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COLLABORATIVE WORKING GROUP

SCAR AH&W – SRIA Workshop
Breakout session 1 – Subgroup 2
"Farm practices"
Broad areas of work

Rapporteur: Kristian Møller

10/11/2022

Farm practices

Farm practices include:

- Housing (in/out door, organic/conventional)
- Feeding
- Breeding
- Animal welfare
- Effect and concept for integrated measures
- One health

Needs:

1. Stop spread of existing and new emerging diseases
2. Reduce antimicrobial resistance
3. Cage free livestock production
4. Integrated measures

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

One Health approach

One Health: the collaborative efforts of multiple disciplines working locally, nationally, and globally, to attain optimal health for people, animals and the environment

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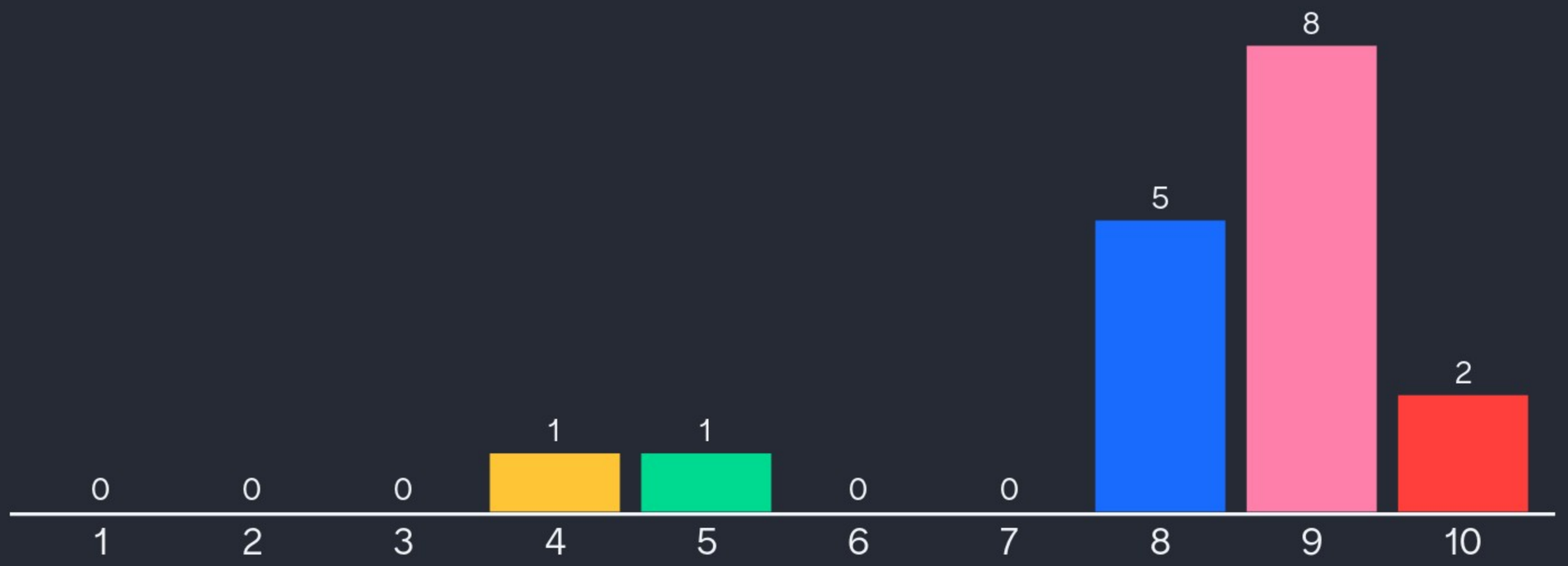
Score these broad areas of work: One health approach

Mentimeter



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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Big data

*Big data: Data that contains greater **variety**, arriving in increasing **volumes** and with more **velocity** - the three **Vs**.*

- Areas where big data approach is relevant ?

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Score these broad areas of work: Big Data

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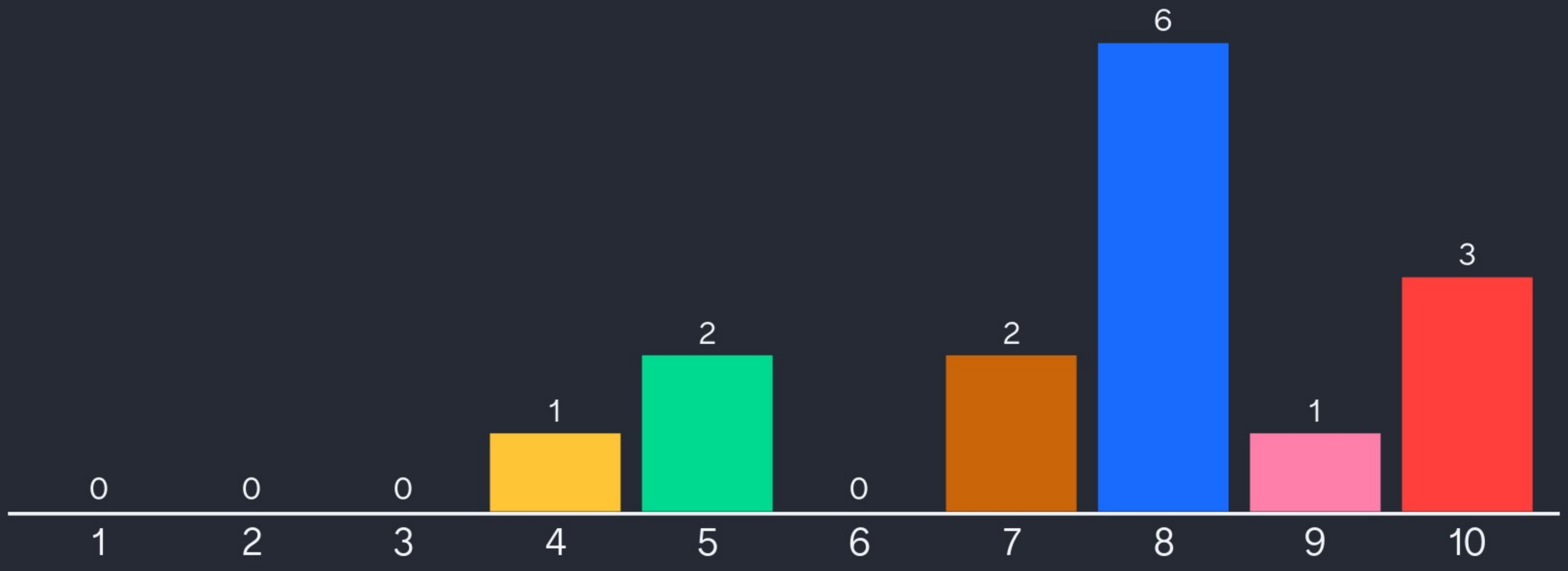

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Social Sciences

Social sciences: *disciplines that examine different aspects of society with the aim of studying how people behave, interact, and influence the world.*

The most common social science subjects include Anthropology, Economics, Law, Politics, Psychology, Sociology, Geography, History, Archaeology, Linguistics

- For which topics of AH/AW will social sciences be relevant? Why? How? Expected outcomes?

