ҚАЗАҚСТАН РЕСПУБЛИКАСЫ
ДЕНСАУЛЫҚ САҚТАУ МИНИСТРЛІГІ
MINISTRY OF HEALTHCARE
OF THE REPUBLIC OF KAZAKHSTAN

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г. Алматы

ИНФЕКЦИЯНЫҢ АЛДЫН АЛУ ЖӘНЕ БАҚЫЛАУ ЖӨНІНДЕГІ ҰЛТТЫҚ КОНФЕРЕНЦИЯ

NATIONAL CONFERENCE ON INFECTION PREVENTION AND CONTROL

НАЦИОНАЛЬНАЯ КОНФЕРЕНЦИЯ ПО ПРОФИЛАКТИКЕ ИНФЕКЦИЙ И ИНФЕКЦИОННОМУ КОНТРОЛЮ

Results of the assessment of the competence of infection control specialists as part of the situation analysis in 2021 and recommendations for the training of IPC specialists

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Background

The health of the population is one of the most important factors of economic growth and national security, which is largely determined by the realization of citizens' rights to a safe environment and disease prevention. The World Health Organization has identified ten global threats to health. Among them, five were directly related to infection prevention and control (IPC). According to WHO, at any given time, up to 7% of hospitalized patients in developed countries and 10% in developing countries are exposed to at least one healthcare-associated infection (HCAI). HCAI can be prevented through the implementation of effective IPC practices. Infection prevention and control (IPC) cannot be implemented without properly trained and competent health care workers. To combat these threats in healthcare facilities and ensure accurate and sustainable implementation of best practices, hospital IPC teams must be adequately staffed and include appropriately trained and educated professionals.

Situational analysis of the main components of programs for the prevention and control of infections at the level of medical organizations in the Republic of Kazakhstan

There has been no analysis of the situation regarding the main components of the IPC system in multidisciplinary hospitals in the Republic of Kazakhstan so far. Today in Kazakhstan there is no clear system of mandatory training and annual refresher training for health workers on IPC issues, which includes IPC issues in all ongoing cycles of refresher training for health workers and mandatory demonstration and training of skills. There are also limited opportunities for infection control staff to receive methodological and mentoring assistance on IPC issues and to share experiences with other specialists.

Research aim:

Our goal was to map current competency gaps as well as identify local IPC training needs to identify training and education opportunities for IPC professionals in Kazakhstan, which should inform stakeholders and allow them to tailor their curricula to specific needs and harmonize IPC training with international requirements.

Research tasks

1. Assess the level of competencies of specialists responsible for IPC
2. Formulate recommendations for the training of IPC specialists

Assessment format

From August to October 2021, the Project "Situational analysis of basic components of infection prevention and control programs at the level of medical organizations in the Republic of Kazakhstan" was implemented to assess the current situation on the implementation of basic components of IPC in hospitals of Kazakhstan in order to provide information for the development of the National Action Plan for IPC in the Republic of Kazakhstan.

The data were collected by a team of specialists from the NCPH and invited experts from practicing hospital epidemiologists. All specialists involved in data collection received two days of training on the basic WHO recommendations for the IPC system, as well as on the protocol and tools for the situation analysis. Most of the inpatient form questions were structured and included validation methods.

One of the stages of the evaluation was to assess the level of competence of the specialists responsible for IPC.

Materials and Methods

Sample size: 81 medical organizations (random sampling method) belonging to the CSHI system of the Republic of Kazakhstan and providing inpatient services were selected to participate in the situational analysis. Seventy-eight clinics took part.

Participants and Recruitment - (solid cross-sectional study) specialists responsible for epidemiological service in a medical organization, epidemiologists.

All participants who took part in the survey provided informed consent.

A form used by ICAP in other countries around the world was used to assess the competencies of specialists responsible for IPC work.

A total of 263 specialists completed the self-assessment of IPC competencies

Assessment tool

The form for assessing the competence of IPC specialists consisted of 7 competency areas :

Competency area	Competences (42)
Disease detection processes	5
Infection prevention and control	7 (16)
Labor hygiene	7
Disinfection and sterilization of medical equipment and instruments	5
Emergency preparedness and outbreak investigation	5
Epidemiological surveillance and epidemiological investigations	3
Assessing the effectiveness of IPC and improving quality	5
Management and administration of the IPC program	5

Assessment scale

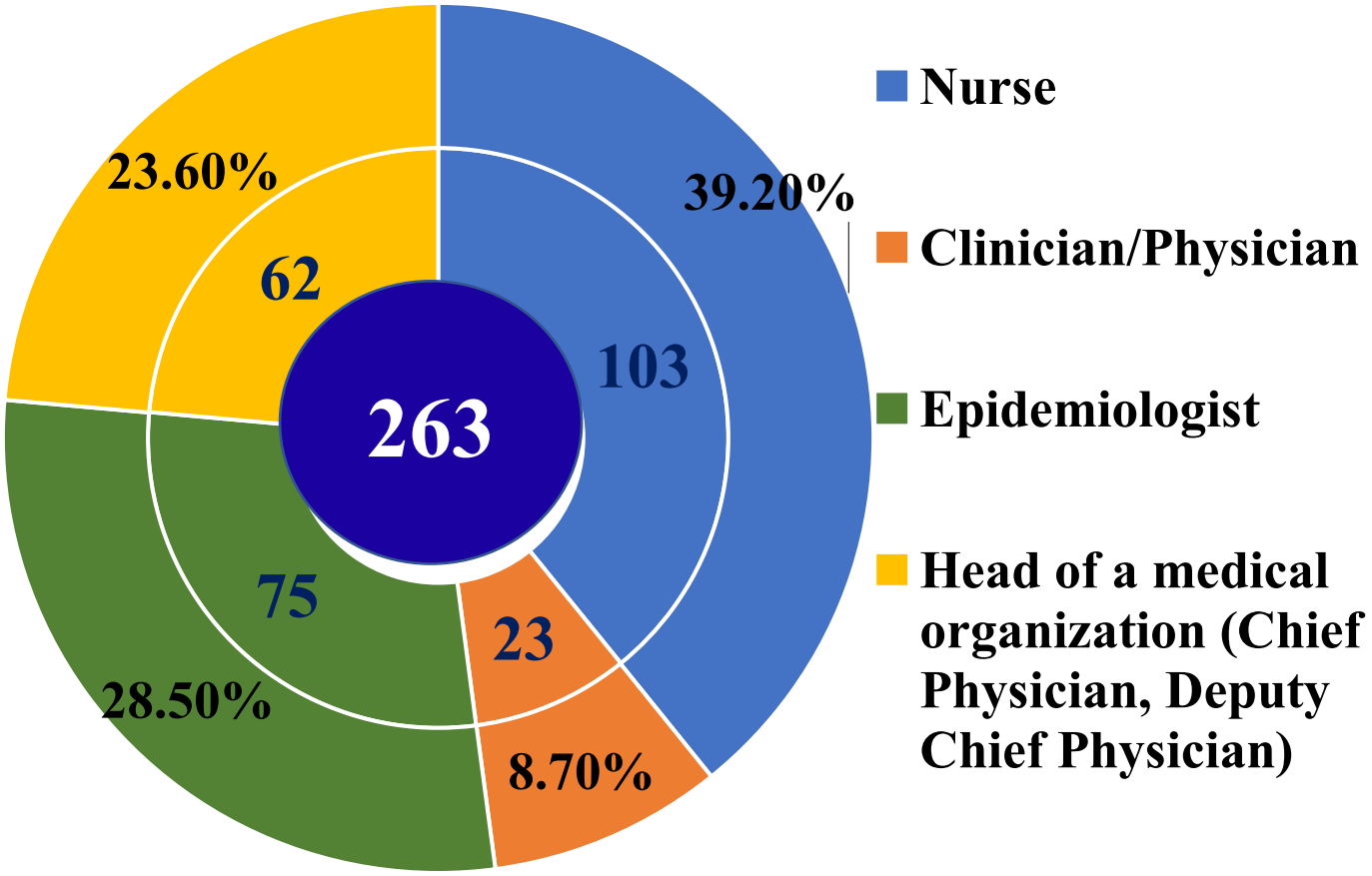
1	I am not familiar with this topic.
2	I have some understanding of this subject but I need additional training and ongoing support and help to make this work
3	I can independently carry out this work under the guidance of a more experienced specialist
4	I can do it on my own
5	I can teach this to others

