a consequence of £10,000 or more occur 0.5 times per year; events with a consequence of £100,000 or more occur 0.2 times per year.

2.16 The curve shows that some risks have a high frequency and low consequence, and others have a low frequency and high consequence. The frequency and consequence need to be combined in order to determine the overall risk.

2.17 On the sample chart in Figure 4 the lines sloping down at 45° represent points of equal overall risk. Events of high frequency and low consequence can have the same level of overall risk as events of low frequency and high consequence. As illustrated, an event which happens

100 times per year, with an associated cost of £100 (that is, 100 per year x £100 = £10,000 per year), represents the same overall risk as an event that happens 0.1 times per year with an associated cost of £100,000 (that is, 0.1 per year x £100,000 = £10,000 per year).

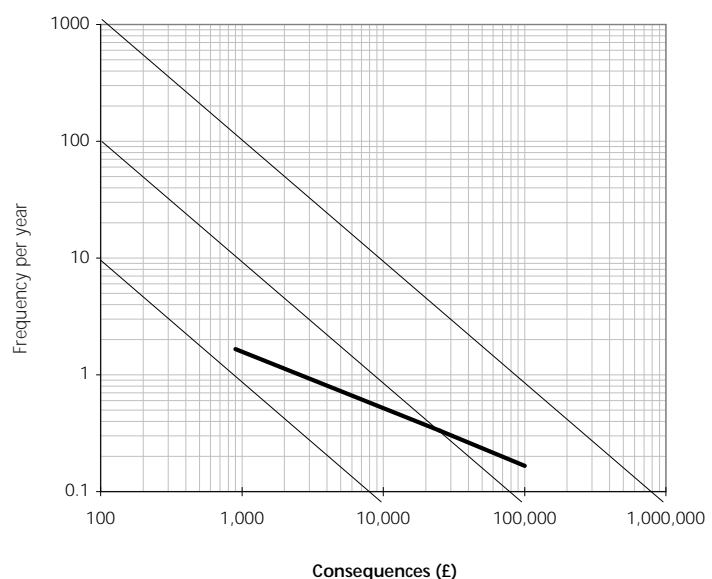
2.18 The further from the bottom left-hand corner of the graph that a line of equal risk is drawn, the greater the level of overall risk it represents. For the lines shown on the graph, the level of risk increases by a factor of 10 for each line when moving from the bottom left to top right of the chart.

2.19 Each FC curve can be described by a characteristic frequency, consequence and risk. The dominant component of the characteristic risk is indicated by the point at which the curve meets the most significant line of equal risk. In Figure 4, this is at the extreme right-hand point of the curve: Frequency = 0.2 per year, Consequence = £100,000; Risk = 0.2 per year x £100,000 = £20,000 per year. A qualitative process takes account of the other risks within the spectrum of the curve and results in a characteristic frequency, consequence and risk of 0.3 per year, £100,000 and £30,000 per year respectively.

2.20 In the interests of clarity, this risk strategy contains qualitative representations of the true FC curve. Appendix 2 describes the concept and use of frequency/consequence curves in more detail.

2.21 The main features of the assessment system used in the analysis are described in paragraphs 2.22 to 2.40.

Figure 4 Sample frequency/consequence curve



The assessment system

General process

2.22 The aim of the process is to present the myriad of risk information in a simple, consistent and useable way, whilst highlighting the key factors and not allowing minor gaps or uncertainties in the data to undermine the process. It is essential to bear in mind the strategic nature of the process and that risk assessment is not an exact science – data accurate to the nearest £100 is clearly not necessary when considering the order of magnitude of the trust's strategic operational risks.

2.23 The data required for each category/sub-category are the frequency, consequence, degree of control and which party will bear the risk(s).

Frequency and consequence

2.24 The frequencies (per year) and consequences (£k) of undesirable events in each of the categories should be assessed in broad terms and then combined to give the level of risk. Most categories/sub-categories have within them a range of frequencies and consequences. Therefore, the level of risk should be expressed using a characteristic frequency and consequence. Full, comprehensive and validated databases are the ideal source of such information. The possibility of an unidentified risk should not be overlooked. Failing that, recorded evidence, backed up by interviews and national statistics, is the best available and most usual source of information.

Degree of control

2.25 The degree of control represents the extent to which the trust can reduce the level of risk. For example, if most of the factors affecting prevention of a hazard are within the trust's control, that risk is highly controllable. Manual handling could be considered an example of highly controllable risk, although any activity requiring human input cannot be regarded as fully controllable. If most of the factors affecting the prevention of a hazard are outside the trust's direct control, that risk is of low controllability. There should be very few (if any) risks of low controllability, and these should remain in the realm of the contingency and civil defence plan. There is an intermediate level: if many of the factors affecting the prevention of the hazard are outside the trust's direct control, but the trust still has some influence, that risk is moderately controllable. Security could be considered as an example of a moderately controllable risk.

