Learning from COVID-19: Systemic Changes in IPC of Kazakhstan

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WHO guidance on the main components of IPC programs at the national and emergency health facility levels

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HEALTH CARE WITHOUT AVOIDABLE INFECTIONS

In the spotlight - prevention of healthcare-associated infections (HAIs) and combating antimicrobial resistance (AMR)

Источники: Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. Geneva: World Health Organization; 2016 (https://www.who.int/gpsc/ipc-components-guidelines/en/);
Zingg W, Holmes A, Dettenkofer M, Goetting T, Secci F, Clack L et al. Hospital organisation, management, and structure for prevention of health-care-associated infection: a systematic review and expert consensus. Lancet Infect Dis. 2015;15(2):212–24;
Storr J, Twyman A, Zingg W, Damani N, Kilpatrick C, Reilly J et al. Core components for effective infection prevention and control programmes: new WHO evidence-based recommendations. Antimicrob Resist Infect Control. 2017;6:6;
Price L, MacDonald J, Melone L, Howe T, Flowers P, Currie K et al. Effectiveness of national and subnational infection prevention and control interventions in high-income and upper-middle-income countries: a systematic review. Lancet Infect Dis. 2018;18(5):e159–e171.

A guide to the development, implementation and evaluation of clinical practice guidelines

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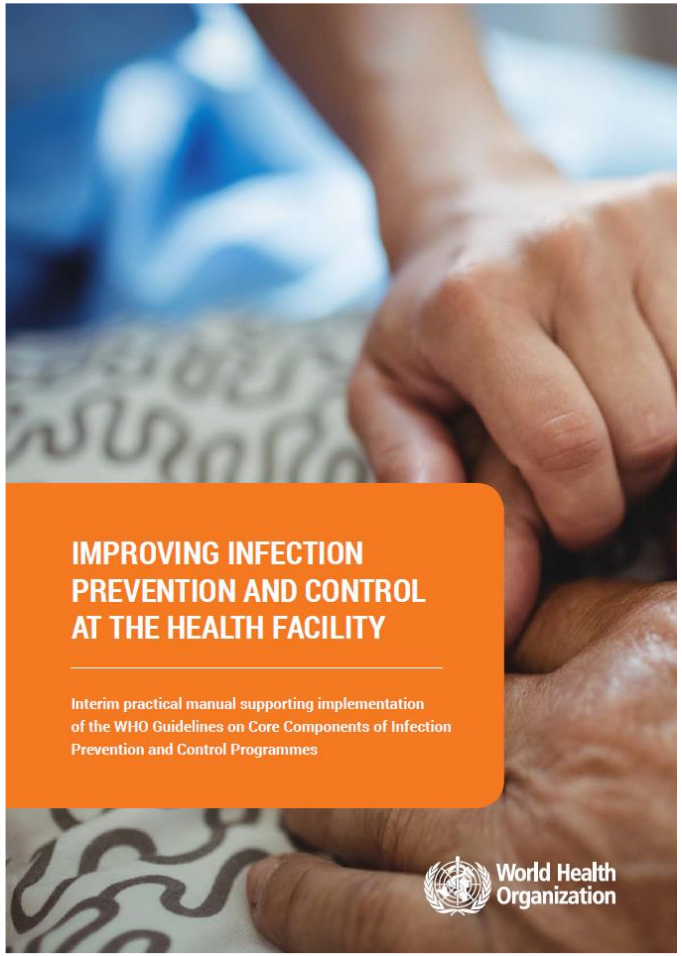

Источники: Improving infection prevention and control at the health facility: interim practical manual supporting implementation of the WHO guidelines on core components of infection prevention and control programmes. Geneva: World Health Organization; 2018 (https://www.who.int/infection-prevention/tools/core-components/en/);
Infection Prevention and Control Assessment Framework (IPCAF) at the facility level. Geneva: World Health Organization; 2018 (https://www.who.int/infection-prevention/tools/core-components/IPCAF-facility.PDF).