The number of medical organizations participated in situational analysis

Region	CRH	City Governmental	City Private	Total
Akmola		2	1	3
Aktobe		3	2	5
Almaty	1	3	2	6
Atyrau	1	1	1	3
East Kazakhstan	1	5	1	7
Nur-Sultan city		2	2	4
Shymkent city		2	3	5
Almaty city		5	3	8
Zhambyl	1	3	2	6
West Kazakhstan		3		3
Karagandy	1	3	3	7
Kostanay	1	2	1	4
Kyzylorda		2	1	3
Mangistau	1	2	1	4
Pavlodar		2	1	3
North Kazakhstan		2		2
Turkestan	1	3	1	5
Total	8	45	25	78

Results:

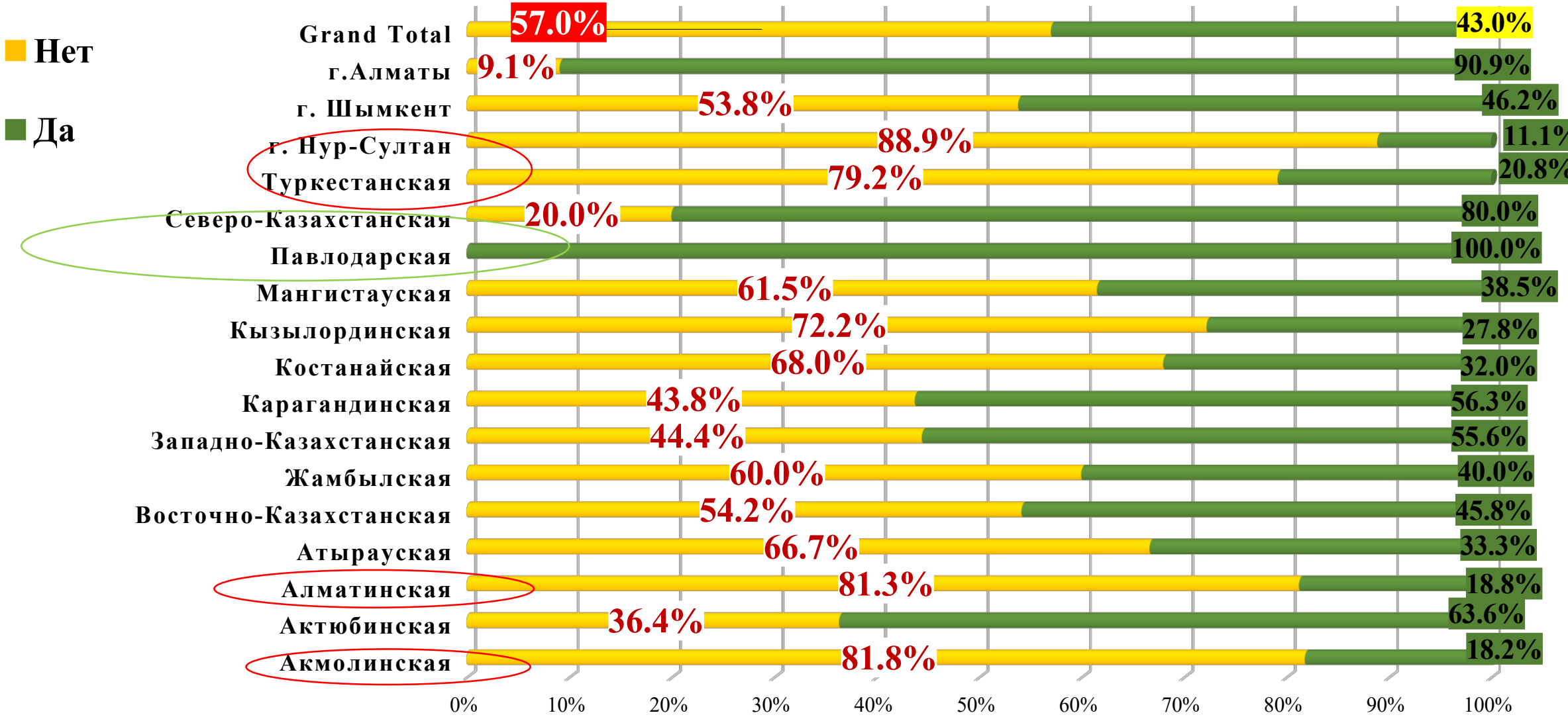
	Frequency	%
Akmola	24	9,1
Aktobe	9	3,4
Almaty	10	3,8
Atyrau	6	2,3
East Kazakhstan	24	9,1
Almaty city	22	8,4
Nur-Sultan city	9	3,4
Shymkentcity	13	4,9
Zhambyl	20	7,6
East Kazakhstan	14	5,3
Karagandy	11	4,2
Kostanay	25	9,5
Kyzylorda	18	6,8
Mangystau	13	4,9
Pavlodar	10	3,8
North Kazakhstan	5	1,9
Taldykorgan	6	2,3
Turkestan	24	9,1
Total	**263**	**100,0**



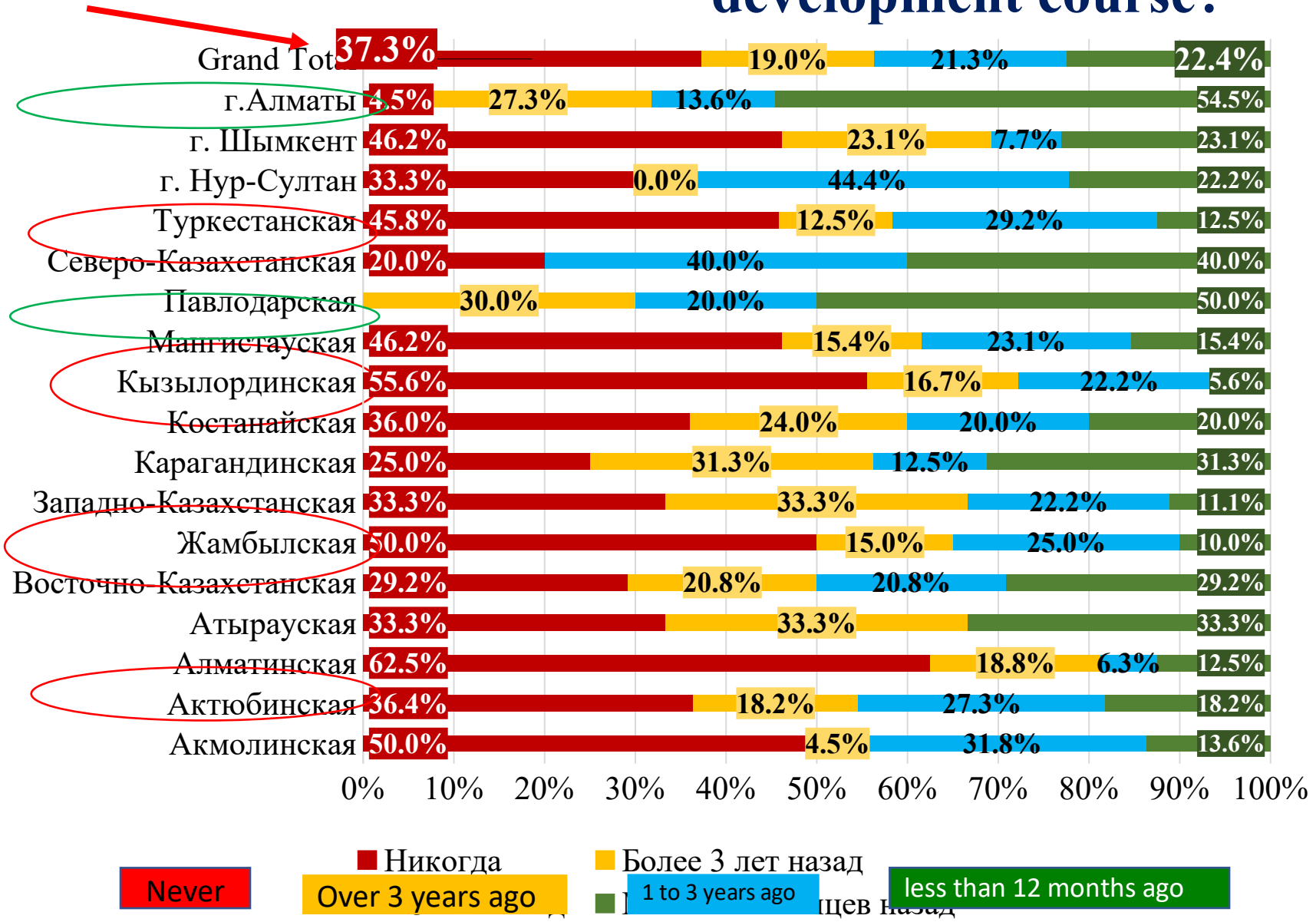
Length of service of those responsible for IPC

	Average experience (years)	95% Confidence interval	
		Lower limit	Upper limit
Nurse	9,63	7,64	11,62
Clinician/Physician	14,3	9,61	18,66
Epidemiologist	7,2	5,29	9,11
Head of a medical organization (Chief Physician, Deputy Chief Physician)	11,7	8,54	14,98

Did you receive special IPC training to obtain a certificate?