Party to bear

2.26 The party to bear the risk represents the party on whom most of the consequences will impact. Most risks are shared to a greater or lesser extent between the trust, insurance company and others (such as the purchaser, GPs, government etc). The "party to bear" factor is used to describe where the major financial liabilities lie, and in what proportion. In the example given, the excess is £25,000 and the trust also pays 20% of the value of a claim between £25,000 and £250,000. Over the risk profile of this sub-category risk, this means that £15,000 (that is, (2 per year x £1000) + (0.5 per year x £10,000) + 0.2 per year x (£25,000 + ((£100,000 – £25,000) x 0.2))) of the total £30,000 per year risk is carried by the trust, with the other £15,000 per year being met by the "insurer".

2.27 Data is presented in financial terms for the purposes of strategic comparison of very different types of risk. However, it must be recognised that the aspects of risk concerned with moral and/or personal criminal liability need to be considered qualitatively in parallel.

2.28 All the data collected and/or generated has been stored on a database. Where the data permits, frequency/consequence curves have been prepared. These can then be combined with other data to produce frequency/consequence curves for categories and ultimately the trust as a whole.

Categories of risk

Direct patient

2.29 The category of direct patient care is broken down into the main clinical specialities as listed in paragraph 2.11. Although adverse events can occur at any stage of any treatment process, the sub-categories 1.1 to 1.5 represent the areas that historically produce the highest clinical risk. Sub-categories 1.6 to 1.8 represent catch-alls so that the full breadth of trust clinical activities can be represented. Account should be taken of indirect costs, including overtime, agency staff, patient extended stay in hospital etc.

User

2.30 The category of the user brings together all the general hazards that could impact on patients, staff and/or visitors. This category is further broken down into sub-categories per paragraph 2.11, and some of the sub-categories are further defined to clarify where certain types of risk should be allocated. In allocating risks, there may still be areas of ambiguity where judgement is needed. For example, risks due to the manual handling of patients could be placed in the direct patient sub-categories or the user/health and safety sub-category. This

could be resolved by placing clinical negligence claims for injury to patients in the former, whilst placing the costs due to manual handling injuries to staff or patients in the latter. There may be other situations that are less obvious where judgement is needed.

Financial

2.31 The financial category brings together all the risks that could affect trust turnover and/or viability. This category is further defined, and an assessment of the risks can be made by considering each of the factors in turn against the financial risk profile for trusts in England and Wales. Other transient factors should also be considered, for example the future impact of government policy on issues such as trust mergers.

Costs

2.32 All consequences costs are at 1997 levels and are estimates of the actual or potential impact of the various types of risk on the trust's finances. All costs are realistic and take into account any secondary consequential work, including an allowance for the provision of decanting facilities.

Risks and consequences

Direct patient

2.33 The risks associated with direct patient care are shown in Figure 5. The left-hand side of the curve represents ten or so settled claims per year of £1000 or more from A&E, and the right-hand part of the curve represents the settled claim about every three years for £1 million or more from obstetrics and gynaecology. All the other clinical specialities are clustered about the £20,000 to £30,000 settled claim, and are led by surgery and anaesthetics at about six settled claims per year.

User

2.34 The risks to users (patients, visitors and staff) are shown in Figure 6. There is a wide range of both frequencies and consequences, which might be expected from the disparate nature of the hazards included in this

category. The high frequency/low consequence (upper left) part of the curve is dominated by small losses owing to health and safety, security and buildings, plant and equipment. The low frequency/high consequence (lower right) part of the curve is dominated by infection and fire. The three dominant peaks on the curve around the moderate consequences are due to security and infection, security and health and safety, and health and safety alone, in order of increasing consequence.

Financial

2.35 The financial risks of the trust are shown in Figure 7. The higher frequency/lower consequence part of the curve dominates and reflects perturbations in volume, purchasing policy or the influence of the adjacent trusts. The middle part of the curve reflects the potential closure of departments (A&E in particular). The lower frequency/higher consequence part of the curve reflects the potential for merger with one of the adjacent urban trusts.