COVID-19 WHO Interim Guidelines

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Infection prevention and control during health care when coronavirus disease (COVID-19) is suspected or confirmed

Interim guidance
12 July 2021

World Health Organization

Key points

- In the context of SARS-CoV-2 variants of concern, based on the available evidence and expert consensus, WHO advises that the current recommended IPC measures be reinforced and continue to be stringently implemented.
- WHO continues to recommend that the highest priority population for vaccination include health workers, older adults and individuals with underlying medical conditions.
- At the present time, WHO recommends that vaccinated persons should continue to adhere to public health and social measures and IPC measures, including in health facilities.
- Health facilities[a] in some locations have been associated with the spread of SARS-CoV-2 between health workers, patients and others.
- Following critical health care IPC strategies and measures are required to prevent or limit SARS-CoV-2 transmission in health facilities, including having the following in place: an IPC programme or at least a dedicated and trained IPC focal point, engineering and environmental controls, administrative controls, standard and transmission based-precautions, screening and triage for early identification of cases and source control, robust surveillance and vaccination of health workers.
- Optimal compliance with appropriate use of personal protective equipment and hand hygiene by health workers is associated with decreased risk of SARS-CoV-2 transmission.
- Infection prevention and control (IPC) training of health workers is associated with decreased risk of occupational acquisition of COVID-19.
- Health facilities should adhere to key WHO-recommended IPC measures, in particular, adhering to respiratory etiquette and hand hygiene best practices, contact, droplet and airborne precautions, adequate environmental cleaning and disinfection; ensuring adequate ventilation; isolation facilities of COVID-19 patients; in addition, where possible, maintaining a physical distance among all individuals in health facilities of at least 1 metre (increasing it whenever feasible), especially in indoor settings.
- Universal masking by all patients, staff, caregivers and visitors within a health facility should be implemented in health facilities in areas where there is known or suspected community or cluster transmission of SARS-CoV-2. Targeted continuous masking should be implemented in clinical areas of health facilities in areas with known or suspected sporadic transmission.
- IPC precautions should be applied for COVID-19 vaccine administration. Mask use by vaccinators and recipients of the vaccine should be according to local or national guidance.

Introduction

This third edition of the World Health Organization (WHO) interim guidance on infection prevention and control (IPC) during health care delivery in the context of COVID-19 provides updated guidance to support safe health care through the rigorous application of IPC procedures for the protection of patients, staff, caregivers and visitors[b] in health care settings. It aligns content and recommendations with other recently published WHO IPC guidance documents and includes the following new sections:

- Updated evidence on SARS-CoV-2 transmission, SARS-CoV-2 infections in health workers,[c] (1)

[a] Health facility (including primary, secondary, tertiary care levels, outpatient care and long-term care facilities)

[b] Individuals accessing the healthcare facilities not to directly seek healthcare service, but to physically be present with a patient. Visitors provide various levels of support to patients during the course of treatment (personal, social, psychological, emotional and physical).

[c] Health workers are all people engaged in work actions whose primary intent is to improve health. This includes health service providers, such as doctors, nurses, midwives, public health professionals, technicians (laboratory, health, medical and non-medical), personal care workers, community health workers, healers and practitioners of traditional medicine. It also includes health management and support workers, such as cleaners, drivers, hospital administrators, district health managers and social workers, and other occupational groups in health-related activities. This group includes those who work in acute care facilities and in long-term care, public health, community-based care, social care and home care and other occupations in the health and social work sectors.

Annex to
Infection prevention and control during health care when coronavirus disease (COVID-19) is suspected or confirmed

Interim guidance
1 October 2021

World Health Organization

This document is an update of guidance published on 12 July 2021, after the review of new scientific evidence on transmission of SARS-CoV-2 variants of concern (VOC). The evidence was reviewed, and guidance issued using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) process. It contains updated recommendations on the use of masks and respirators for health workers providing care to suspected or confirmed COVID-19.

Key Points

The World Health Organization (WHO) advises the following for health workers providing care to suspected or confirmed COVID-19, which was agreed upon using the GRADE process:

Recommendations:

- A medical mask should be worn along with other PPE as part of contact and droplet precautions before entering a room where there is a patient with suspected or confirmed COVID-19.
- For HWs performing aerosol-generating procedures (AGPs)[1] or in settings where AGPs are regularly performed among patients with suspected or confirmed COVID-19*, a particulate respirator should be worn.

Conditional recommendation, very low certainty evidence

- Based on health workers values and preferences about having the highest perceived protection possible to prevent SARS-CoV-2 infection and where widely available, respirators can also be used instead of medical masks in all settings when providing care to COVID-19 patients in other settings (even settings where AGPs are not performed).

