

Guidance on proteopathic seeds

https://www.safety.admin.cam.ac.uk/system/files/guidance_on_proteopathic_seeds.pdf

Increasing evidence of the ability of proteins (other than the prion protein) to adopt abnormal conformations, self-propagate and cause transmissible pathologies and diseases in humans and laboratory animals.

Such proteins and peptides share a range of pathological properties with PrP prions and may be referred to as “prions,” “prion-like,” “prionoid,” or “proteopathic seeds”

proteins known to associate with human neurodegenerative diseases (amyloid-beta peptide, microtubule associated protein tau, alpha-synuclein, TDP-43 and FUS).

The guidance document is based directly on guidance issued by ACDP and gives advice on safe working practices to help prevent the unwanted transmission of proteopathic seeds during laboratory work with such agents or material that contains or may contain them.

Annual Biological Safety Questionnaires

➤ 55 Departments surveyed – 52 responded, 2 had closed and 1 did not respond (Depart Oncology)

- School Clinical Medicine 24 Departments
- School Biological Science 16 Departments
- Other Schools 12 Departments

➤ 8 Departments do not have Microbial Safety Cabinets.

Of the 85% that do, 64% are recirculating. Of these, 3 use formaldehyde, the rest use some form of hydrogen peroxide.

➤ 8 Departments work with or hold material that could contain poliovirus.

➤ 29 Departments work with live animals

- 25 use mammals e.g. rats and mice
- 3 use amphibians
- 5 use nematodes
- 8 use fish
- 12 use insects

➤ 13 Departments work with plants/algae of which 5 work with transgenic plants/algae.

➤ 24 Departments use Hazard Group organisms

- 19 use Group 1
- 20 use Group 2
- 7 use Group 3
- 8 use plant pathogens

➤ 41 Departments transport Biological material around the University mainly by courier (bike or car) or on foot.

➤ 4 Departments transport Cat A infectious substances (using specialist couriers).

➤ 41 Departments transport biological materials outside the University (mainly by air and road).

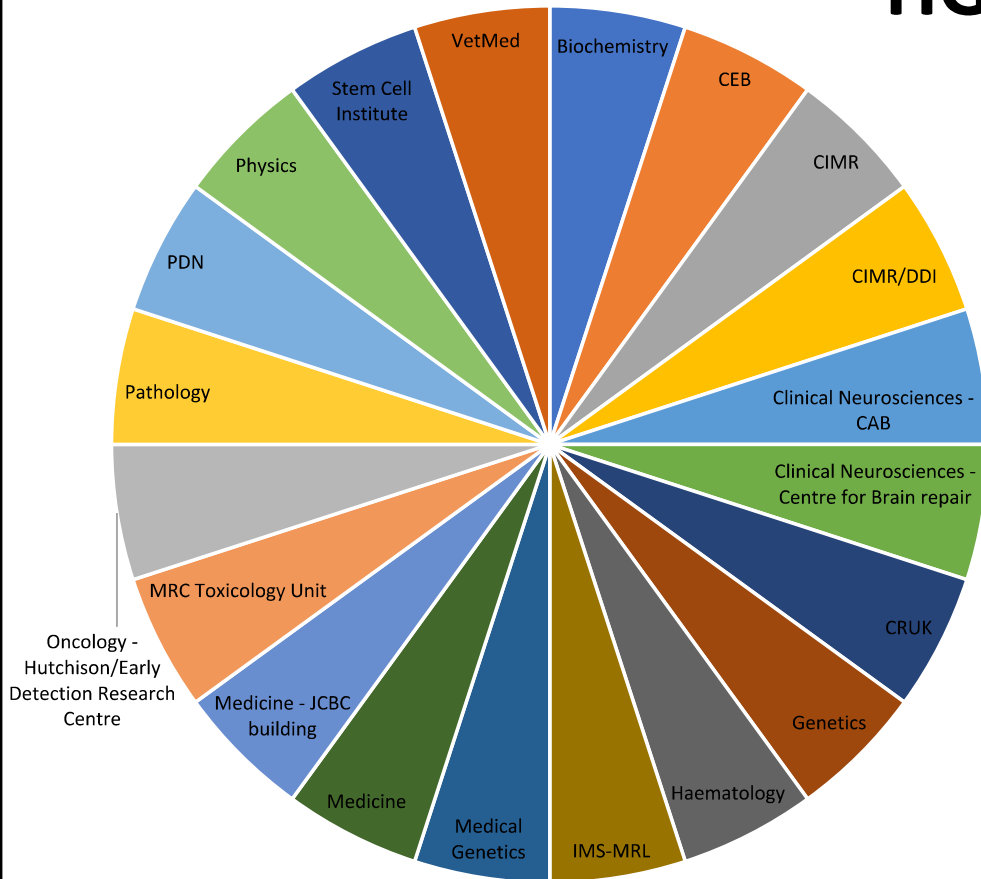
➤ 37 Departments import biological materials and 33 Departments export biological materials.