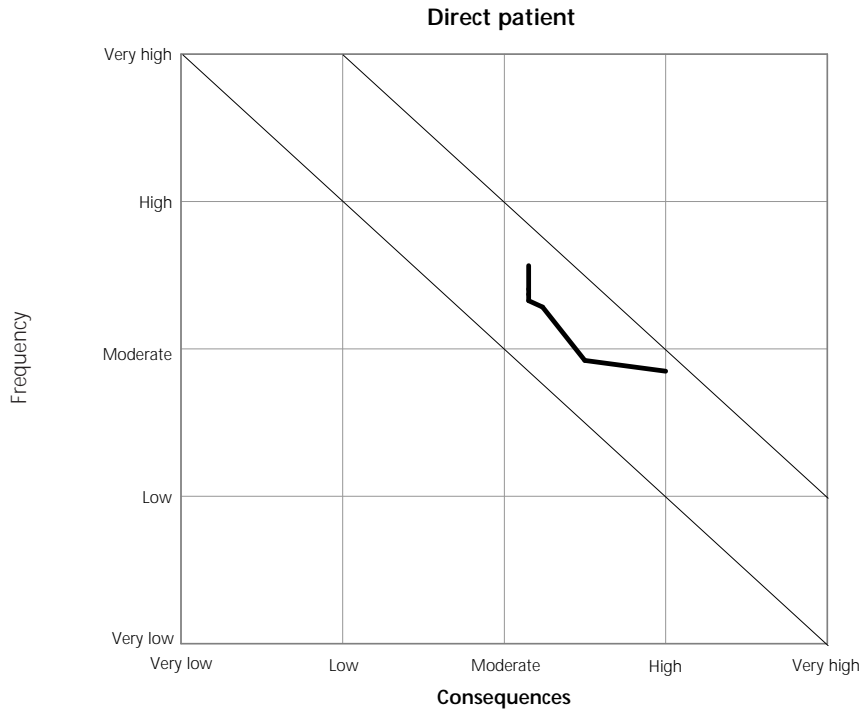
Trust total

2.36 The combined total risks of the trust are shown in Figure 8. This reveals that the trust carries a wide spectrum of risks lying between the £10,000 per year and £100,000 per year risk lines. For a trust of this size, risks greater than £300,000 per year would be intolerable, and less than £300 would be negligible (see Appendix 2). Therefore, the overall levels of risk are not intolerable but neither are they negligible.

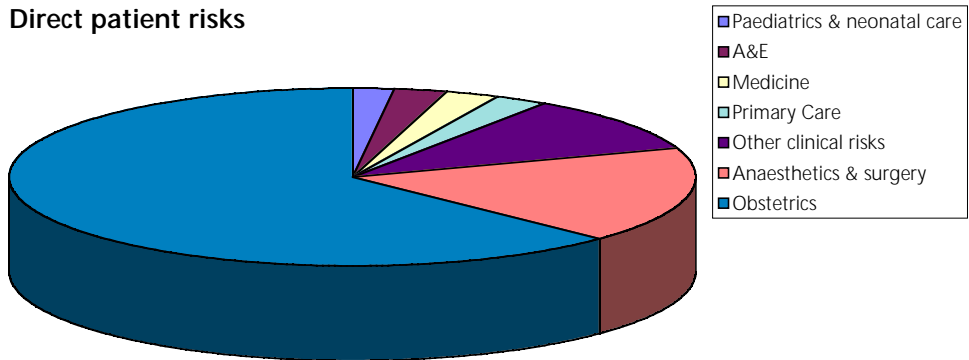
Risk breakdown

2.37 The frequency/consequence graphs shown in Figures 5 to 8 indicate the current position of trust risk levels. However, it should be recognised that not all the risk is carried by the trust and not all the risk factors are under the direct control of the trust. The tables below show the breakdowns of risk in terms of category and party to bear, category and degree of control, and degree of control and party to bear.