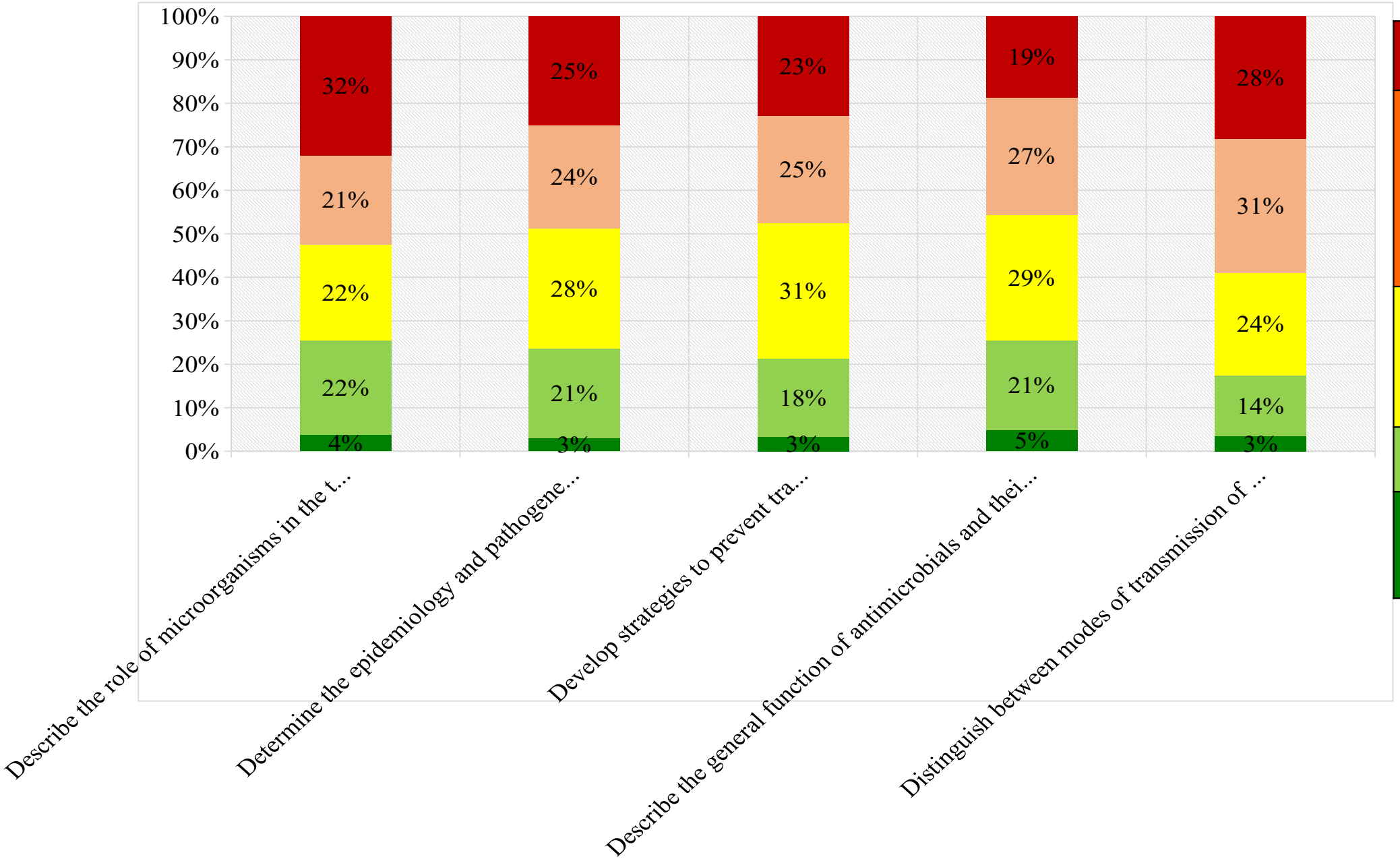


When was the last time you participated in any IPC training or development course?