Note

Good Practice Statement:

- Appropriate mask fitting should always be ensured (for respirators; through initial fit testing and seal check, and for medical masks; through methods to reduce air leakage around the mask) as well as compliance with appropriate use of PPE and other precautions.

* e.g., intensive care units, semi-intensive care units, emergency departments

[1] The current WHO list of these AGPs is tracheal intubation, non-invasive ventilation (e.g. Bi-Level positive airway pressure, continuous positive airway pressure), tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, sputum induction by using nebulized hypertonic saline, dentistry and autopsy procedures. In addition in oral health care the following are considered AGPSs; all clinical procedures that use spray generating equipment such as three-way air/water spray, dental cleaning with ultrasonic scaler and polishing, periodontal treatment with ultrasonic scaler; any kind of dental preparation with high or low-speed hand-pieces; direct and indirect restoration and polishing; definitive cementation of crown or bridge; mechanical endodontic treatment; surgical tooth extraction and implant placement. It remains unclear whether aerosols generated by nebulizer therapy or high-flow oxygen delivery are infectious or whether other procedures (e.g. nasogastric tube insertion, suctioning for airway clearance, or swabbing procedures) involve the risk of aerosol generation, due to lack of evidence or low-quality evidence.

Infection prevention and control guidance for long-term care facilities in the context of COVID-19

Interim guidance
8 January 2021

World Health Organization

This document is an update of the guidance published on 21 March 2020 and contains new evidence and guidance, including the following:

- updated results from published studies on:
  - the epidemiology and extent of SARS-CoV-2 infection among residents and staff in long-term care facilities (LTCFs);
  - the effectiveness of infection prevention and control (IPC) precautions to prevent SARS-CoV-2 transmission in LTCFs;
  - the impact of IPC precautions on mental and physical health and well-being of older people, and in particular people with dementia or other mental health or neurological disorders;
- updated advice on IPC precautions to prevent the spread of SARS-CoV-2 and to protect health workers and caregivers of patients with suspected or confirmed COVID-19 in LTCFs;
- advice on early detection of and testing for SARS-CoV-2 among residents and staff in LTCFs;
- advice on policies for visitors to LTCFs and additional considerations on minimizing the mental and physical health impacts of restrictions and IPC precautions implemented in the context of COVID-19.