Figure 5 Risks associated with direct patient care



Direct patient risks



Direct patient consequences

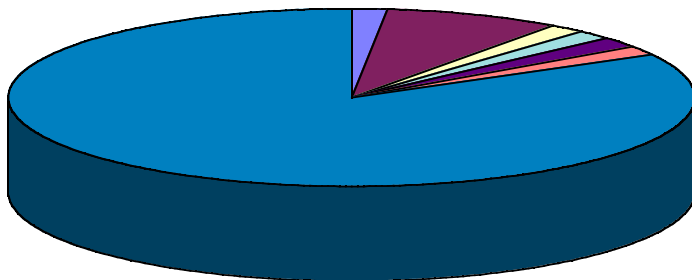
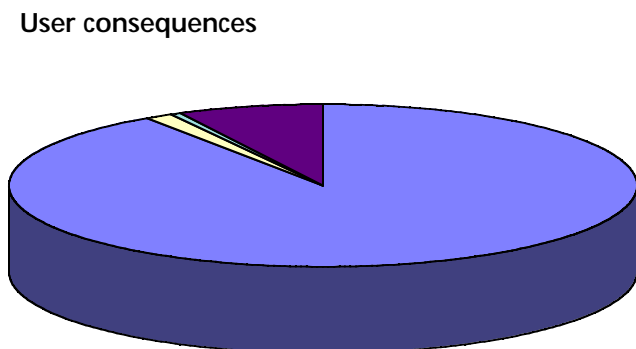
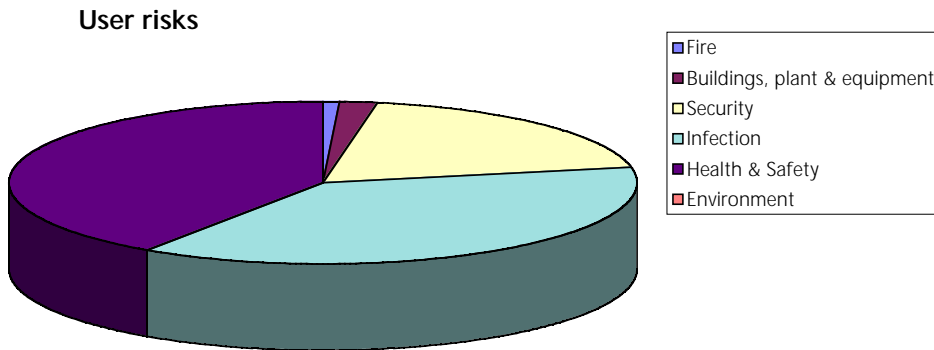
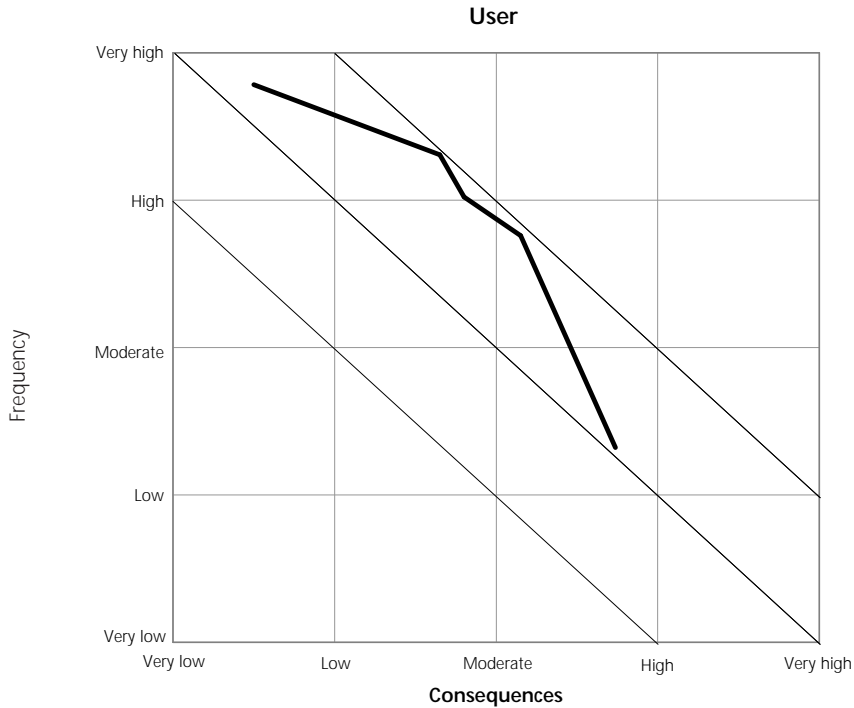
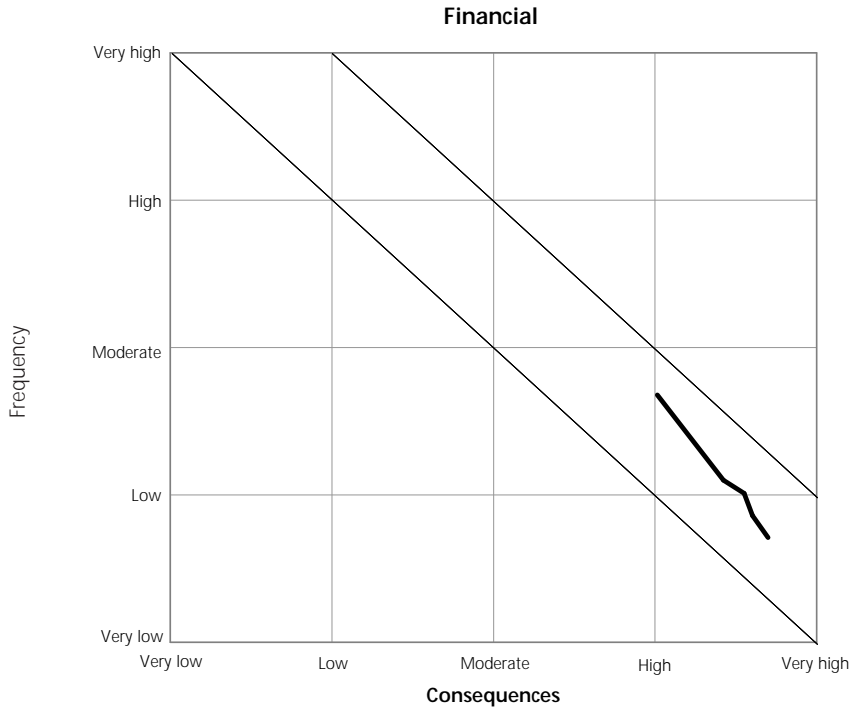


Figure 6 Risks to users (patients, visitors and staff)