Annual Biological Safety Questionnaires

The Annual Biological Safety Questionnaire would be biennial and tie in with other Audits within the Safety Office. This would enable the Safety Office and Departments to follow up on finding and determine where best to focus resources and support.

Q52 - The Departments that are working with Hazard Group 2 Organisms

HG2



Figure

Q52 - The Departments that are working with Hazard Group 3 Organisms

HG3

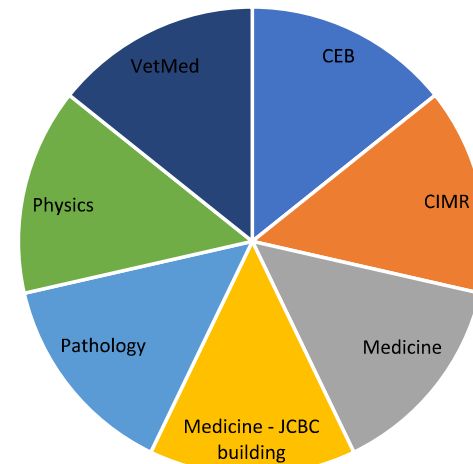
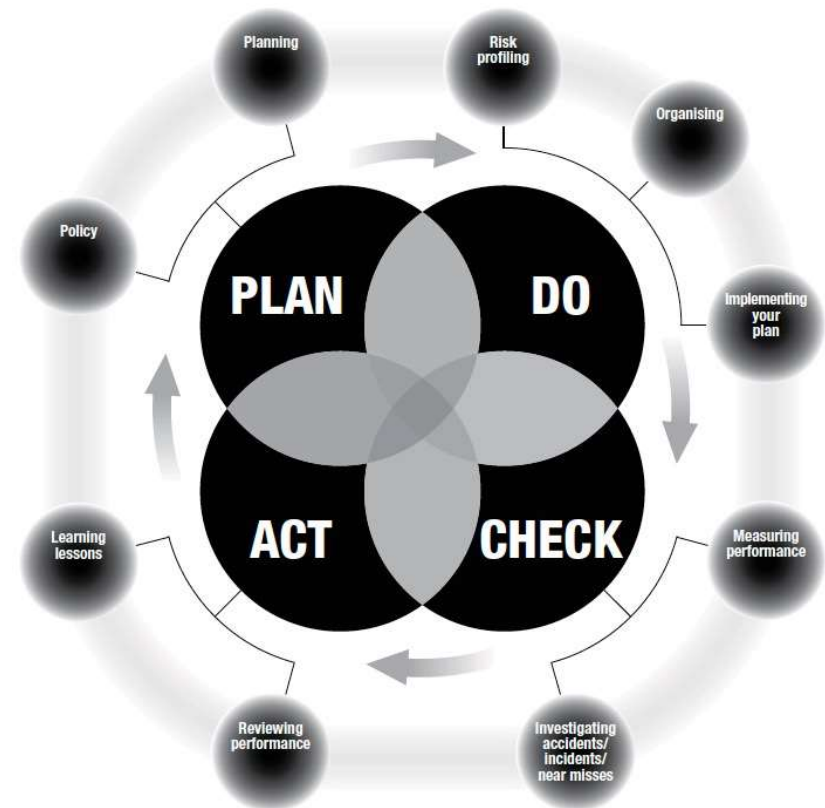
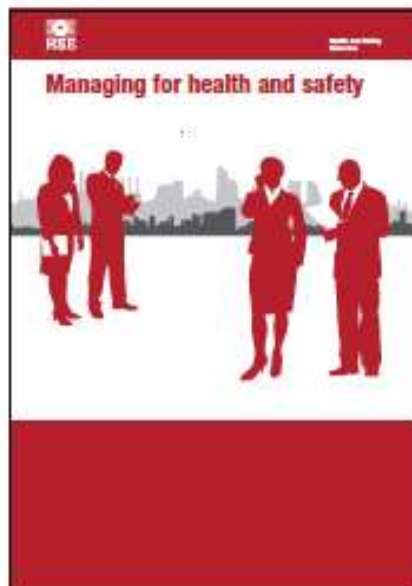