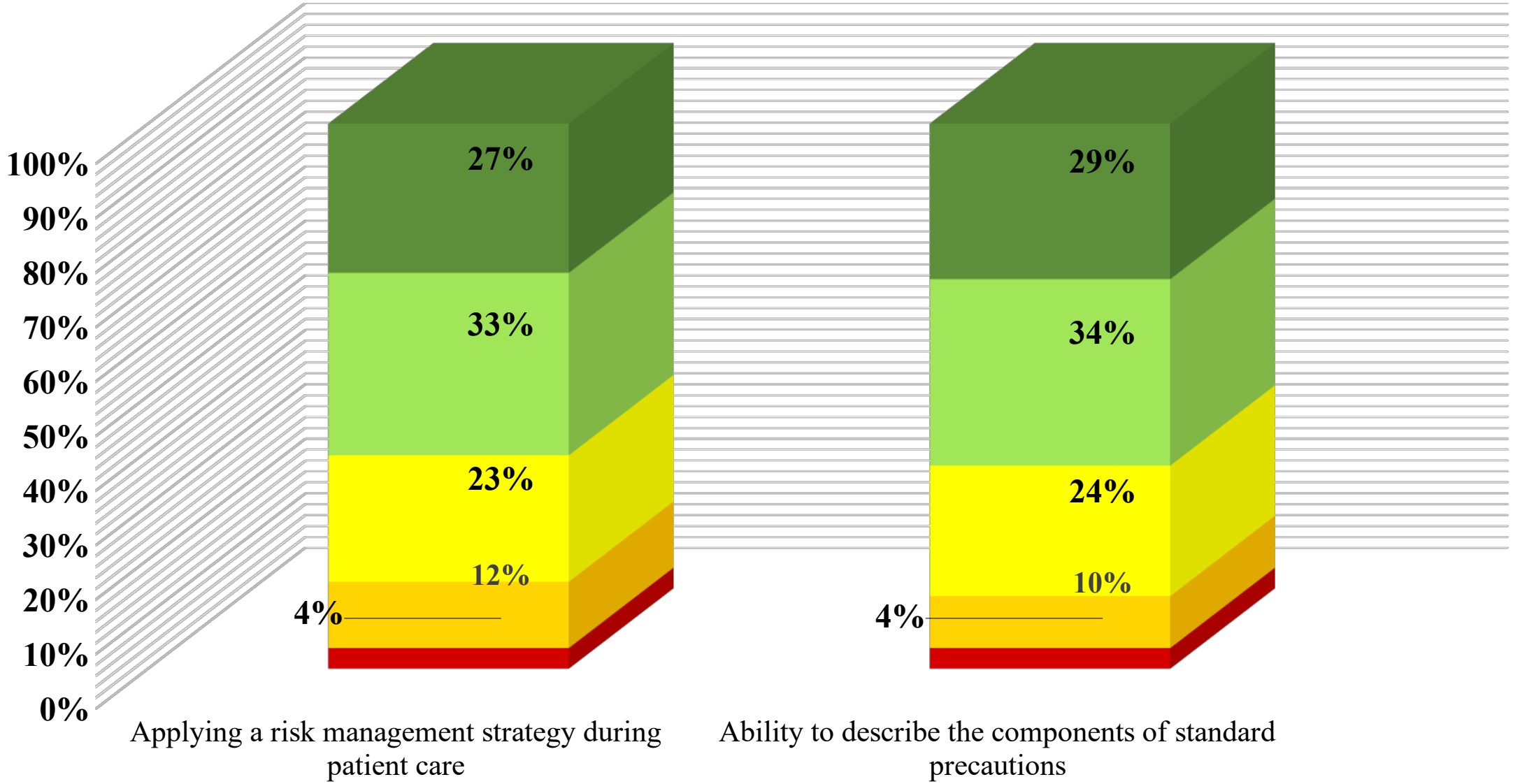


	They have never been trained or have been trained for more than 3 years	Less than 3 years of training
Акмолинская	54,5%	45,5%
Актюбинская	54,5%	45,5%
Алматинская	81,3%	18,8%
Атырауская	66,7%	33,3%
Восточно-Казахстанская	50,0%	50,0%
Жамбылская	65,0%	35,0%
Западно-Казахстанская	66,7%	33,3%
Карагандинская	56,3%	43,8%
Костанайская	60,0%	40,0%
Кызылординская	72,2%	27,8%
Мангистауская	61,5%	38,5%
Павлодарская	30,0%	70,0%
Северо-Казахстанская	20,0%	80,0%
Туркестанская	58,3%	41,7%
г. Нур-Султан	33,3%	66,7%
г. Шымкент	69,2%	30,8%
г.Алматы	31,8%	68,2%
Grand Total	56,3%	43,7%