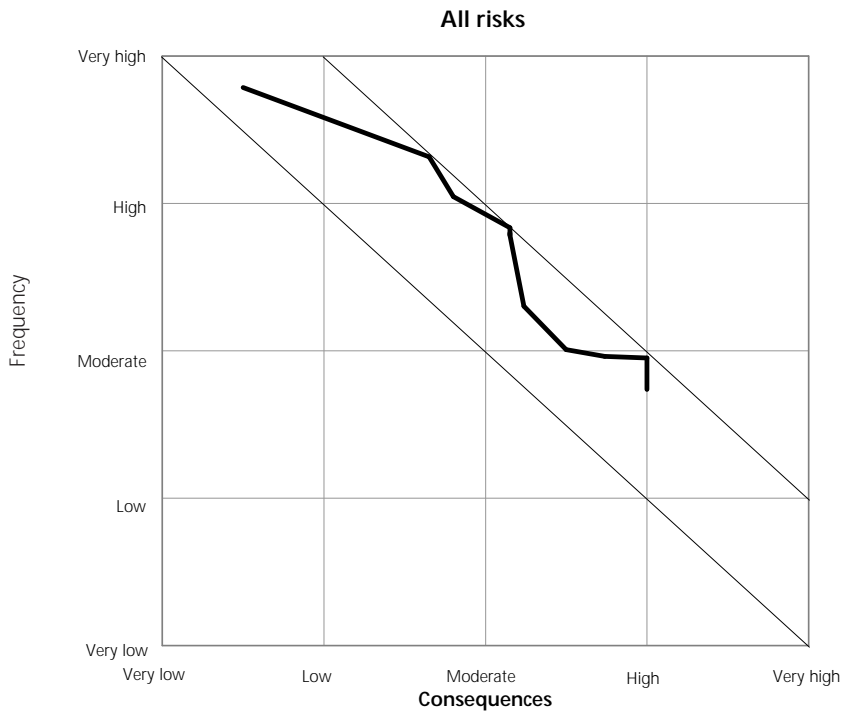
The risks to users (patients, visitors and staff) are shown in Figure 6. There is a wide range of both frequencies and consequences, which might be expected from the disparate nature of the hazards included in this category. The high frequency/low consequence (upper left) part of the curve is dominated by small losses owing to health and safety, security and buildings, plant and equipment. The low frequency/high consequence (lower right) part of the curve is dominated by infection and fire. The three dominant peaks on the curve around the moderate consequences are due to security and infection, security and health and safety, and health and safety alone, in order of increasing consequence.
(repeat of paragraph 2.34 for clarity)

Figure 7 Financial risks



The financial risks of the trust are shown in Figure 7. The higher frequency/lower consequence part of the curve dominates and reflects perturbations in volume, purchasing policy or the influence of the adjacent trusts. The middle part of the curve reflects the potential closure of departments (A&E in particular). The lower frequency/higher consequence part of the curve reflects the potential for merger with one of the adjacent urban trusts. *(repeat of paragraph 2.35 for clarity)*

Figure 8 Combined total risks



The combined total risks of the trust are shown in Figure 8. This reveals that the trust carries a wide spectrum of risks lying between the £10,000 per year and £100,000 per year risk lines. For a trust of this size, risks greater than £300,000 per year would be intolerable, and less than £300 would be negligible (see Appendix 2). Therefore, the overall levels of risk are not intolerable but neither are they negligible. *(repeat of paragraph 2.36 for clarity)*

Table 1 Risk category against party to bear

Category	Total Risk	Trust	Insurance	Other
Direct patient	796.0	293.5	502.5	0.0
User	1624.2	1555.1	12.1	57.0
Financial	330.0	247.5	0.0	82.5
Total	2750.2	2096.1	514.6	139.5

2.38 Table 1 shows that most of the total risk is in the user category (59%) and that most of these costs are carried by the trust (96% of user category).

Table 2 Degree of control against party to bear

Degree of Control	Total Risk	Trust	Insurance	Other
High	1470.2	966.6	503.6	0.0
Moderate	1280.0	1129.5	11.0	139.5
Low	0.0	0.0	0.0	0.0

Table 2 shows that the trust has a high degree of control over half the risk, and a moderate degree of control over the other half of the risk. The balance between the high level of risk transfer to insurers for high degree of control risks (503.6 = 34%) and the low level of transfer to insurers of moderate degree of control risks (11.0 = 1%) should be investigated. Investigation should include a verification that the process of categorising the degree of control is adequate.

Table 3 Risk category against degree of control

Category	Degree of Control		
	High	Moderate	Low
Direct patient	796.0	0.0	0.0
User	674.2	950.0	0.0
Financial	0.0	330.0	0.0

Table 3 shows that half of total risks (53%) lie in the high degree of control direct patient and user categories. Most of the other half (35%) falls into the moderate degree of control/user category.

Performance analysis

2.39 Table 4 shows the range of key risk indicators for the trust compared with other trusts. The indicator for the user category is calculated by dividing the total user risk by the number of staff and patients within the trust on any day. The business indicator is calculated by dividing the risks for the business category by the trust's total annual turnover. In the direct patient category the indicator is calculated by dividing the risk by the number of patients treated annually in terms of finished consultant episodes. For added relevance, the direct patient risk is apportioned according to specialty sector and divided by the finished consultant episodes (fce).

Category	PI	Trust performance	Average	Benchmark group ¹ Upper 20 percentile	Upper 10 percentile
Direct patient	$\frac{\text{No of losses (£)}}{\text{(fce)}}$				
acute		15.7	14.8	10.7	8.5
care of the elderly			16.4	11.8	9.4
mental health			14.9	10.7	8.5
learning disabilities			7.6	5.5	4.4
maternal and child		220	178	128	102
User ²	$\frac{\text{losses (£)}}{\text{staff + patients}}$	1050	965	695	553
Financial	$\frac{\text{losses (£)}}{\text{turnover (£k)}}$	11.1	4.0	2.9	2.3

Notes:

1. The 20 and 10 percentile benchmark indicators were derived from a standard normal distribution with a minimum of zero at three standard deviations.
2. The number of staff should reflect the approximate time-weighted average number of whole-time-equivalent staff on the premises over any day. The number of patients should reflect the approximate time-weighted average number of patients (out-, day and in-patients).