Figure 16

The PLAN, DO CHECK, ACT safety management system



Managing for health and safety

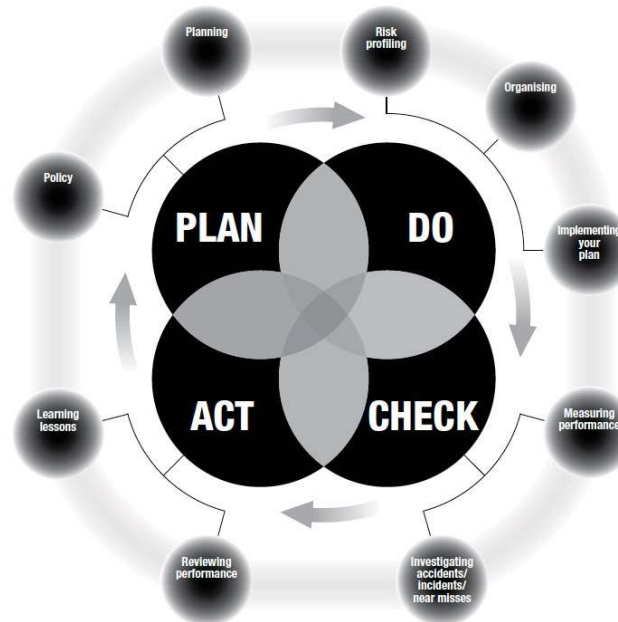


<https://www.hse.gov.uk/pubns/priced/hsg65.pdf>

The PLAN, DO CHECK, ACT safety management system

Plan

- Think about where you are now and where you need to be.
- Say what you want to achieve, who will be responsible for what, how you will achieve your aims, and how you will measure your success. You may need to write down this policy and your plan to deliver it.
- Decide how you will measure performance. Think about ways to do this that go beyond looking at accident figures; look for leading indicators as well as lagging indicators. These are also called active and reactive indicators (see 'Types of monitoring' on page 49).
- Consider fire and other emergencies. Co-operate with anyone who shares your workplace and co-ordinate plans with them.
- Remember to plan for changes and identify any specific legal requirements that apply to you.



Act

- **Review your performance**
 - Learn from accidents and incidents, ill-health data, errors and relevant experience, including from other organisations.
 - Revisit plans, policy documents and risk assessments to see if they need updating.
- **Take action on lessons learned, including from audit and inspection reports**

Do

- **Identify your risk profile**
 - Assess the risks, identify what could cause harm in the workplace, who it could harm and how, and what you will do to manage the risk.
 - Decide what the priorities are and identify the biggest risks.
- **Organise your activities to deliver your plan**
In particular, aim to:
 - Involve workers and communicate, so that everyone is clear on what is needed and can discuss issues – develop positive attitudes and behaviours.
 - Provide adequate resources, including competent advice where needed.
- **Implement your plan**
 - Decide on the preventive and protective measures needed and put them in place.
 - Provide the right tools and equipment to do the job and keep them maintained.
 - Train and instruct, to ensure everyone is competent to carry out their work.
 - Supervise to make sure that arrangements are followed.