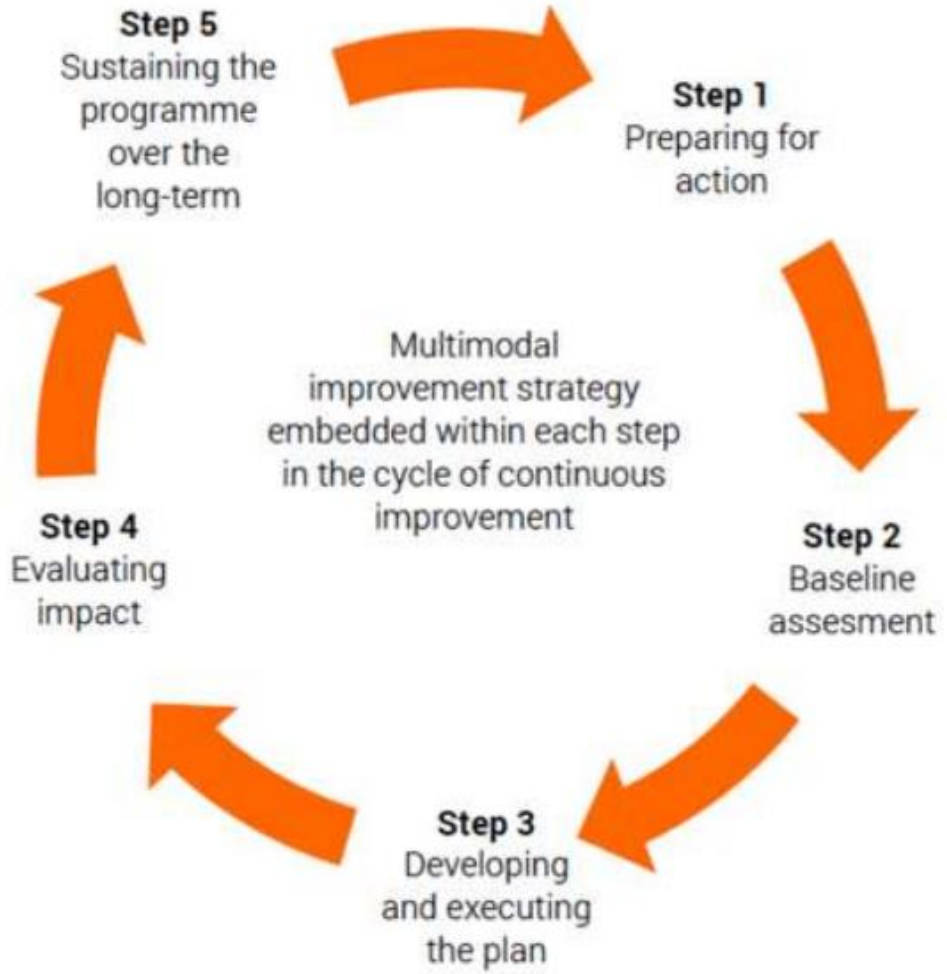
Key points

- LTCFs are high-risk settings for transmission of COVID-19 to and among residents and staff. Residents of these facilities are at a higher risk of developing severe disease and death because they tend to be older and to have underlying medical conditions and/or functional decline. Early detection of COVID-19; adequate IPC training and education for all employees, residents and visitors; and consistent implementation of appropriate IPC policies and measures can significantly reduce the risk of SARS-CoV-2 transmission among residents, staff and caregivers in LTCFs.
- IPC measures may affect the mental and physical health and consequently the well-being of residents and staff – in particular the use of personal protective equipment (PPE) and restrictions of visitors and group activities. Thus, compassionate, respectful, people-centred care should be provided consistently, while ensuring adequate protection of residents, visitors and staff from COVID-19.
- In the context of the COVID-19 pandemic, the following critical IPC policies and procedures should be in place in LTCFs, irrespective of whether SARS-CoV-2 infection has occurred among residents and/or staff. LTCFs should:
  - ensure the existence of an IPC programme and team or at least a trained IPC focal point;
  - implement standard IPC precautions for all residents (in particular, appropriate hand hygiene according to the WHO five moments and thorough, regular cleaning and disinfecting throughout the facility) and SARS-CoV-2 transmission-based precautions when indicated;
  - in areas of known or suspected community or cluster transmission of COVID-19, implement universal masking for all health workers (HWs), caregivers, other professionals, visitors, service suppliers and residents;
  - in areas with known or suspected sporadic transmission of COVID-19 implement targeted continuous masking for HWs in clinical areas;
  - ensure physical distancing;
  - ensure adequate ventilation in the LTCF;
  - vaccinate residents and staff for influenza and COVID-19, and residents for *Streptococcus pneumoniae*;
  - implement IPC policies for visitors to LTCFs;
  - ensure adequate staffing levels and staff organization, appropriate working hours and protection of HWs from occupational risks.
- The following measures are critical to ensure early detection of COVID-19. LTCFs should:
  - ensure early detection of SARS-CoV-2 infection among HWs through syndromic surveillance and/or laboratory testing among staff and residents;
  - ensure appropriate management of exposure and SARS-CoV-2 infection among HWs;
  - expand testing to all HWs and residents when a positive case of SARS-CoV-2 is identified in a resident or staff member;
  - test residents for SARS-CoV-2 on admission or readmission to the LTCF in areas with community or cluster transmission, if resources permit.
- When a resident is identified as a suspected or confirmed COVID-19 case, the following IPC precautions should be implemented immediately. LTCFs should:
  - implement contact, droplet and/or airborne precautions (when indicated) during care of the affected resident(s);

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance-publications

How to put the guidelines into practice?

A Five-Step Approach to Implementing Improvements in IPC



What is a multimodal strategy? (Main component 5)

This is the "modern" way to introduce IPC activities:

- to achieve **systemic changes, environments and behaviors that support IPC progress, and ultimately measurable impacts that benefit patients and health care workers**

- **Multimodal thinking** means that IPC practitioners do not focus only on individual strategies for changing practices (e.g. education and training), but consider **a set** of strategies that target various factors influencing human behavior such as procurement, monitoring and feedback. communication, infrastructure or organizational culture
- All five areas should be considered and appropriate action should be taken, taking into account the local context and situation based on periodic assessments
- Field experience shows that focusing on only one of these five elements (using a "unimodal" strategy) is more likely to result in improvements that are short-term and unsustainable.