2.40 It can be seen that the trust is an “average” performer in terms of risk but that there is room for improvement. The exception to this is business risk, which is twice as high as the average, because of the threat of the two large urban trusts relatively close by and because of the policy on trust mergers.

3.0 Proposed changes to risk management strategy

3.1 This section of the risk management strategy describes in a concise way the strategic changes that are proposed for the trust during the following year.

3.2 The trust's risk management strategy needs to change during the following year. The key objectives of this change are:

- a. to ensure that the risks do not compromise the trust's service and business objectives in terms of:
 - (i) the level of risks;
 - (ii) the size of potential consequences;
- b. to enable the trust's risks to be controlled so that they are as low as reasonably practicable by:
 - (i) avoiding;
 - (ii) reducing;
 - (iii) transferring; and
 - (iv) absorbing risk.

3.3 The trust's service and business strategies envisage a slight increase in income, a substantial increase in demand, and a significant shift from secondary to primary care over the next few years. The main elements of these strategies that will have risk implications are:

- a. downsizing of the district general hospital from 250 in-patient beds to 170 in-patient beds;
- b. 50% reduction in the number of out-patient sessions held on the district general hospital site;
- c. the development of a new dedicated day surgery on the district general hospital site;

- d. the development of a new chemotherapy suite on the district general hospital site;
- e. the expansion of Sidcupe Health Centre to accommodate increased out-patient sessions and primary care services;
- f. the reduction in residential accommodation provided for staff to a minimum of 15 on-call facilities within the hospital.

Key risk indicator targets

3.4 In addition to the risk implications of the above changes, the trust has established key indicator targets in relation to risk:

- a. to reduce the "direct patient: acute" risk indicator to 11 by 2004;
- b. to reduce the "direct patient: maternity" risk indicator to 130 by 2004;
- c. to improve the "user" risk indicator to 700 by 2004;
- d. to manage the financial risk indicator down to 4.0 by 2004.

The target date of 2004 is in part due to the life-cycle for the settlement of clinical claims and other user-related target dates. However, annual progress should be monitored against each of the targets by straight-line interpolation.

4.0 Strategic risk control plans

4.1 The strategic risk control plan indicates the major changes taking place to the trust's policies, management arrangements, procedures and staff training initiatives.

General

4.2 The trust should appoint an executive director responsible for all risk issues. A risk manager should be appointed to a position where he or she can provide objective advice to the risk management group and should be responsible for co-ordinating risk information. Senior managers should be responsible for managing risk in each of the main risk categories: direct patient, user and financial. Similarly, named individuals should be made responsible for risk management in their area of operation in each of the sub-categories. For direct patient sub-categories the named individuals are likely to be clinical directors. The existing managers should continue to manage the user sub-categories, and the business development manager should continue to manage the financial category risks.

4.3 The trust vision/mission statement should be modified to include a statement on risk management, and the risk management policy should be modified to take account of the revised trust risk management strategy.

4.4 Trust operational procedures should be revised to facilitate the collection and analysis of risk data consistent with the risk categories and sub-categories. Progress of risk indicators with respect to targets should be monitored annually, and the strategic risk control plan of the trust should be revised as appropriate.

Direct patient

4.5 The trust should continue to give high priority to the achievement of the higher levels within the Clinical Negligence Scheme for Trusts (CNST). In particular, clinical audit arrangements should be enhanced for maternal and child health, and should be initiated for the planned new treatment suites.

4.6 All clinical managers should receive risk management training, and clinician induction training should include a session on risk management. Job appraisals should include a review of risk management performance.

User

4.7 For the sub-categories characterised by high frequency/low consequence events (health and safety, security, and buildings plant and equipment), the trust should investigate the possible benefits of reducing insurance cover, increasing excesses, and absorbing the risk within the trust or sharing the risk with other trusts.

4.8 Risk awareness training and risk reduction initiatives should be implemented for staff in the high-risk areas of health and safety and infection control.

4.9 The trust should improve claims handling procedures and use the lessons learned from the claims data for future risk improvement.

Financial

4.10 Finance is the key high consequence/low frequency risk facing the trust. Therefore, there should be a major initiative to deal with this threat. There should be a targeted public relations campaign to raise the profile and prestige of the trust in the local and adjacent communities. High-level meetings should be set up to lobby both regional offices and the health authority key decision-makers. Contingency plans should be formulated for all activities to mitigate the effects of any major change in patient volume, profile or funding.

5.0 Risk strategy – implementation, monitoring and measurement

5.1 Having determined the appropriate overall risk strategy, this should be communicated throughout the trust, and appropriate education and training programmes should be put in place to ensure full commitment from all members of staff across all disciplines.

5.2 A risk audit should be carried out either at specific locations or in relation to a specific risk across the whole of the trust.