Check

- **Measure your performance**
 - Make sure that your plan has been implemented – 'paperwork' on its own is not a good performance measure.
 - Assess how well the risks are being controlled and if you are achieving your aims. In some circumstances formal audits may be useful.
- **Investigate the causes of accidents, incidents or near misses**

<https://www.hse.gov.uk/pubns/priced/hsg65.pdf>

Biological Safety Audit

The Biological Safety Audit is a formal review of the systems in place within your department or institution, which ensure safety in the workplace. It is not a comprehensive inspection designed to find all faults, or all good practice. The focus is primarily on documented evidence that biological safety is being effectively managed in a proactive manner and is in compliance with health and safety law and university policy.

The persons that would be interviewed:

- Head of Department
- Department Biological Safety Officer or nominated contact
- Other 'BSOs' and any deputies
- Secretary to Safety Committee
- Others with responsibilities pertaining to biological safety eg, PI, lab manager, technical staff

Updated Biological Safety Audit

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https://www.safety.admin.cam.ac.uk/system/files/biological_safety_audit.pdf

PLAN (28 Questions)

(Ai) PLAN: Departmental Safety Information and Policy

1.1 Department's Safety Policy. Does it refer to work involving biological agent/materials?

Please Select From...		
☐ Not Applicable	☐ Not Met	☐ Partially Met
☒ Fully Met		
Guidance		Comments
Does it make reference to GM (HSE CU regulations), Schedule 5/ATCSA, COSHH, HTA, SAPO etc?		
Remedial Actions	Action To	Due Date

1.15 Are First Aiders aware of any potential significant biological issues in the department and if these could impact their involvement in dealing with incidents?

Please Select From...		
☐ Not Applicable	☐ Not Met	☐ Partially Met
☒ Fully Met		
Guidance		Comments
Provide evidence of induction and training of First Aiders if there are significant biological issues in the department.		
Remedial Actions	Action To	Due Date

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DO (21 Questions)

(B) DO: Implementation

3.1 Is there a documented procedure for carrying out Risk Assessments for Genetically Modified Organisms/Microorganisms?

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Guidance		Comments
Describe the procedure and provide examples of risk assessments.		
Remedial Action	Action To	Due Date

3.18 Does the department have comprehensive records of recent inspections (in-house, University and external)?

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Guidance		Comments
Provide examples of records, specifically relating to biologicals.		
Remedial Action	Action To	Due Date

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CHECK (6 Questions)

(C) CHECK: Measuring Performance

4.1 Is there a schedule/programme of inspections within the Department? Are these active/being carried out? Are these documented?

Please Select From...		
☐ Not Applicable	☐ Not Met	☐ Partially Met
☒ Fully Met		
Guidance		Comments
• Provide schedule of inspections to be carried out over the next 12 months.		
Remedial Actions	Action To	Due Date

4.6 How are training needs identified for staff/students/visitors/contractors?

Please Select From...		
☐ Not Applicable	☐ Not Met	☐ Partially Met
☒ Fully Met		
Comments		
Remedial Actions	Action To	Due Date

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ACT (4 Questions)

(D) ACT: Monitoring and Review

5.1 Following a Biological Safety Inspection, how do you capture the actions and review progress through to completion?

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Guidance		Comments
Describe procedure and provide an example.		
Remedial Actions	Action To	Due Date

5.3 Have all outstanding actions following an accident/incident been carried out? In particular, needlesticks; breakage of culture flasks etc.

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Guidance		Comments
Provide examples of incident reports relating to biologicals that also show that recommendations/issues have been dealt with.		
Remedial Actions	Action To	Due Date

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PHYSICAL INSPECTION

(E) Physical Inspection Questions and Observations

6.1 Are hand/eye wash facilities available and suitable?

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Comments		
Remedial Actions	Action To	Due Date

6.7 Are laboratory facilities adequate: Bench surfaces? All gaps sealed? Any bare timber? Are floors in good condition?

Please Select From...		
Not Applicable	Not Met	Partially Met
Fully Met		
Comments		
Remedial Actions	Action To	Due Date

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Thank You

All of today's speakers

Androulla Gilliland

Diane Grover

Ann-Marie Farmer

Welcome to

Simon Hoer our newly appointed
Snr Biological Safety Officer



Question and Answer Session?