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Score these broad areas of work: Social sciences

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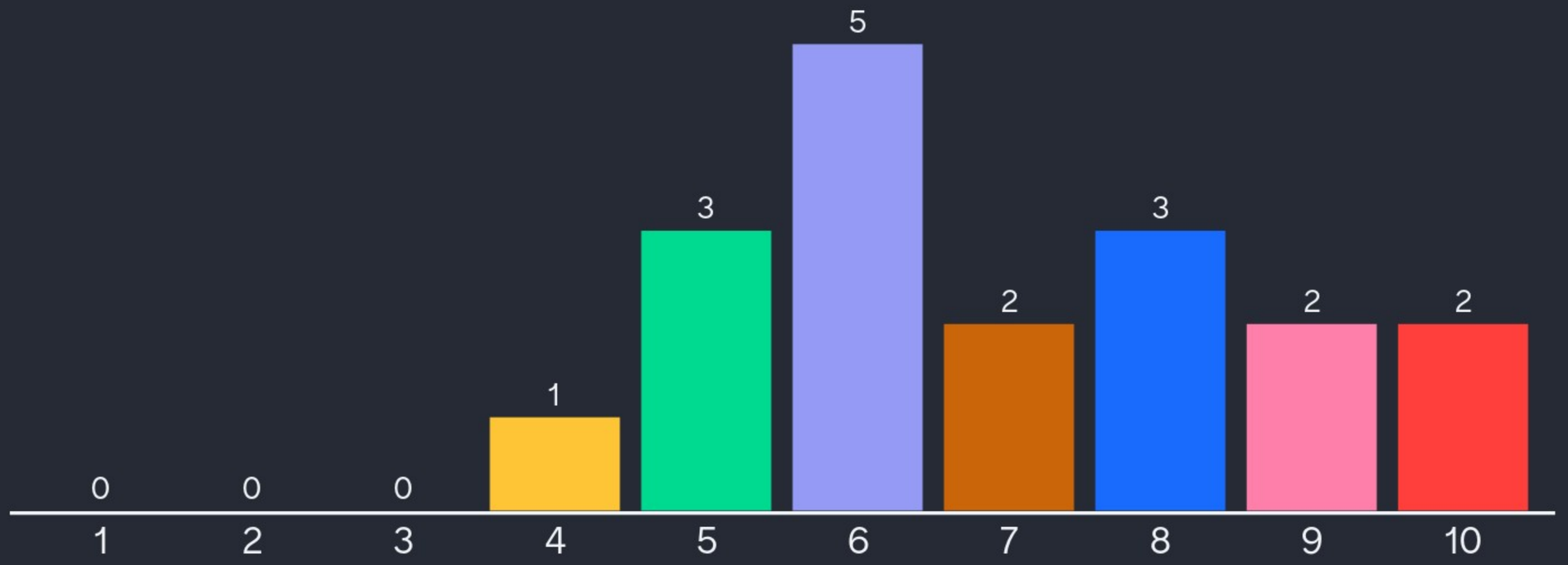

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Resilience in the husbandry environment

Resilience: *The ability of animals to withstand pathogenics/stressors*

Supported by e.g. genetic/breeding, vaccination, management, feeding, healthy digestive system during maturation, environment with less stress)

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Score these broad areas of work: Resilience

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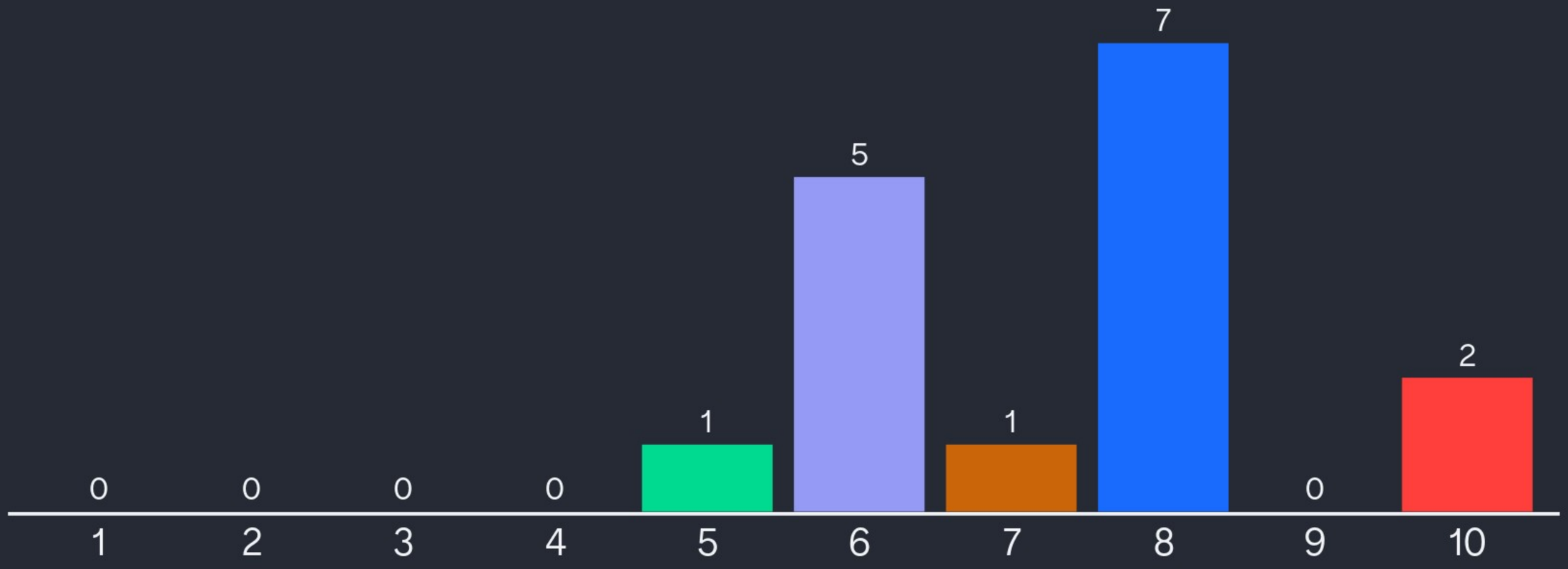

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Living labs

Living labs: *Training farms, test under natural/commercial conditions*

- The need for Living labs. How important are living labs for validation of prevention and control measures regarding animal health, welfare, emissions etc.

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Score these broad areas of work: Living labs

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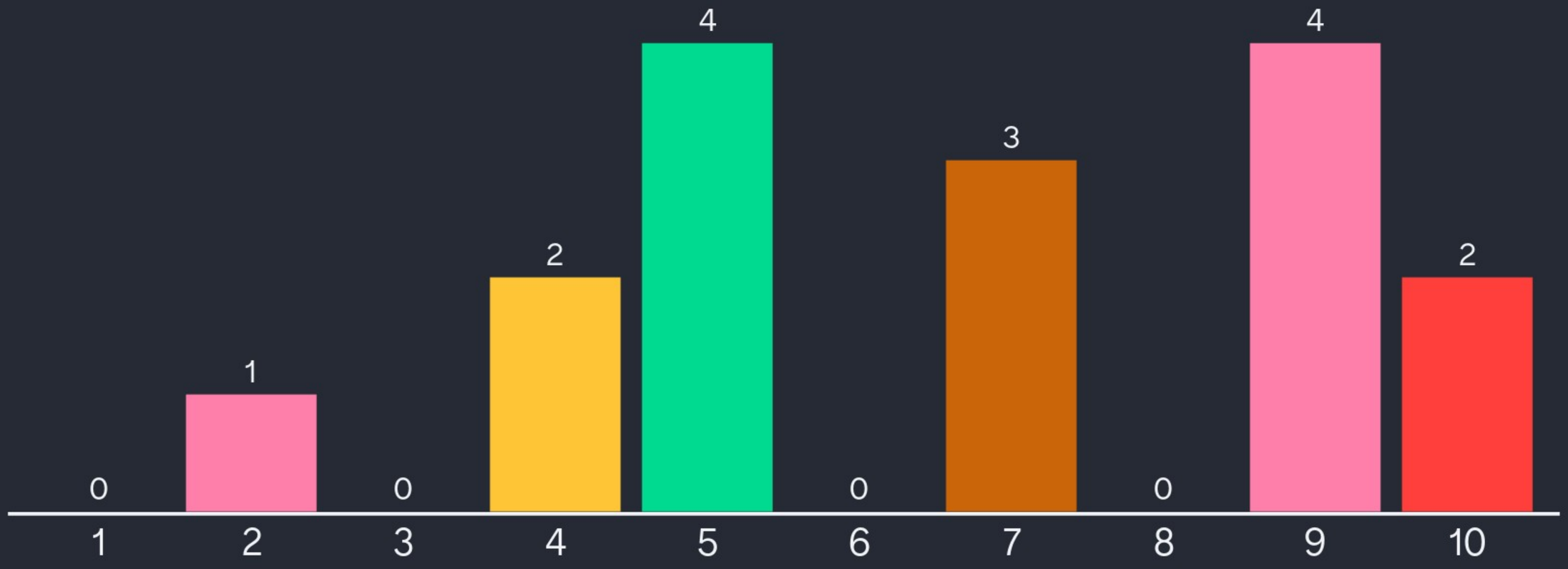

