

Personal Protective Equipment (PPE) for biological hazards—current development needs



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Framework Conditions

- Varying legal obligations EU, Germany, German federal states
- German occupational health and safety regulations – for the protection of workers
- International health regulations (IHR)
- National legislation/recommendations:
 - German law on the protection and control of infectious diseases, occupational health and safety law, specialist technical regulations, own regulations and provisions within sectors and aid organisations, official technical regulations
- Duty to document and assess – hazard assessment
- Disaster preparedness laws in individual German federal states (Länder)
- Infectious disease and epidemic outbreak alert plans in German federal states and municipalities
- Formulation of alert and emergency response plans for biological hazards
- Coordinated PPE procurement recommended – example of public health service in Bavaria

Challenges

- Different biological scenarios
- Provisional diagnosis vs. actual diagnosis
- Centralised and uniform procurement
- Demand for standardised Personal Protective Equipment (PPE)
- Different demands by different actors depending on biological hazard they are dealing with
- Possible uses in other scenarios, such as CRN
- Coordinated and co-formulated SOPs applicable across the board
- Expectations held by political actors
- Motivating and involving emergency service personnel
- Requires highly specialised skills and is hugely demanding on staff



PPE Target Specifications

- Highest level of protection – where feasible against ALL HAZARDS
- As far as possible, should fit every wearer and match every scenario correctly
- Light materials
- Virtually no restrictions
- Easy to put on and remove
- Easy to decontaminate
- Comfortable to wear
- Few practice drills required
- Resource friendly
- Can be used at any temperature
- Cost effective and affordable
- Accessible at all times
- Nice to look at.....



Developing standards

- Graded PPE concept in line with levels of risk escalation
- Development concept for needs-oriented / individual PPE
- Procurement concepts and development of storage algorithms
- Leadership and responsibility
- HR management
- Standardised decontamination procedure
- Appropriate decontamination substances
- Standardised training
- Theoretical and practical drills and exercise/emergency scenarios, also interdisciplinary and cross sectoral
- Coordination with various sectors, e.g. hospitals, emergency services and aid organisations, public health service, rescue and disaster control services
- Legal framework conditions

Changing circumstances / Experience

- Public health service is no longer purely an administrative authority but now directly involved in service provision at an operational and tactical level – LGL Bavaria - Airport Infectious Disease Task Force (Task Force Infektiologie Flughafen)
- Special units, equipment, special requirements, mobility
- Funding
- New regulations specific to each federal state in Germany
- Formulation of other regional and supraregional inter-agency solutions
- Coordination and implementation of measures and harmonisation programmes, also in other languages
- Routine PPE instruction/training
- Partial and full-scale drills and exercises generate confidence and acceptance
- Occupational health regulations / specifications
- Clear legal support and regulations
- Close/overarching coordination with KAHEP, generic planning

Solutions - Challenges - Questions?

- New developments – PPE designed to safeguard against hazards
- Generation of sustainable PPE structures
- Promotion and strengthening of public health protection
- Less centralistic and more interdisciplinary steering
- Networking/exchange with local and non-local, national and international authorities and institutions
- Harmonisation and simplification of norms
- PPE requirements drive developments – i.e. what does the user need? – not industry
- Evaluation and control of infectious disease risk; is there really a need for PPE?
- Standardised training concepts
- What kind of biological hazard scenarios do we want to/are we able to equip ourselves for?
- Adaptation of legal regulations