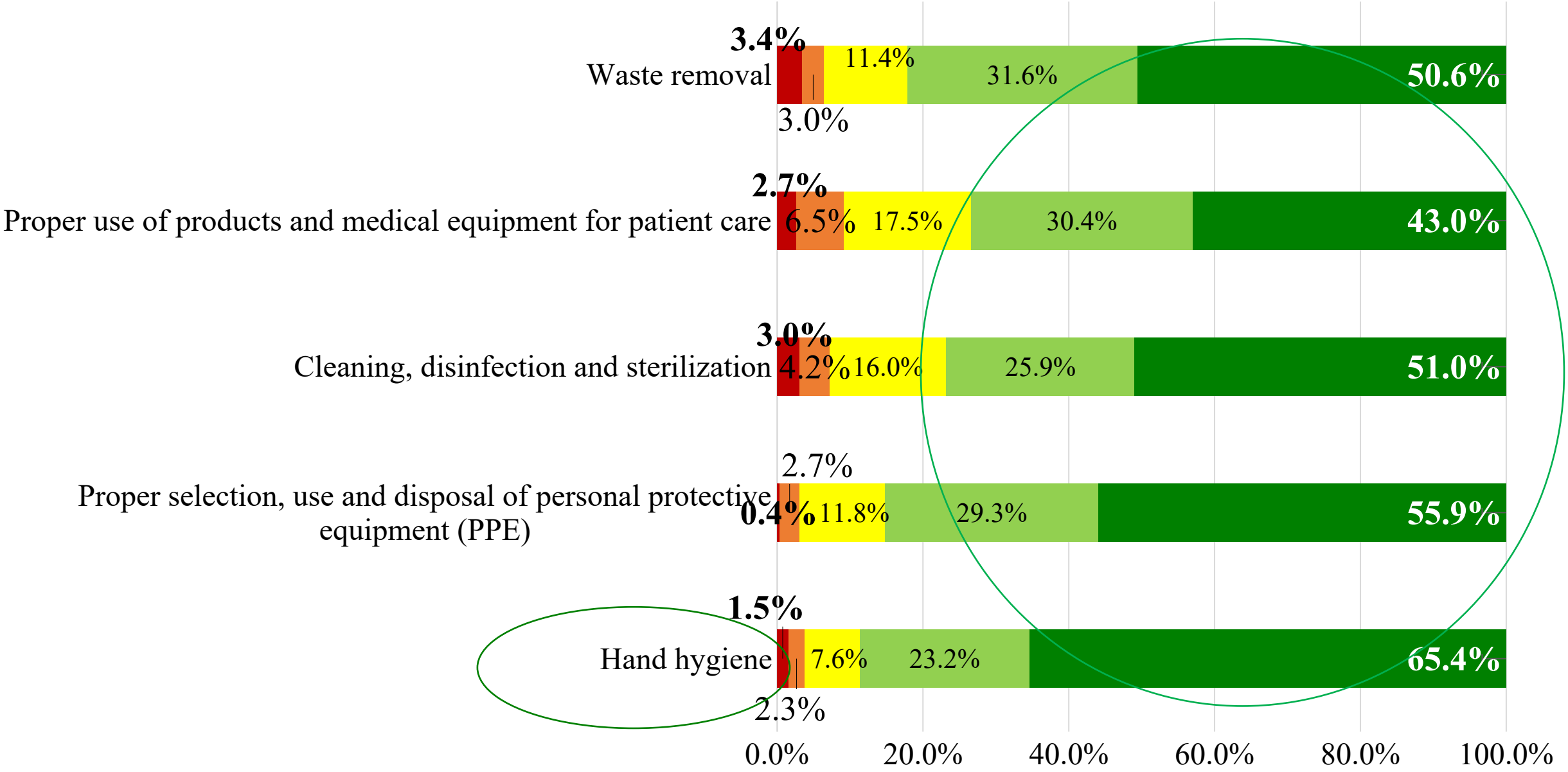
Disease detection processes



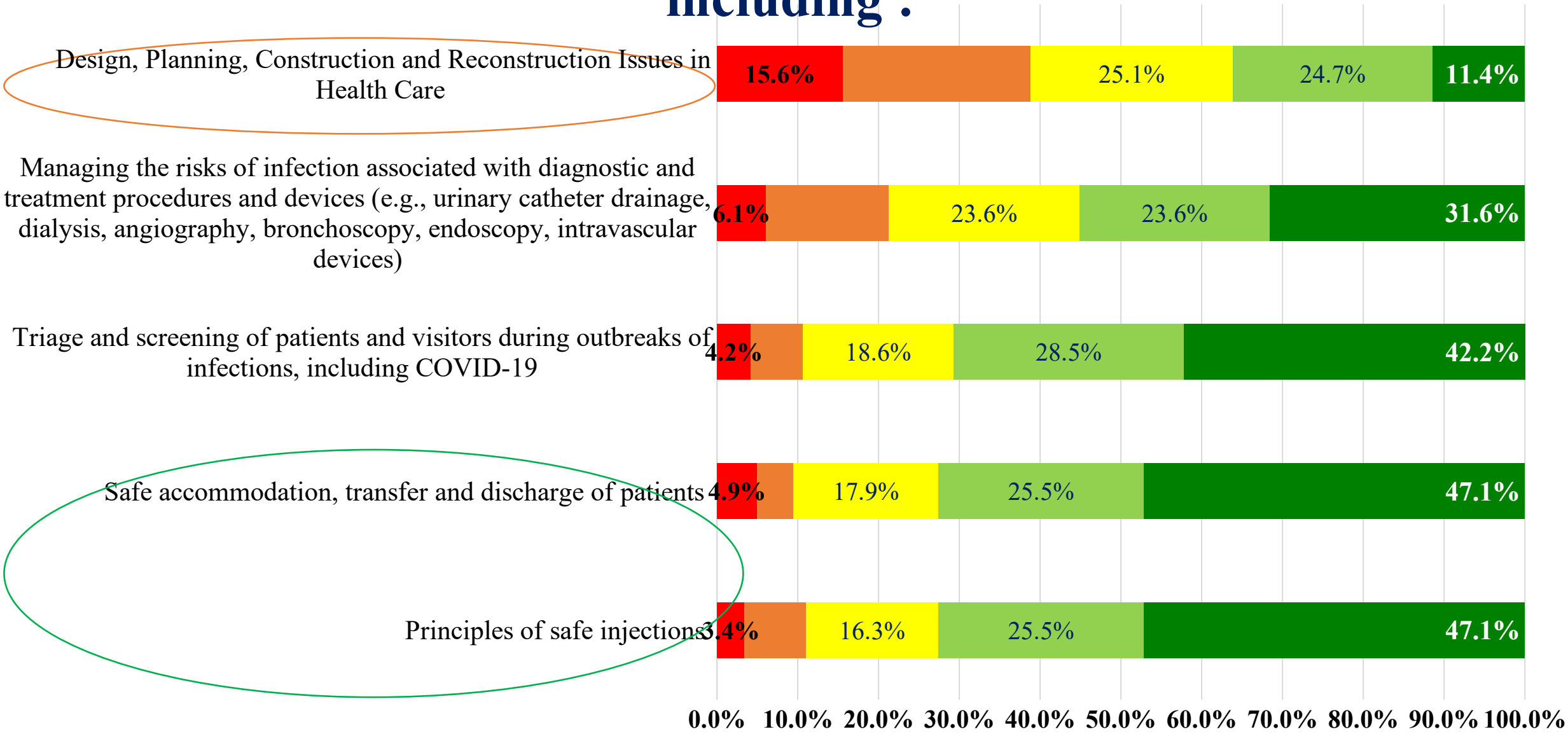
Infection prevention and control



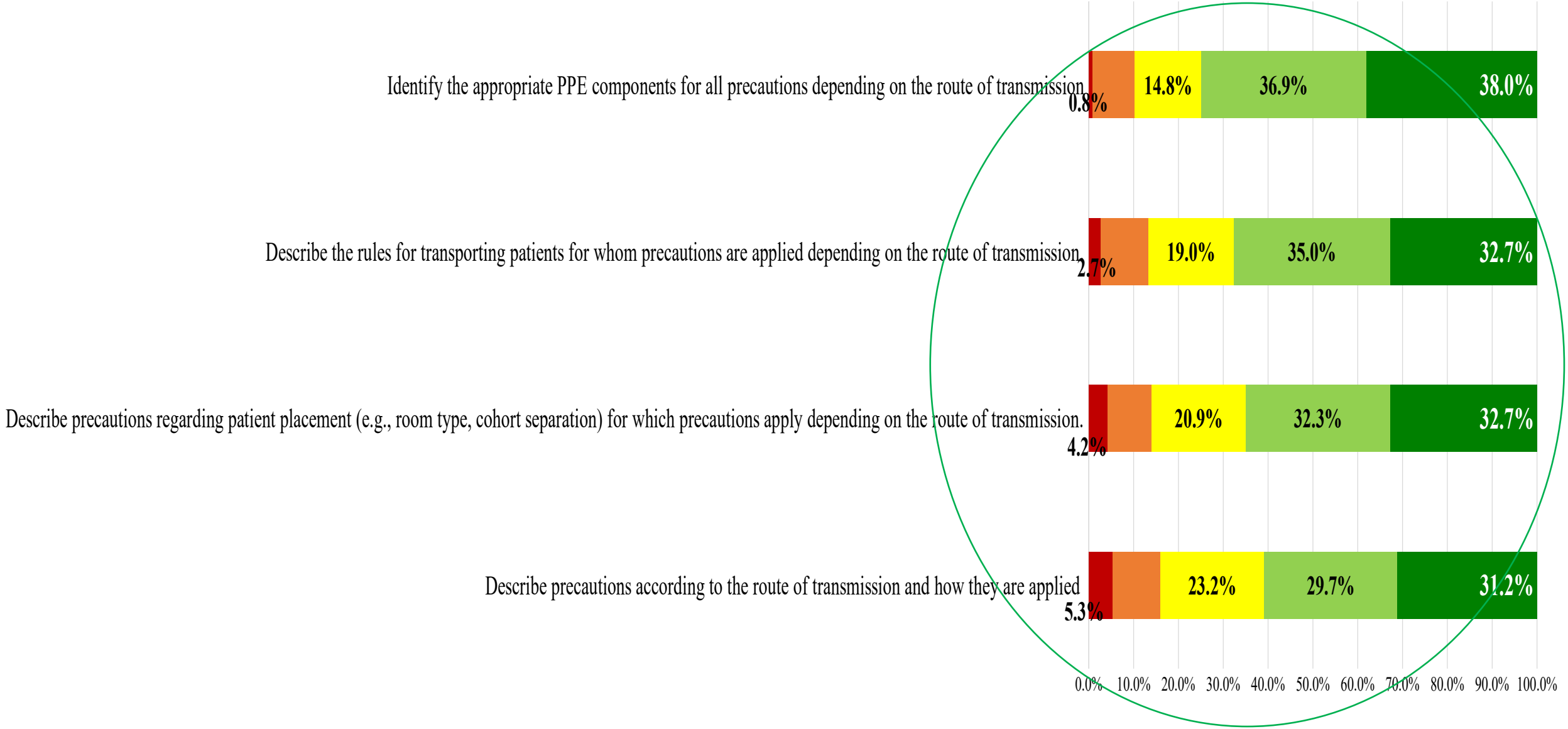
Implementation of standard precautionary measures, including:



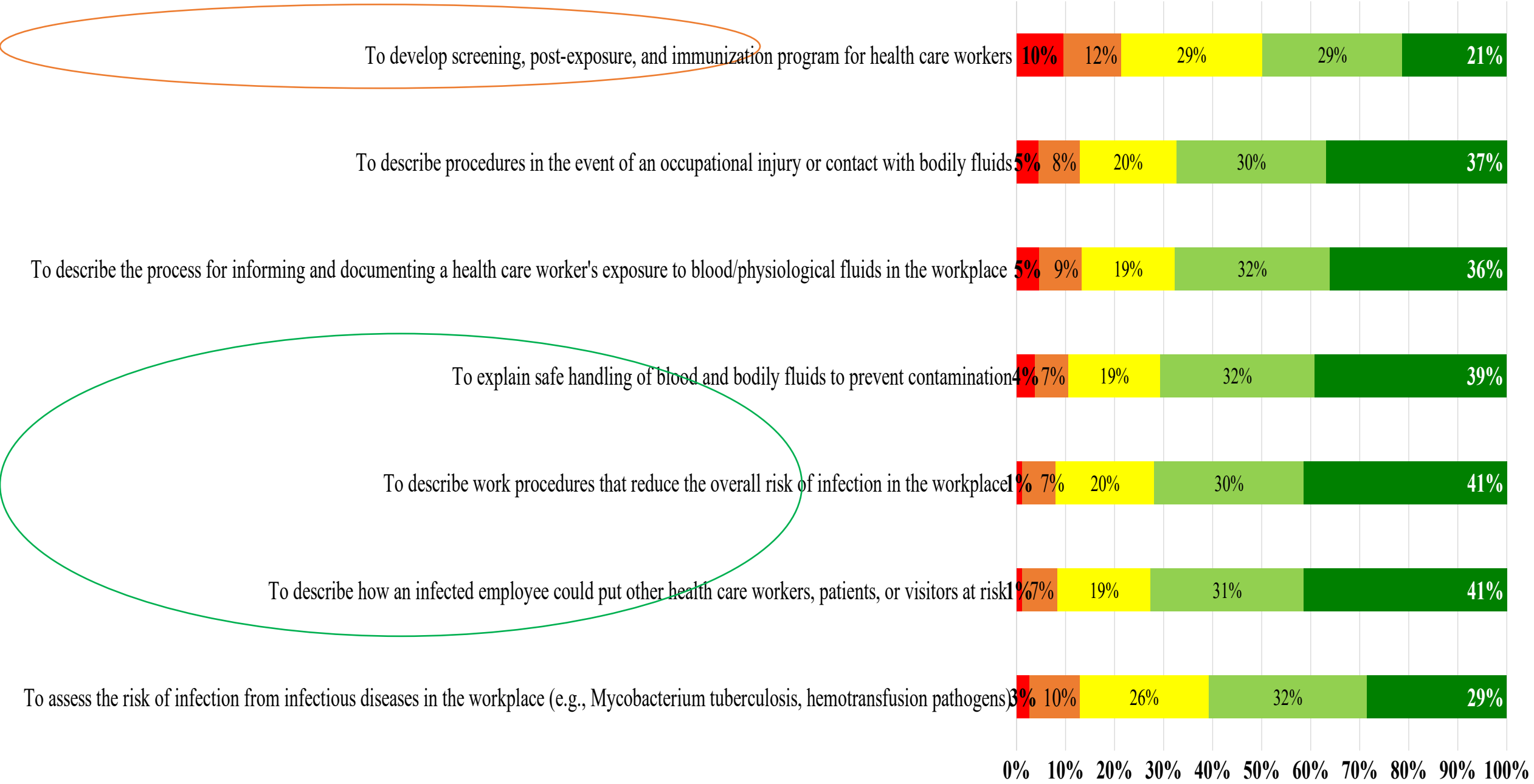
Conducting activities as part of standard precautions, including :