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Antimicrobial Resistance (AMR) of animal pathogens

- What are the bottlenecks to combat AMR in animal pathogens. Which topics should EUP AH&W focus on

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Score these broad areas of work: AMR

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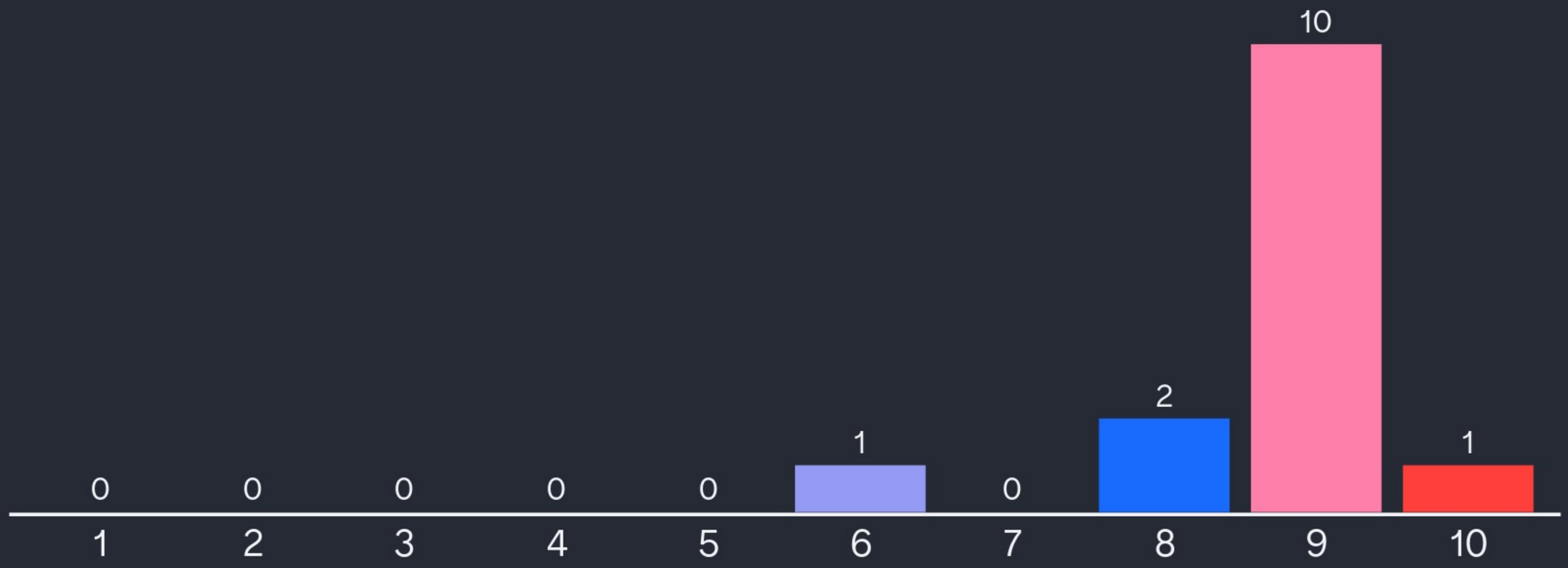

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Improve genetic resistance to pathogens and environmental stressors

- Will breading for genetic resistance to pathogens and environmental stressors be realistic. Do you have examples.

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Score these broad areas of work: Genetic resistance

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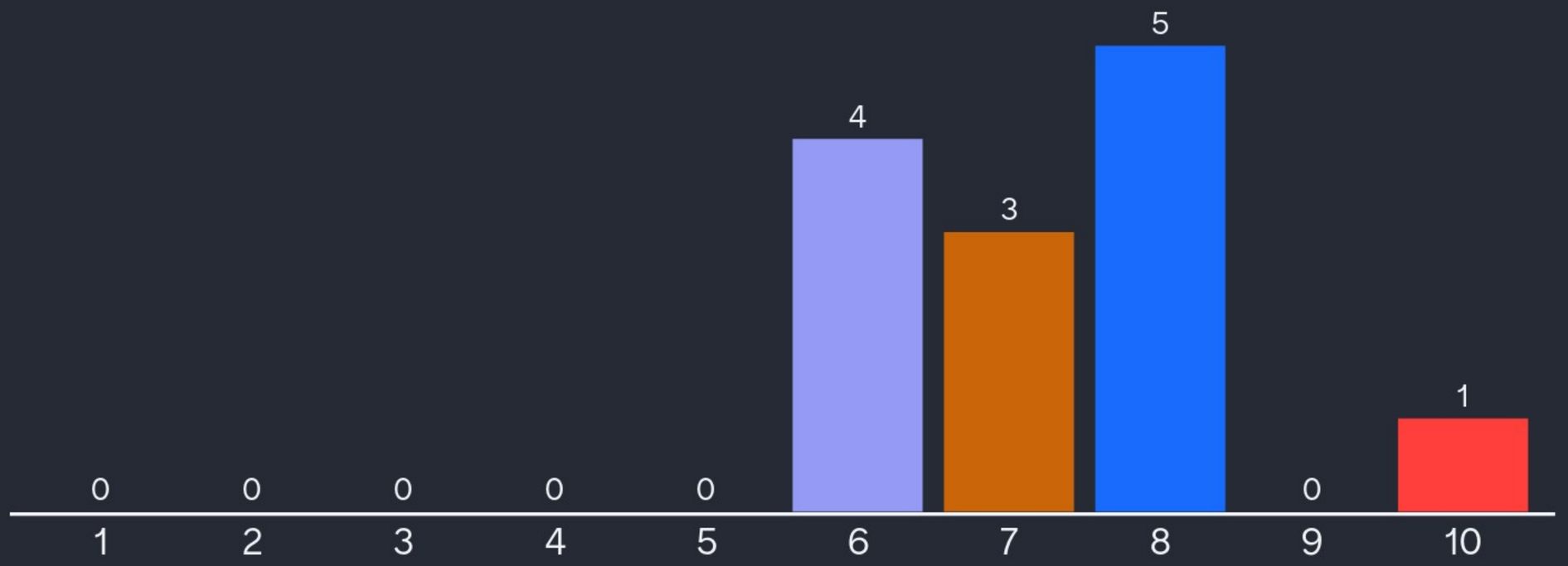

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Farm Practices
Broad areas of work

To what extent will the EUP AH&W contribute to this domain

Stress, animal behaviour and welfare management

- Where to start, which activities

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Score these broad areas of work: Stress, animal behaviour and welfare management