5.3 Areas to reflect improvement in performance should be identified and sub-divided on a short-, medium- and long-term basis, for example:

Short-term – reduce number of accidents to staff

Medium-term – reduction in use of agency staff where measures are taken to minimise staff absence arising from violence

Long-term – reduce cost of clinical negligence claims.

5.4 Responsibility for risk management should be included in each manager's job description. Performance should be monitored through the appraisal process and achievements reflected in performance-related pay.

Appendix 2 – Frequency/consequence curves

1.1 This appendix introduces the principles and application of frequency/consequence (FC) curves. Levels of risk are defined by the combination of the frequency and consequence of an undesirable event. However, in managing the risk it is important to know whether a risk is high frequency and low consequence or low frequency and high consequence. FC curves were first developed in the nuclear and chemical industries and later imported into the offshore and transport industries.

1.2 Figure 9 shows an FC curve for risk levels for road, rail and air transport. The vertical axis is the frequency at which accidents occur with N or more fatalities, and the horizontal axis is the consequences (in this case N or more fatalities). The axes are logarithmic to accommodate the large range of risk levels. The lines sloped at 45° join points of equal levels of risk, and the level of risk increases by a factor of 10 for each line when moving from the bottom left to top right of the chart.

1.3 Figure 9 shows that road accidents with two or more fatalities occur about 200 times per year, road accidents with ten or more fatalities occur approximately 15 times per year, and there are no records of road accidents with 100 or more fatalities per year. For rail and air transport, accidents with two or more fatalities occur

about once a year, and accidents with 100 or more fatalities occur approximately once every ten years (a frequency of 0.1 per year). Between these two points the rail curve is above and to the right of the air curve, showing that there is a higher level of risk associated with rail transport. However, the road line lies on a risk line above and to the right of that for rail and air, showing that road travel is by far the riskier mode of transport. This is not reflected in media interest in accidents, which concentrates on the high consequence air and rail accidents.

1.4 This approach can be applied to any type of risk. For example, Figure 10 shows the FC curve for settlements for clinical negligence claims for an A&E department. The curve shows settlements twice a year for claims of £1000 or more, 0.5 times a year for claims of £10,000 or more and 0.2 times per year (once every five years) for claims of £100,000 or more. The lines of equal risk show that the last dominates the overall level of risk. This can be used to characterise the risk such that the characteristic frequency, consequence and risk of 0.3 per year, £100,000 and £30,000 per year (respectively), can be assigned. This is a useful technique when analysing many risks strategically.

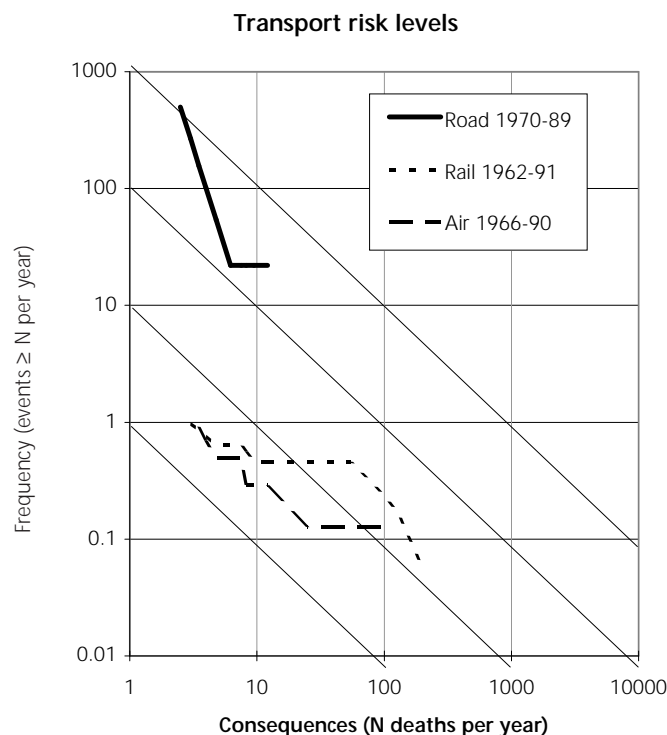
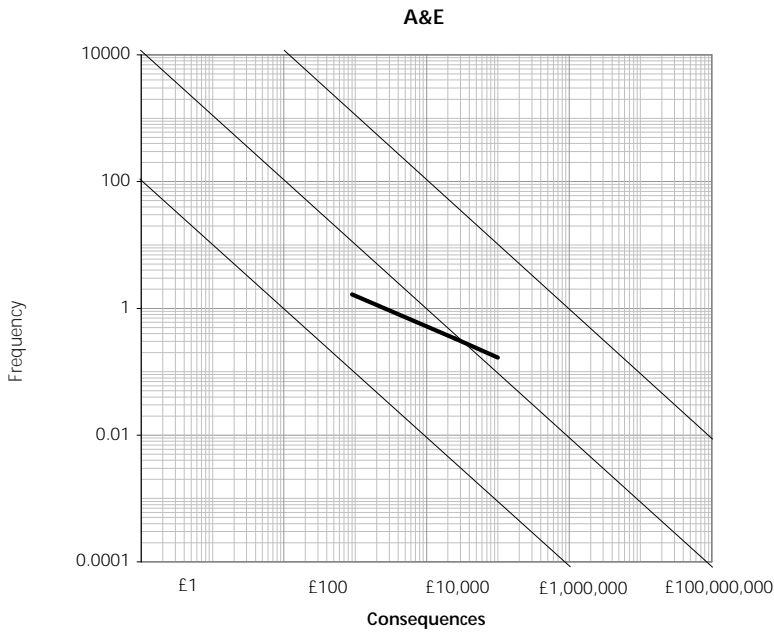