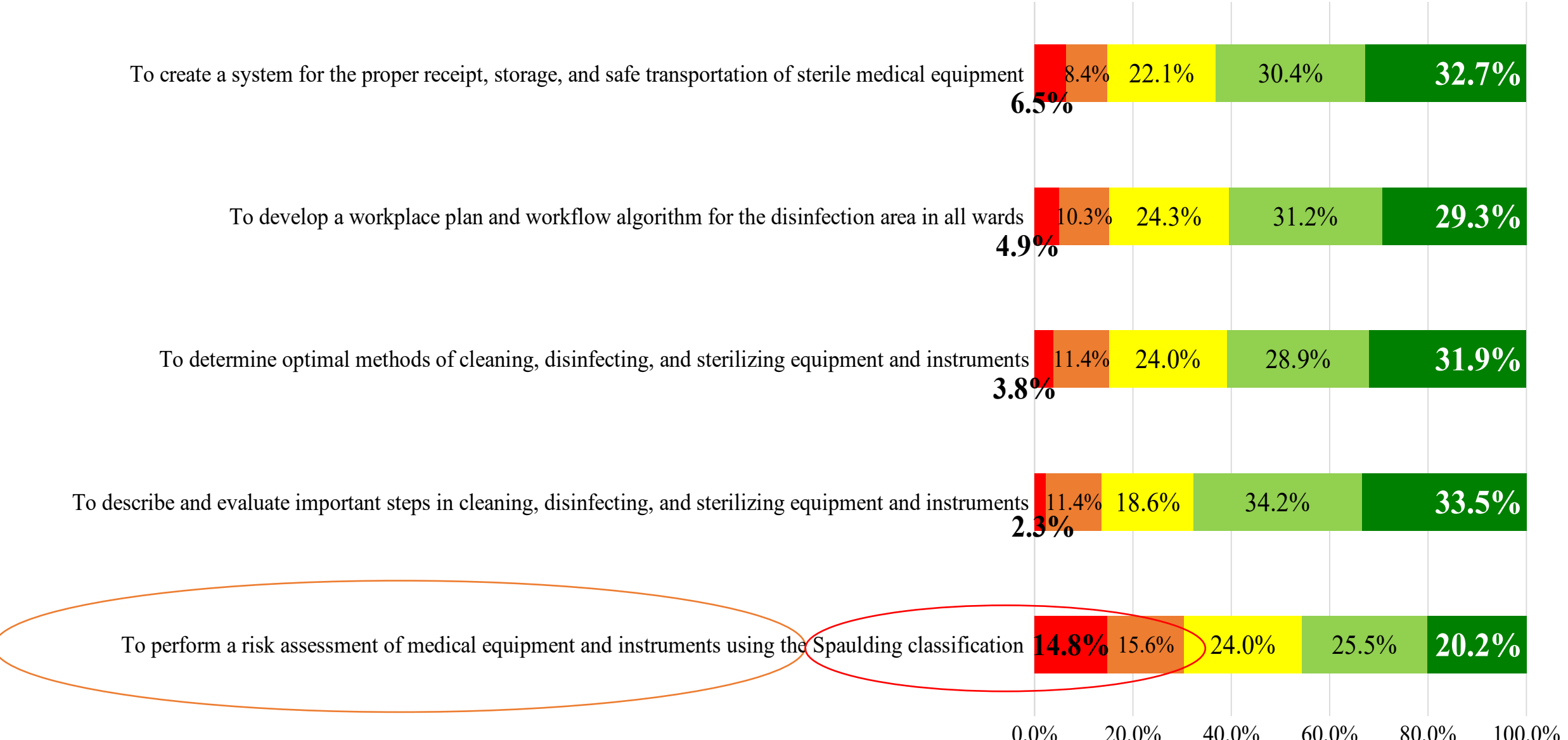
Conducting standard precautionary measures (2), including:



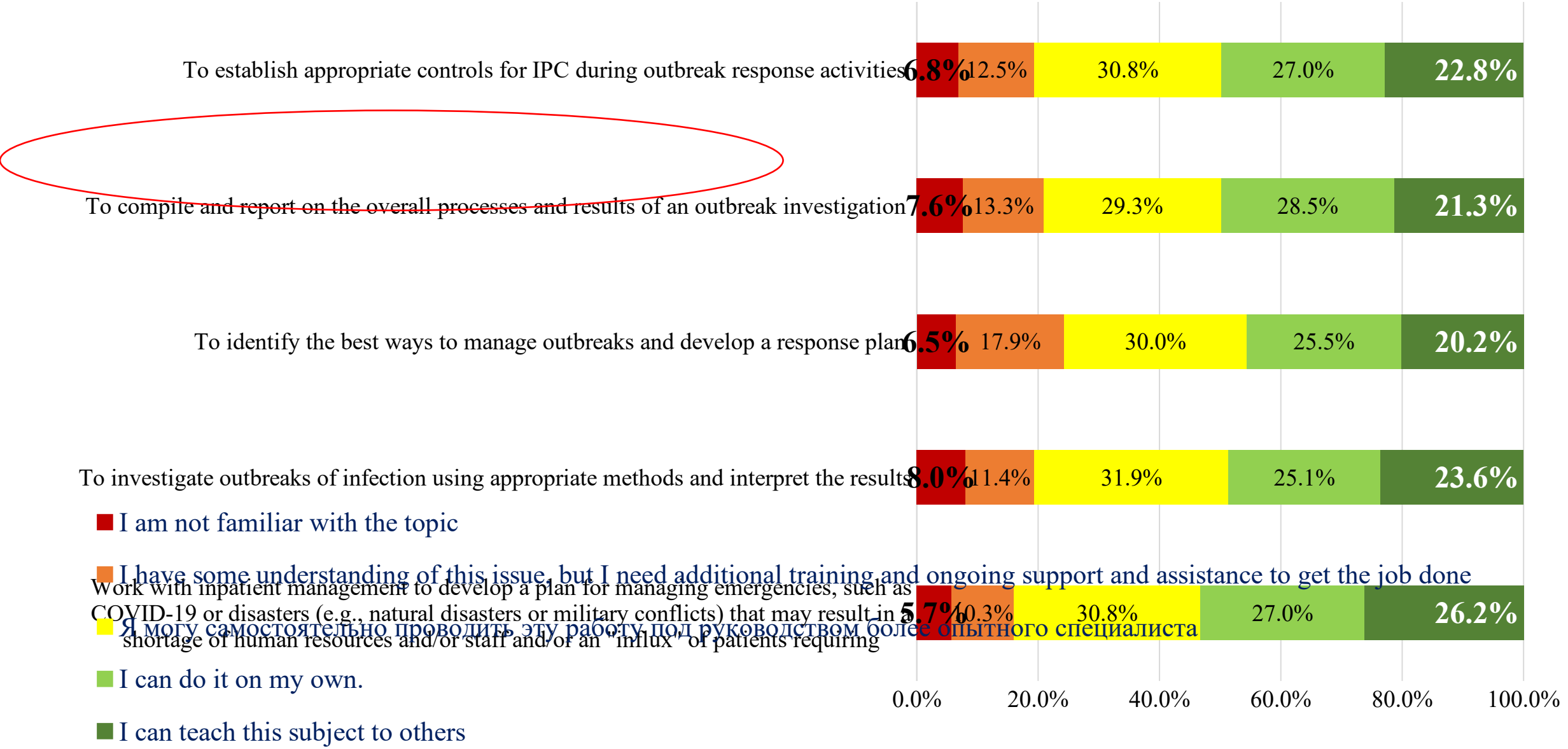
Labor hygiene



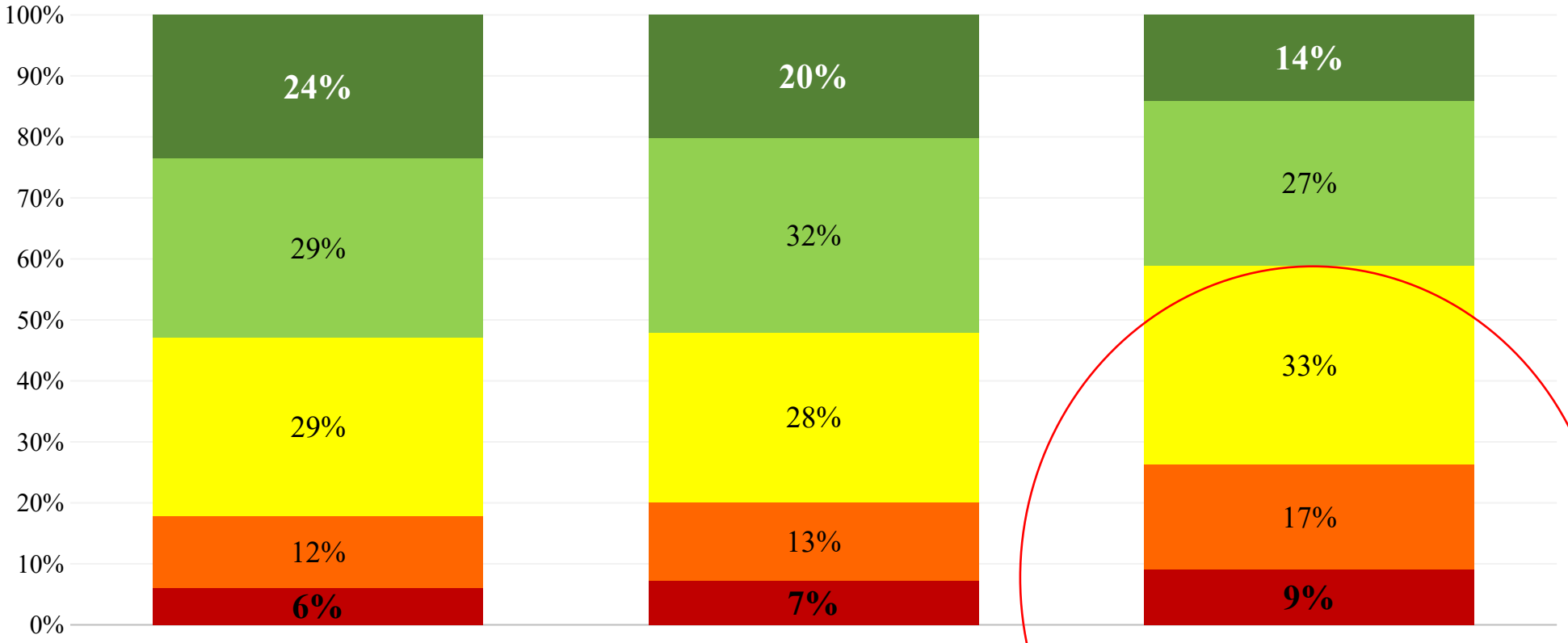
Disinfection and sterilization of medical equipment and instruments



Emergency preparedness and outbreak investigation



Epidemiological surveillance and epidemiological investigations

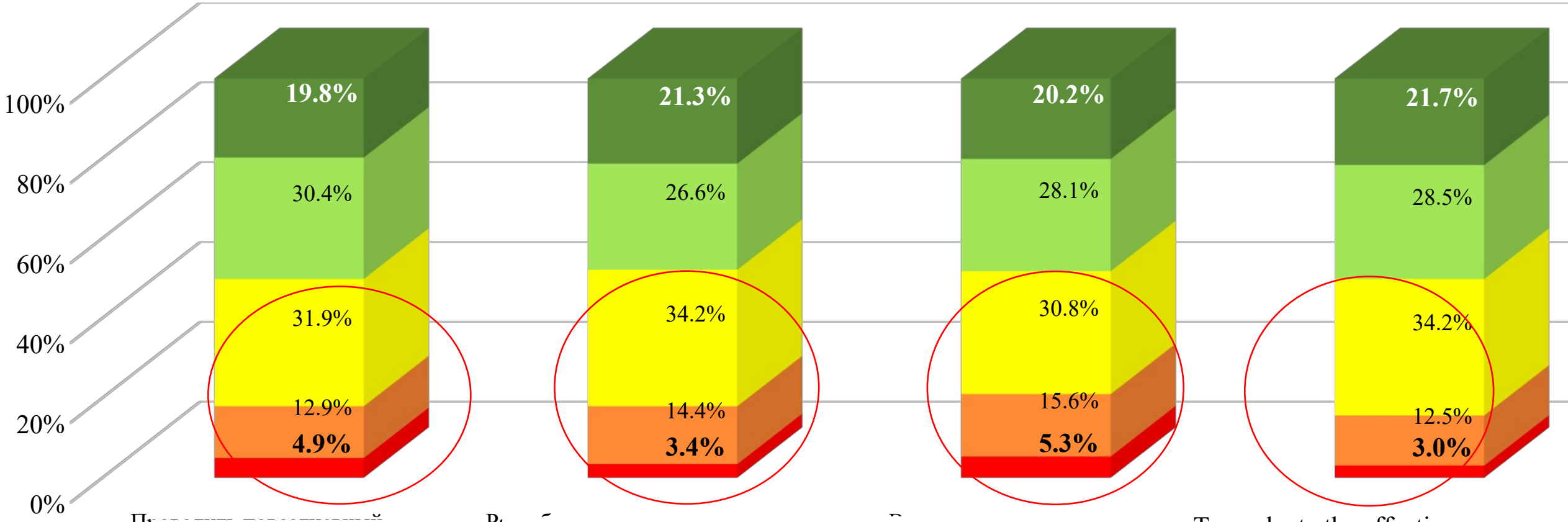


To develop a system of epidemiological surveillance for hospital-acquired infections (HAI)

To receive and summarize epidemiological surveillance data on HAIs

To interpret epidemiological surveillance data on HAIs: basic static methods and tools, including application of standard infection rate, risk assessment

Assessing the effectiveness of IPC and improving quality



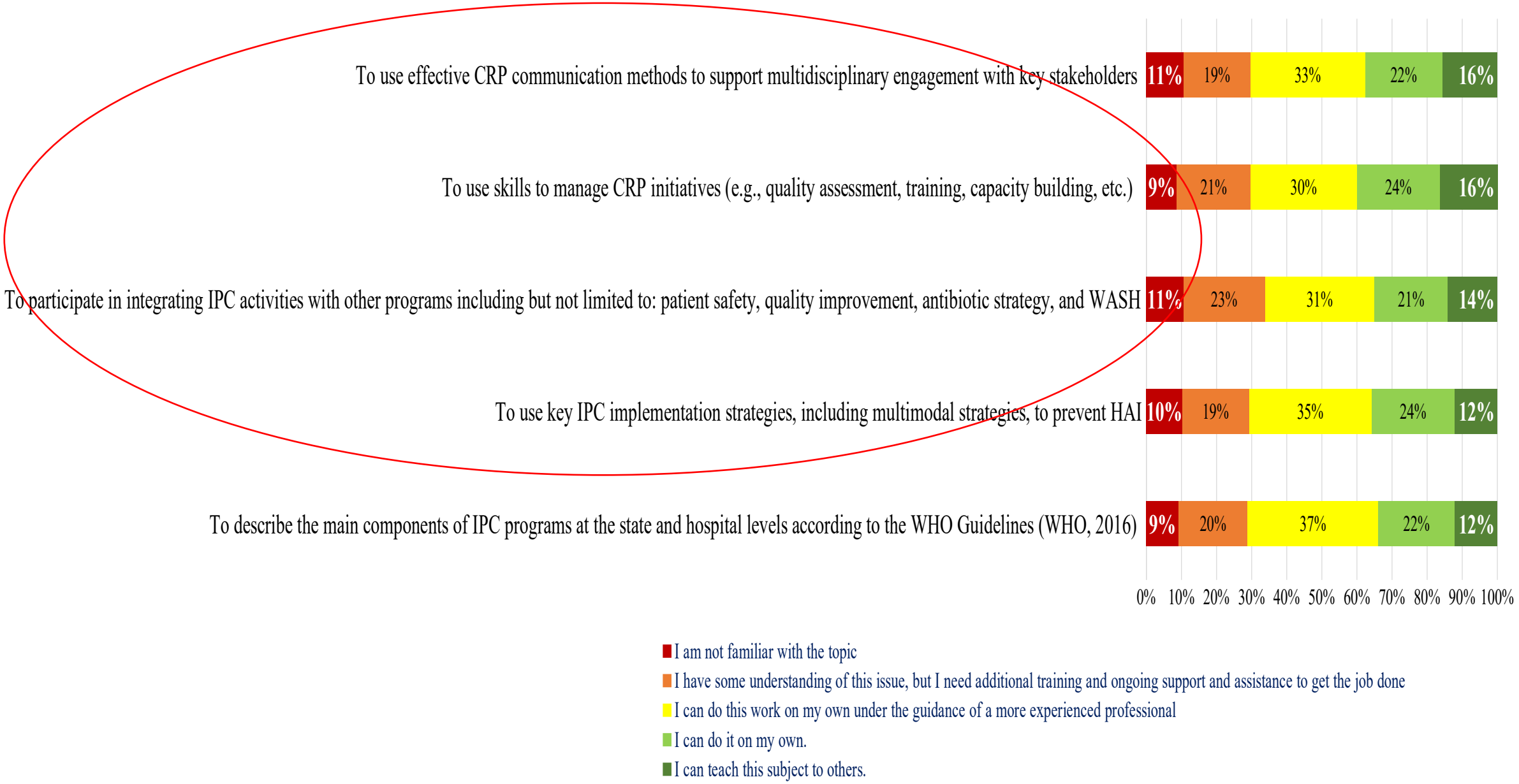
To conduct day-to-day monitoring and evaluation of IPC compliance using data collection tools/methods