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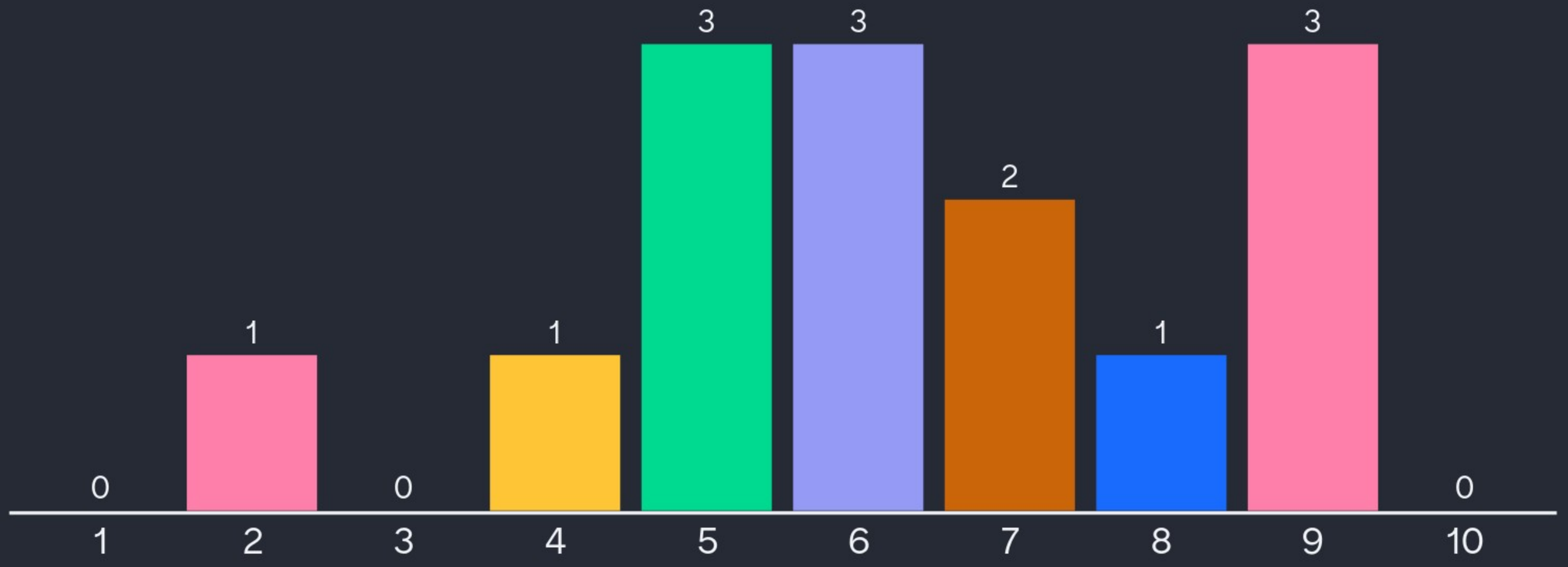

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"Farm practices"
Reserch and other needs

Rapporteur: Kristian Møller

10/11/2022

Examples of Research & Other Needs

- See draft SRIA: "SRIA Research & Innovation Needs, 18 October 2022"
  - Per Operational Objective: tables with Research Needs (*Research & Other Needs*)
    - Introduction and summary of priorities, feedback from Focus Groups
    - Example: OO1. To design and harmonize surveillance and monitoring systems for animal health and welfare.

Action	Research Needs: 1-2 years	Research Needs: 3-5 years	Research Needs: 5 years +
Action 1. Optimize and extend to other countries current surveillance systems for animal health and zoonotic infections and to develop new ones, where needed	Improvement of preparedness for emerging and exotic diseases	Increase investigations at the human-animal interface of diseases and by increase engagement in networking (One Health approach)	Develop optimised terrestrial and aquati disease surveillance and reporting syste including methods, systems and harmor assessment of wildlife populations and c
	Identify transmission sources and/or sentinels for animal diseases (vectors, arthropods, wildlife, domestic or wild relay hosts, animalcules...)	Integrate various surveillance methods and ensure transparency between geographies	Progress alternative methods to control integrated pest management, biological genetically modified insects/improving n with the human and environment sectors
	Better understanding of the effect of extreme weather and ecosystem changes on vector-borne diseases occurrence and transmission	Integrate animal health surveillance systems of different sources	Develop animal identification technologi systems for traceability of animals and tl for disease prevention, control and emer management

Categorization of needs

	External open research	Internal research	External or Internal research	Reference and Integrative actions	Joint activity
Research & Other Need 1					
Research & Other Need 2					
Research & Other Need 3					

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Categories

- **External open research**
  - Allow to include external RPO and/or private partners to bring in new technologies and additional expertise that is not available in the partnership consortium, and to facilitate uptake by industry.
- **Internal research**
  - Research for which the technologies and expertise are available within the consortium; to **reinforce the cooperation** among the partners, to **strengthen their tasks for the authorities** through setting up integrative research calls: capacity building, data sharing and risk assessment; policy driven research ('preparedness').
- **Reference and Integrative actions**
  - All **non-research actions** that support cooperation between partners to strengthen their duties to the authorities.
- **Joint activity**
  - Thematic networking, education & training (summer schools, workshops, PhD, etc.), support regulatory processes, etc.

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OO3. To develop procedures, methodologies, and tools to support the monitoring of animal Welfare

Action 4. Development of **physiological indicators** to measure acute and chronic negative animal welfare consequences on farm. The indicators should identify **stress, pain, fear, discomfort**, etc. at individual and group levels: measure of physiological stress, impact on immune response and omics. Integration of these to metadata welfare tools.

Needs:

- ***Development of tools for measuring animal stress***

- ***Refinement of animal-based measures for fit-for-purpose assessment of animal welfare consequences***

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Tools for stress

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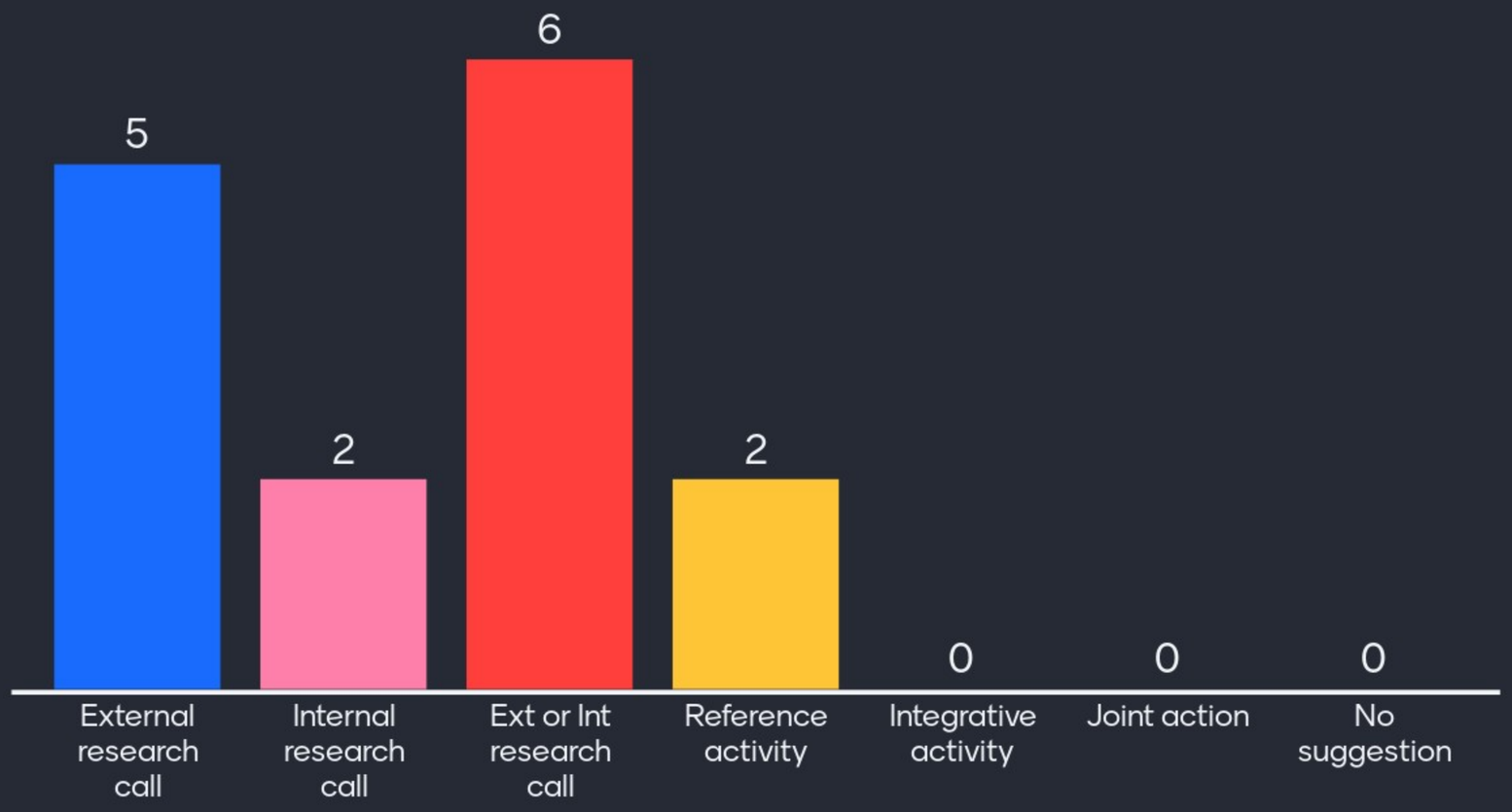