Figure 9 FC curve for risk levels for road, rail and air transport

Figure 10 Quantitative FC curve for settlements for clinical negligence claims for an A&E department



1.5 In the interests of simplicity the risk strategy contains qualitative representations of the true FC curve. Figure 11 shows the same curve as Figure 10 except that the axes now have qualitative labels. In the qualitative curves the following definitions are used:

Frequency:

- Very high 10,000 (or 10^4) times per year
- High 100 (or 10^2) times per year
- Moderate 1 time per year
- Low 1 in a hundred years (or 10^{-2} per year)
- Very low 1 in ten thousand years (or 10^{-4} per year)

Consequence:

- Very high £100,000,000 (or $£10^8$)
- High £1,000,000 (or $£10^6$)
- Moderate £10,000 (or $£10^4$)
- Low £100 (or $£10^2$)
- Very low £1

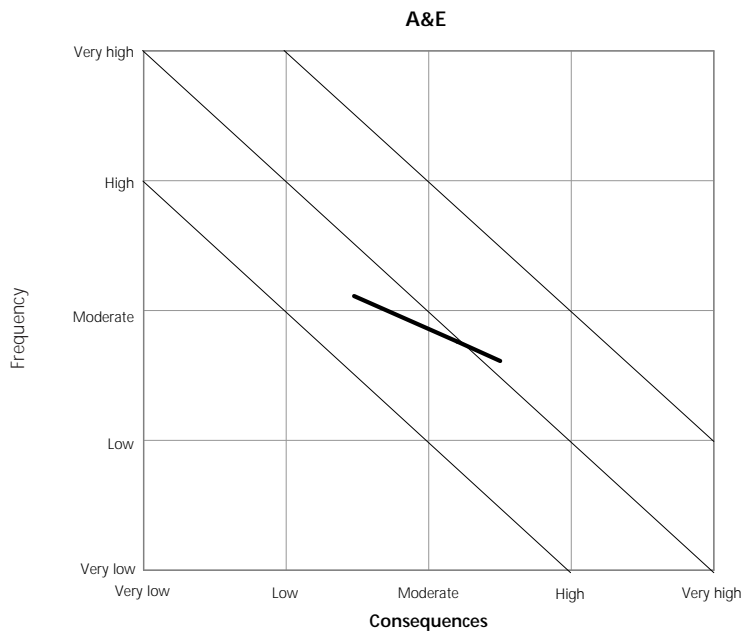
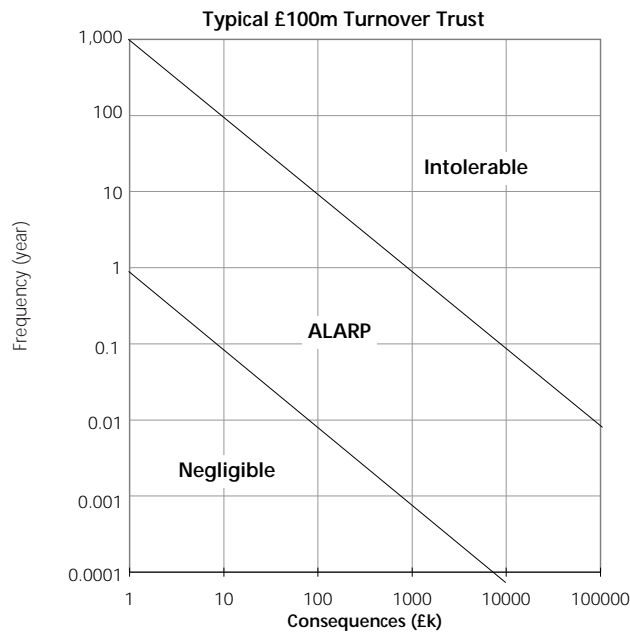


Figure 11 Qualitative FC curve for settlements for clinical negligence claims for an A&E department

1.6 A further benefit of FC curves is that they can be used to define level of risk tolerability. For example, Figure 12 shows the levels of risk tolerability that might apply to a typical £100 million turnover trust. The region to the top right of the chart is above a line representing 1% of trust turnover, and risks above this line could be considered to be intolerable. The region to the bottom left of the chart is below a line representing one-thousandth of trust turnover, and strategically this could be considered to be negligible. All risks lying between these two lines could be considered neither intolerable nor negligible, and therefore in need of risk control. In this region the risks should be kept As Low As Reasonably Practicable (ALARP), that is, the cost of risk reduction should be balanced against the level of risk reduction. By definition most strategic trust risks lie in this region.

Figure 12 Levels of risk tolerability that might apply to a typical £100 million turnover trust



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