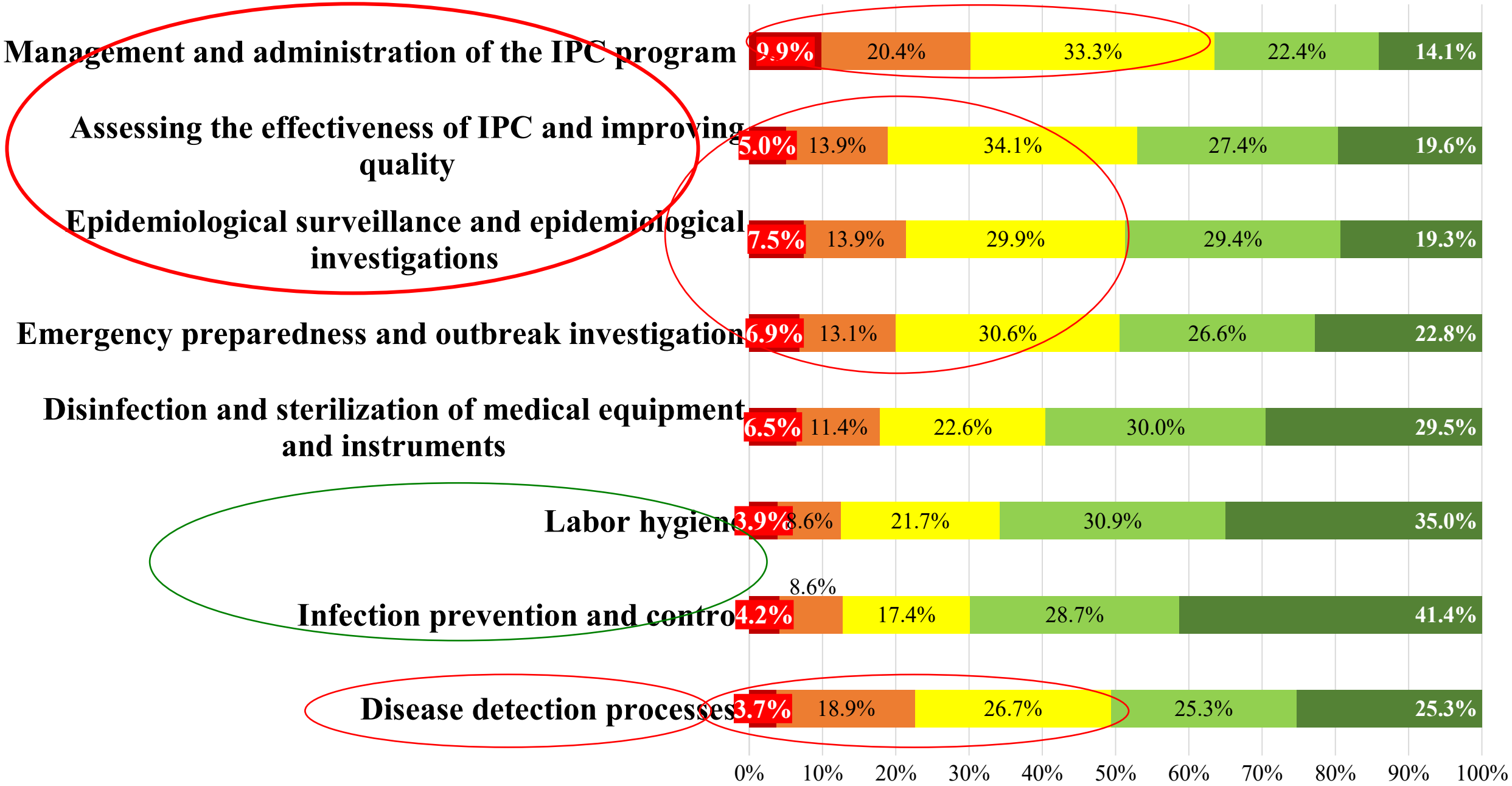
To develop a quality control and evaluation plan

To identify and prioritize problems related to the quality of IPCs

To evaluate the effectiveness of quality improvement measures and disseminate information about them

Management and administration of the IPC program




Management and administration of the IPC program
9.9%
20.4%
33.3%
22.4%
14.1%
Assessing the effectiveness of IPC and improving quality
5.0%
13.9%
34.1%
27.4%
19.6%
Epidemiological surveillance and epidemiological investigations
7.5%
13.9%
29.9%
29.4%
19.3%
Emergency preparedness and outbreak investigation
6.9%
13.1%
30.6%
26.6%
22.8%
Disinfection and sterilization of medical equipment and instruments
6.5%
11.4%
22.6%
30.0%
29.5%
Labor hygien
3.9%
8.6%
21.7%
30.9%
35.0%
Infection prevention and contro
8.6%
4.2%
17.4%
28.7%
41.4%
Disease detection processes
3.7%
18.9%
26.7%
25.3%
25.3%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Competence areas of specialists, according to the assessment, require development through training

Several recommendations emerge from this study:

- The epidemiological service is represented in different medical institutions of Kazakhstan by a different range and number of specialists - emergency doctors, clinicians, epidemiologists
- •To support the development and retention of a skilled, knowledgeable health care workforce, national undergraduate and postgraduate IPC education programs should be developed in collaboration with local academic institutions.
- The National IPC Team plays a key role in supporting and delivering training in infection prevention and control at the facility level.
- In developing curricula, it is desirable to refer to international curricula and networks for specialized IPC programs and to adapt these documents and approaches to national needs and available local resources.
- •The national IPC program should provide guidance and recommendations for in-service training to be conducted at the facility level in accordance with a detailed description of the core IPC competencies for health professionals and to cover all professional categories listed in core component 3a.

Several recommendations emerge from this study:

- Strategies for conducting IPC training programs need to be shared with the international community;
- To monitor, review, and improve the quality and implementation of training programs, feedback from health care providers is important;
- To reduce the risks of HAIs, training should be provided to all health care providers in the area of IPC using teamwork and task-oriented strategies (bedside training and simulation-based training).
- Evaluating curricula and incorporating information from health care providers will improve the quality of IPC curricula, leading to increased prevention and control of infections and infectious diseases among health care providers and patients.
- Educational program adaptation takes into account differences in preparedness at the facility level, differences in health care provider roles and their basic infection control knowledge and training, and differences in the number and types of infection control tools (e.g., PPE) available to health care providers.
- To assess conditions for infection control readiness and develop training resources that are "action-oriented, modular, available on mobile devices for on-demand use, available in multiple formats, and approved by key stakeholders”
- Additional investment is needed with the possibility of attracting training organizations to support activities.

Along with the content of the training, the context through the following is also important:

1) Assessment of training needs;

2) Integration of training for new employees;

3) Developing training programs for all staff;

4) Evaluating the need to develop appropriate training processes;

5) Recognizing the need to assess competencies on a regular basis;

6) Developing a safety culture to obtain feedback on the availability and level of competencies;

7) Implementation of objective methods for assessing competencies according to IPC.

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Thank you for your attention!