Animal-based measures

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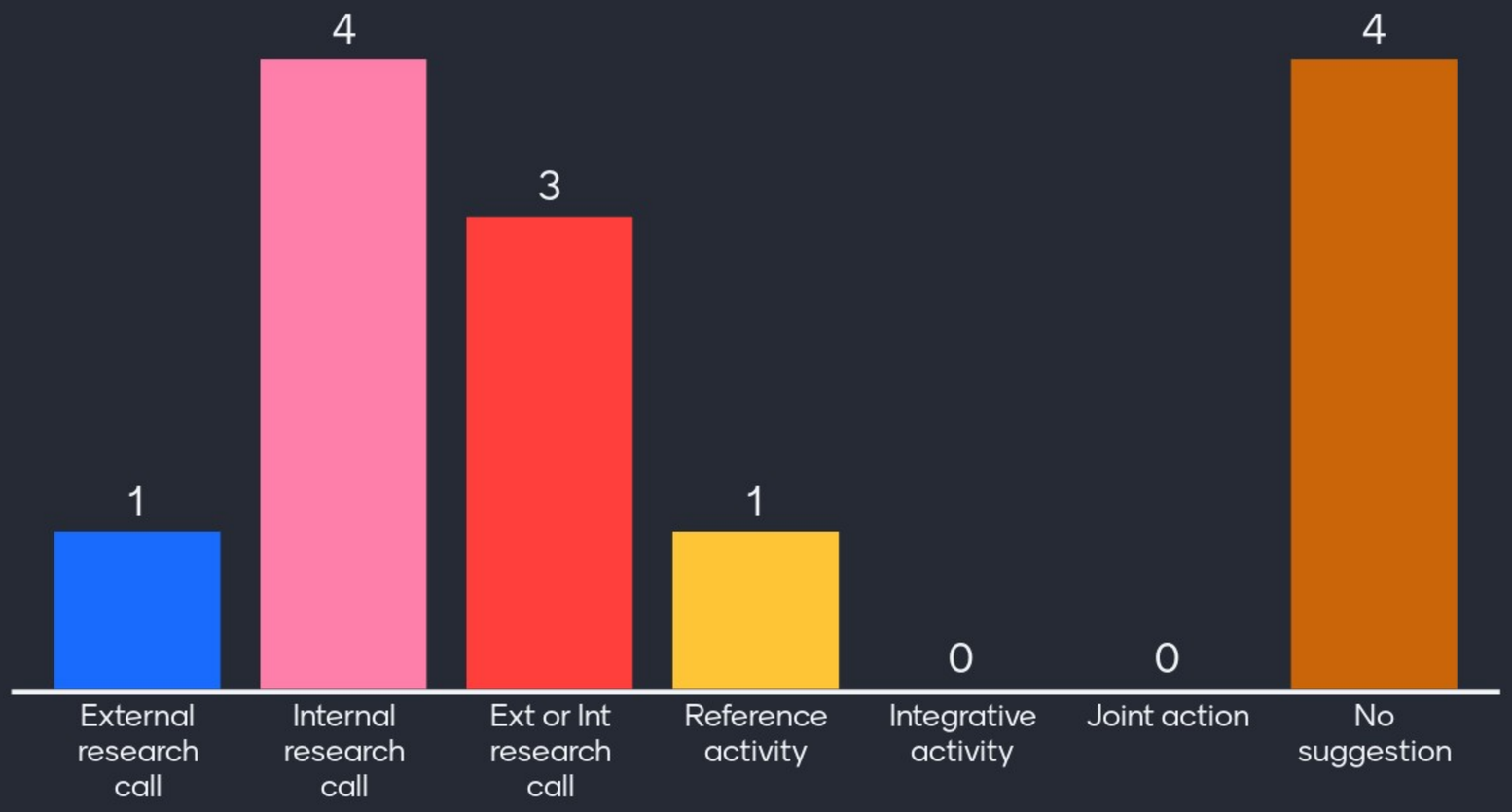

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OO5. To develop guidelines and preventive tools to fight against animal infectious diseases on farm and during transport

Action 1. Establish a **multidisciplinary network of experts with focus on biosecurity** measures to prevent and control AID on farm and during transport, and draft foresight and priority studies on animal health, public health, pandemics and the role of biodiversity, the changing climate, emerging vectors and vector-borne diseases, bird and fish migrations, epidemiology/ modelling, bioinformatics, etc. for all animal species, including minority species and aquaculture

Needs:

- ***Develop disease and welfare models that include climate change, biodiversity, changing vector habitats to assess impact including CO2 emissions and socio-economic impacts***

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Disease and welfare models

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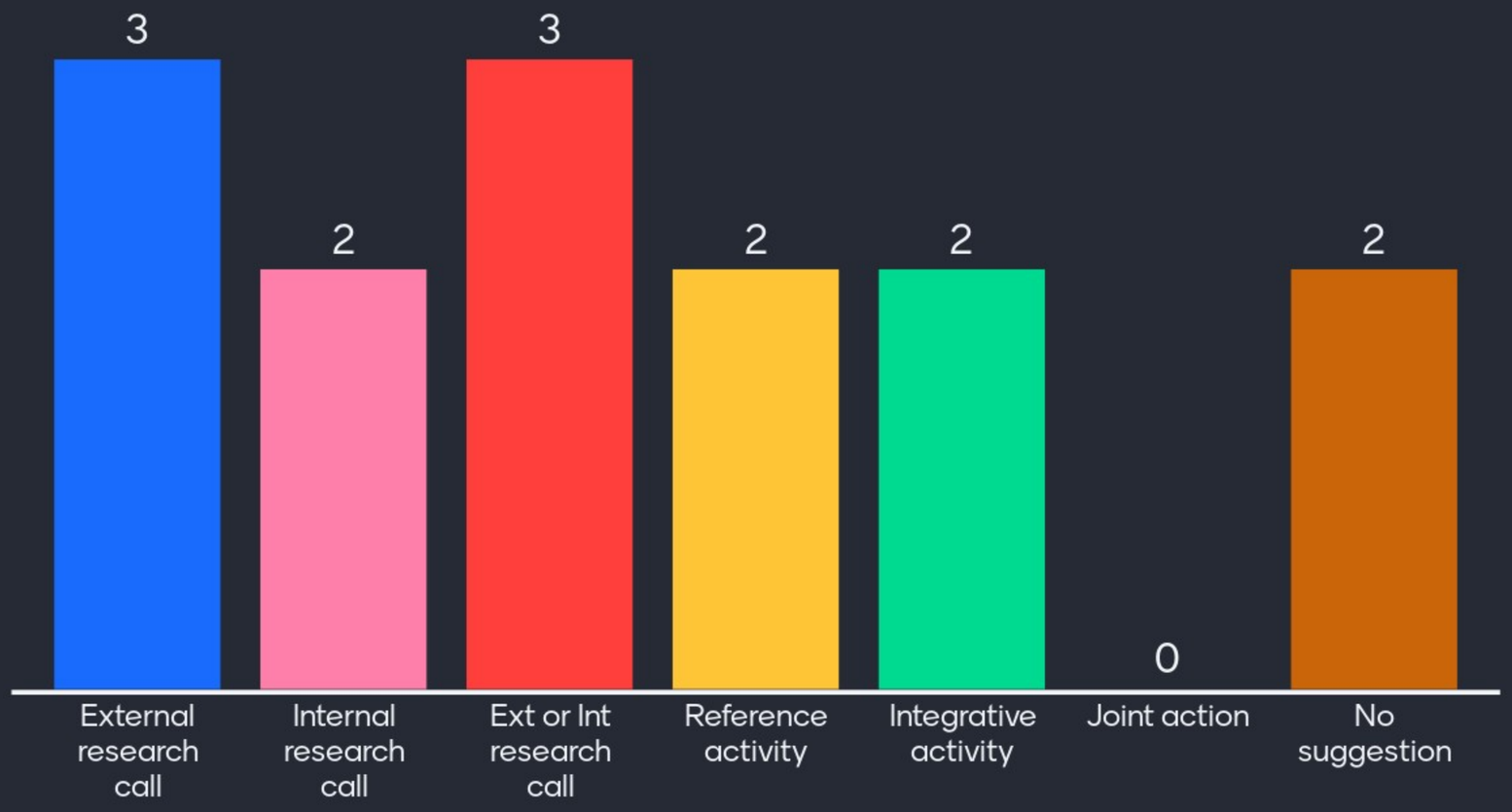

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OO5. To develop guidelines and preventive tools to fight against animal infectious diseases on farm and during transport

Action 4. Reinforce **animal resilience/resistance** (the ability of animals to withstand pathogens), through **feeding and breeding**; establish a pan-European network of experts in genetics (breeding), feed additives including pre- , post-and probiotics and leading experts in immunology to produce foresight and priority reports; both fundamental and applied research supporting animal resilience will be set up.

Needs:

- ***Develop strategies to reduce antimicrobial and anthelmintic use (incl. feed additives/nutrition) and/or to encourage their prudent use***
- ***Evaluate the interaction between feed, the development of immunity and increased resistance of animals to pathogens especially for young animals (piglets, chicken)***

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Strategies to reduce AMU

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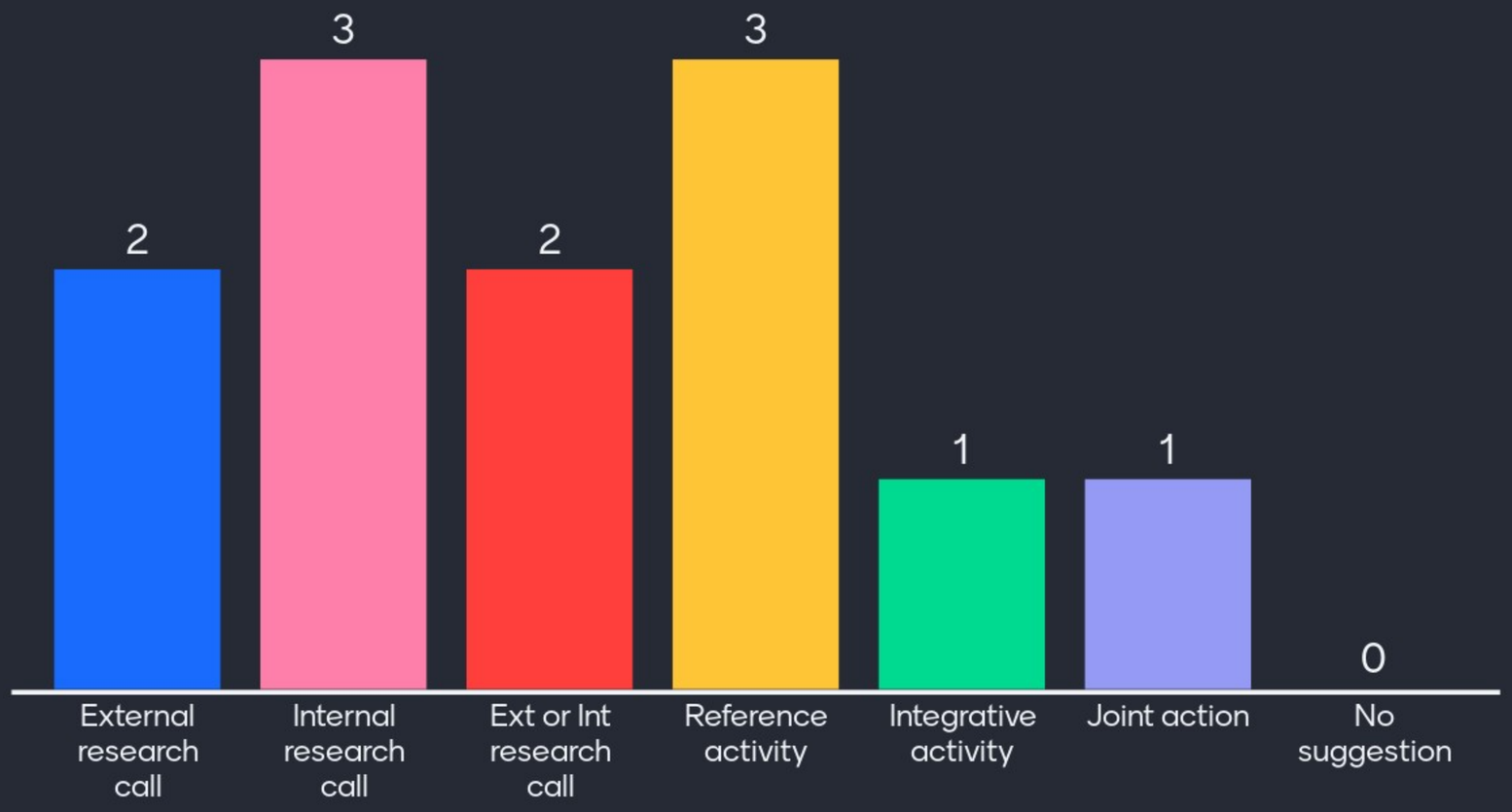

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Interaction between feed and immunity

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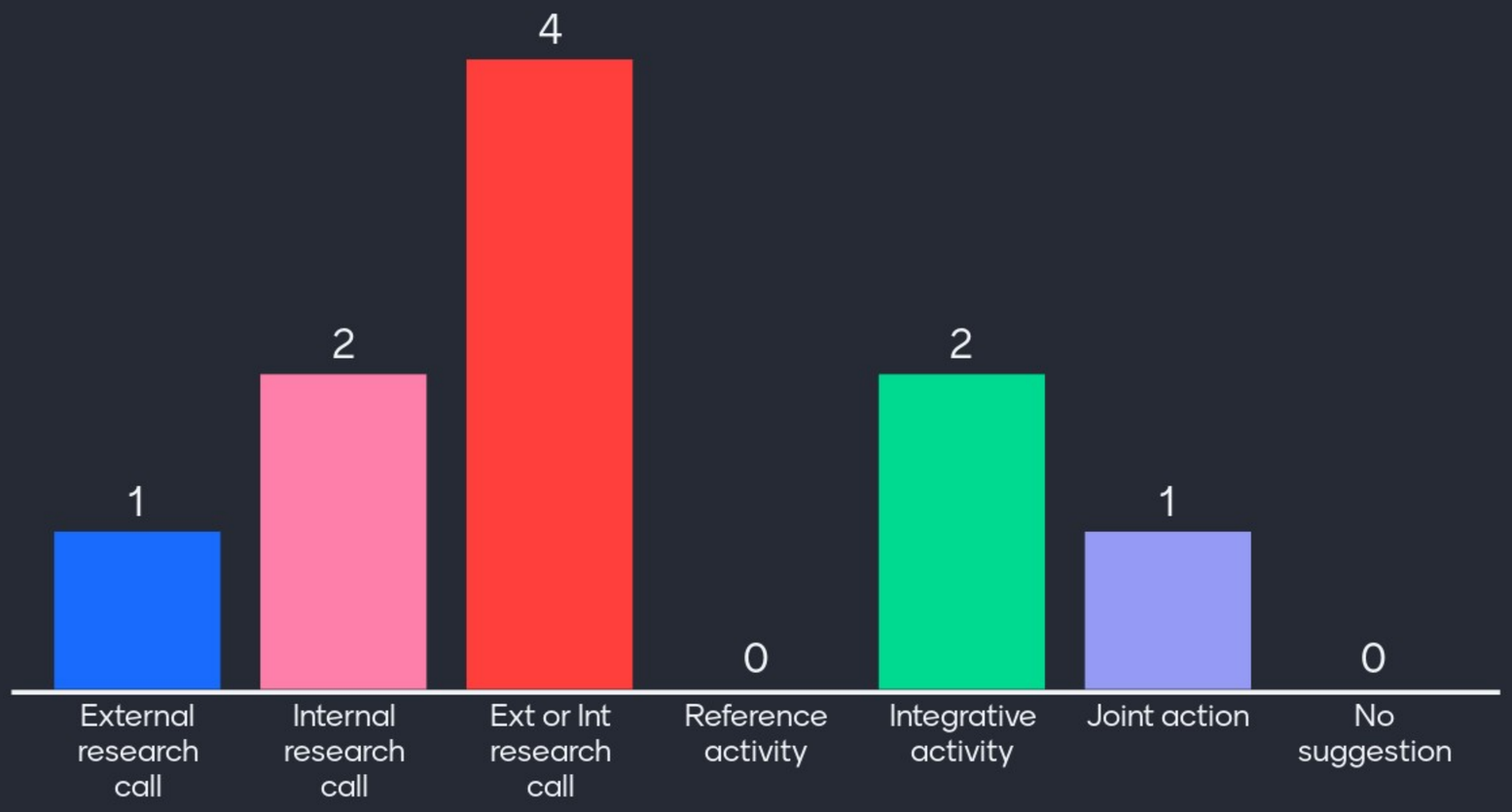

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OO6. To develop guidelines and prototype solutions that advance animal welfare on farm, during transport and at the end of life

Action 4. Improve animal welfare through feeding and breeding strategies.

Needs:

- ***Develop and set appropriate breeding goals that consider welfare implications (not solely focused on production)***

- ***Improve breeding technologies for animal health: e.g. integration of molecular technologies into breeding programs, especially for low heritability traits and traits associated with health and pathogen resistance***

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Breeding and welfare

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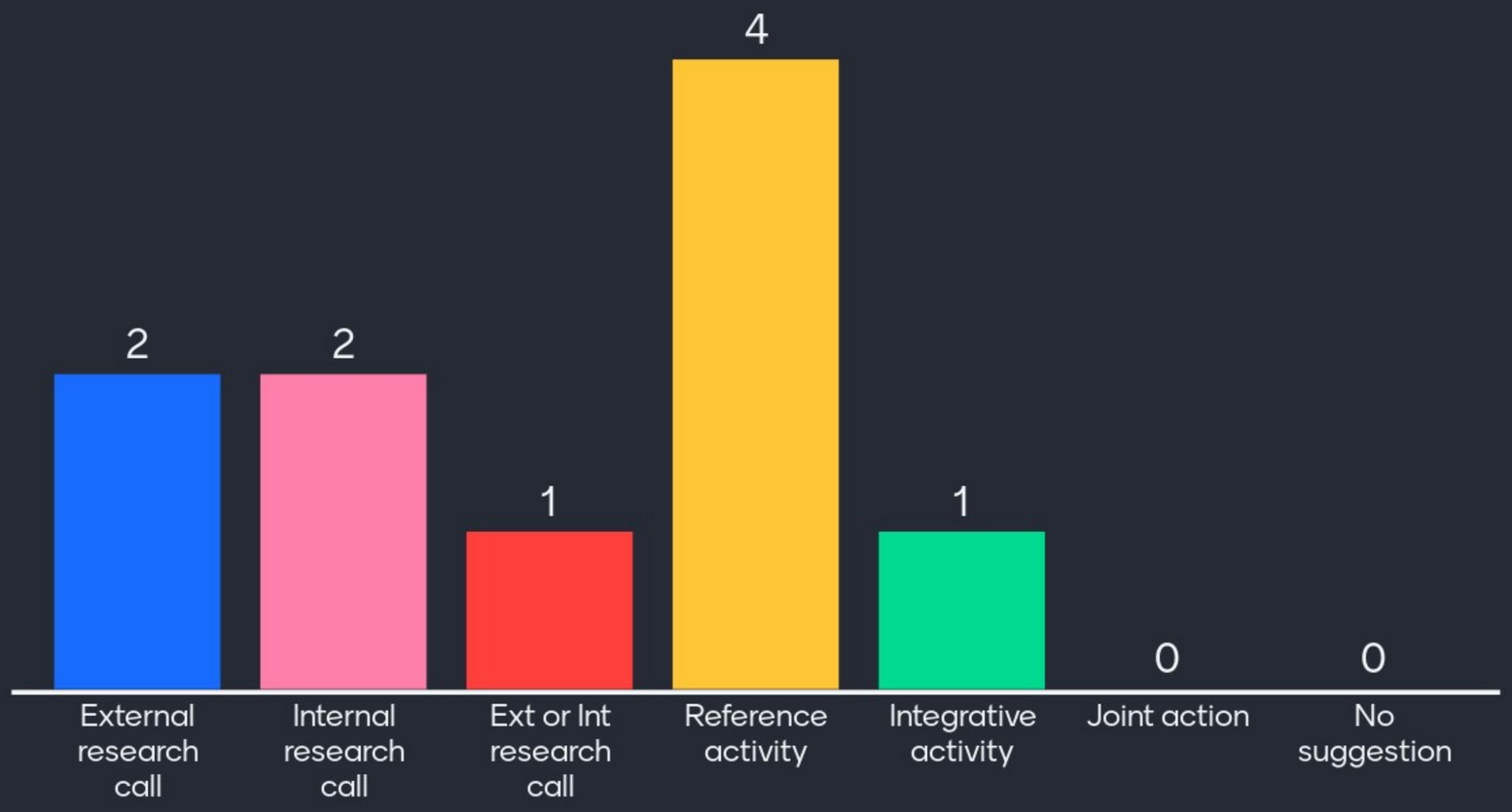

OO10. To develop an integrated approach on animal health and welfare including socio-economic aspects of animal health and animal welfare

Action 3. Set up **social science studies** among veterinarians, farmers, consumers and other actors along the production chain on their behaviour to maintain and improve **animal welfare**, including **consumers' willingness** to pay for improvements; **incentives and barriers** to adopt innovations and practices, including welfare labelling schemes.

Needs:

- ***Establish social science studies along the production chain to understand incentives and barriers to adopting innovations and practices such as welfare labelling schemes***

- ***Improved understanding of the tradeoffs between sustainability and animal welfare***

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Social studies along the production chain

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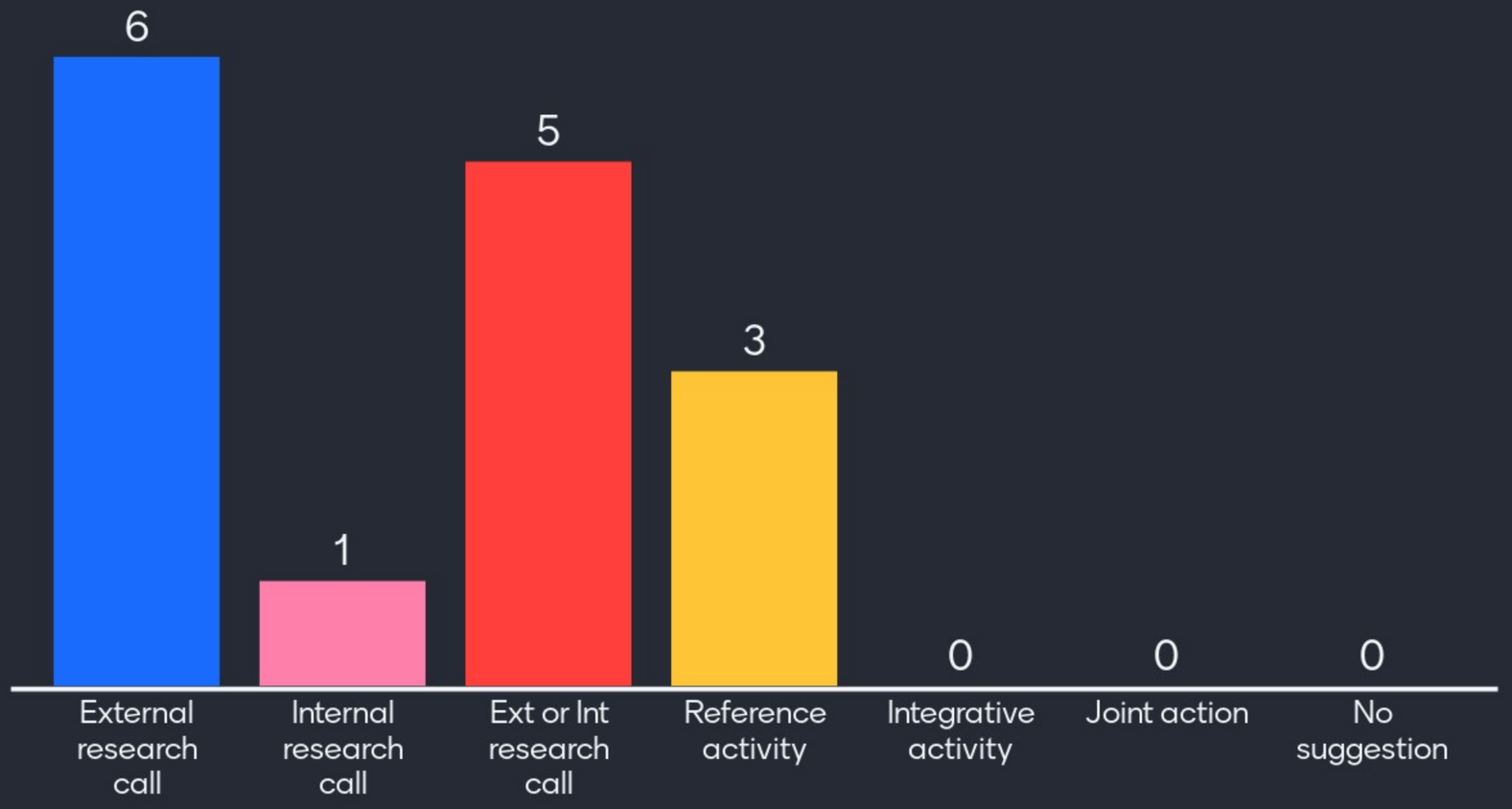

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Tradeoffs between sustainability and welfare

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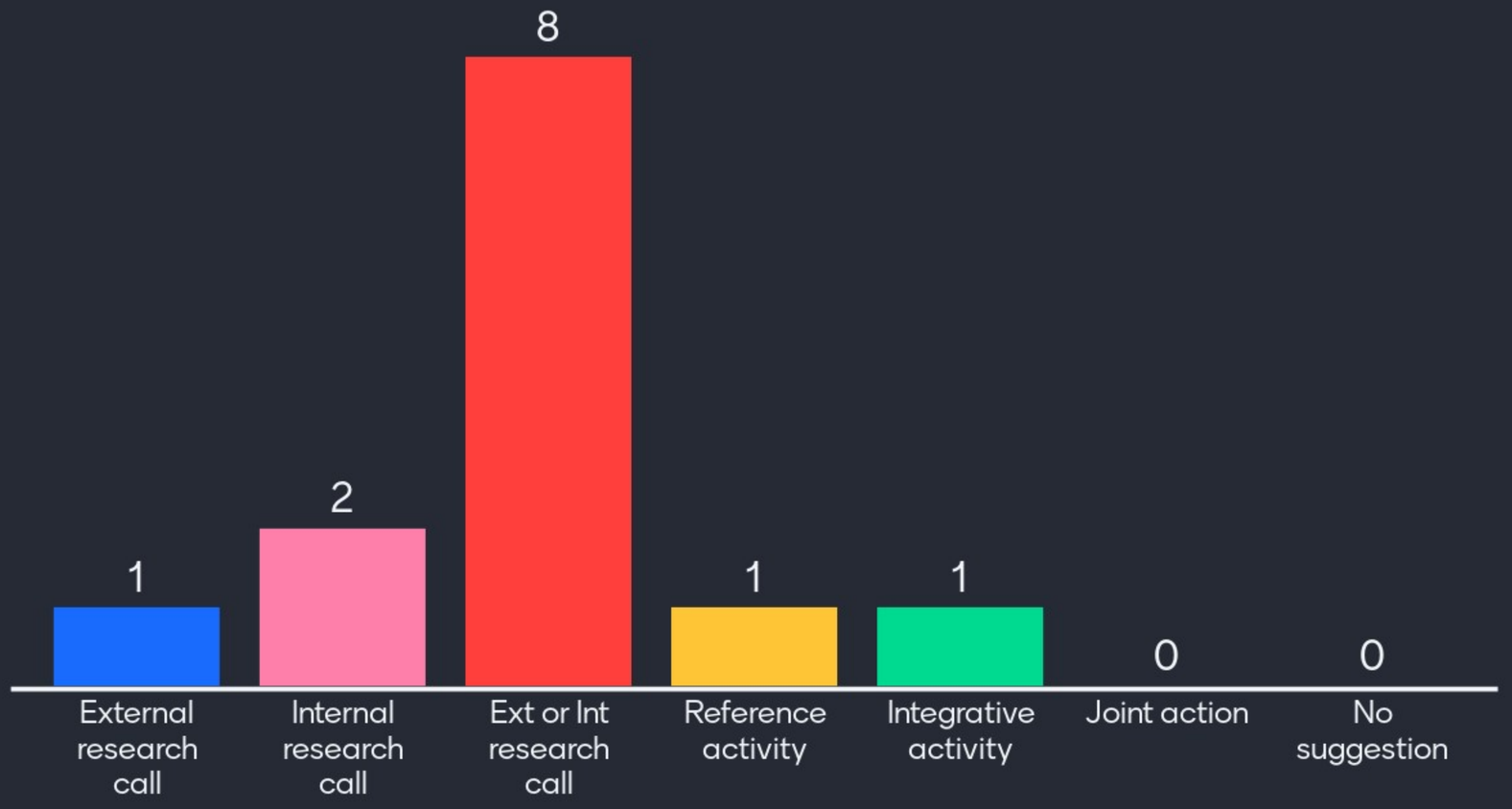

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