What is multimodal strategy?

A multimodal strategy involves several elements or components (three or more, usually five) that are implemented in an integrated manner to improve outcomes and change behavior.

The five most common components include:

(i) **systemic changes** (availability of appropriate infrastructure and resources to enable the creation of IPC best practices),

(ii) **training and education** of health workers and key persons (e.g. managers),

(iii) **monitoring** infrastructure, practices, processes, results and providing feedback;

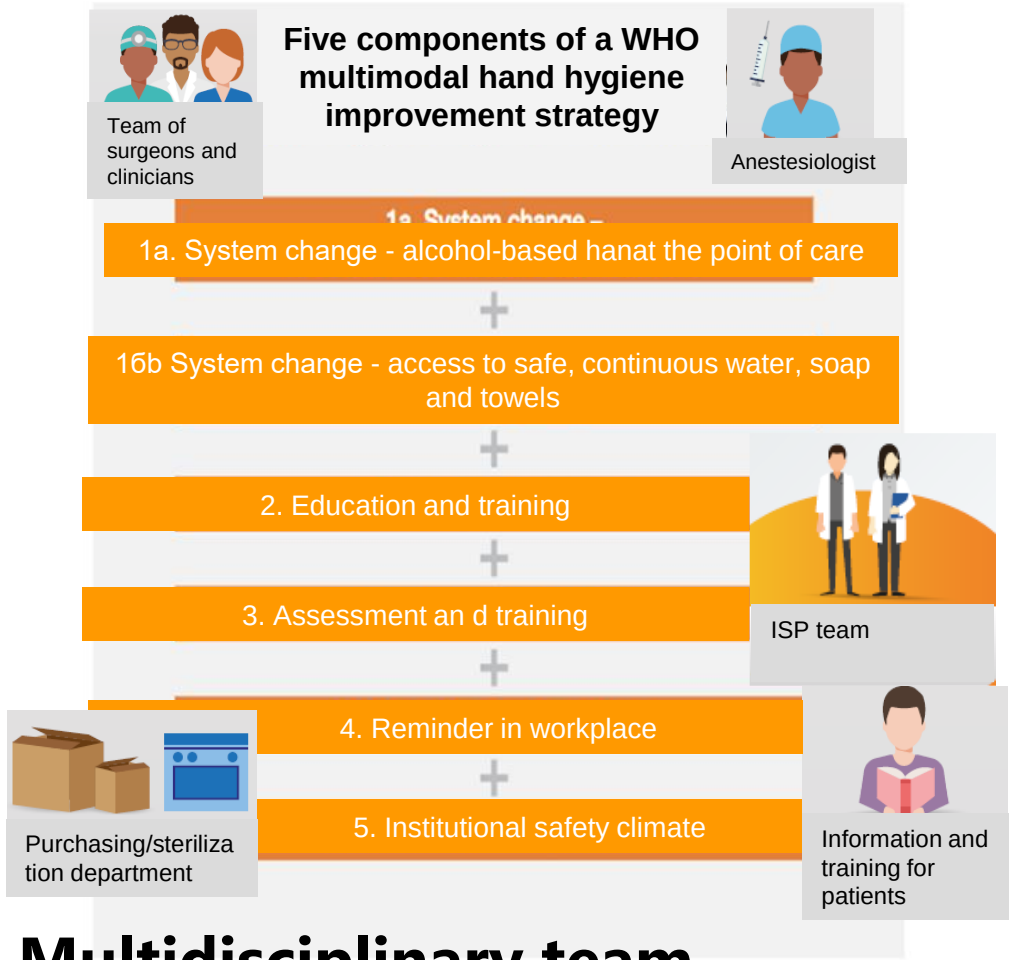
(iv) workplace **reminders/communications**;

(v) **change of organizational culture** or strengthening the safety culture.

OTHERWISE "building" the right system, "teaching" the right things, "testing" the right things, "transmitting" the right ideas, and ultimately "embedding" IPC throughout the health system.

How to put the guidelines into practice?

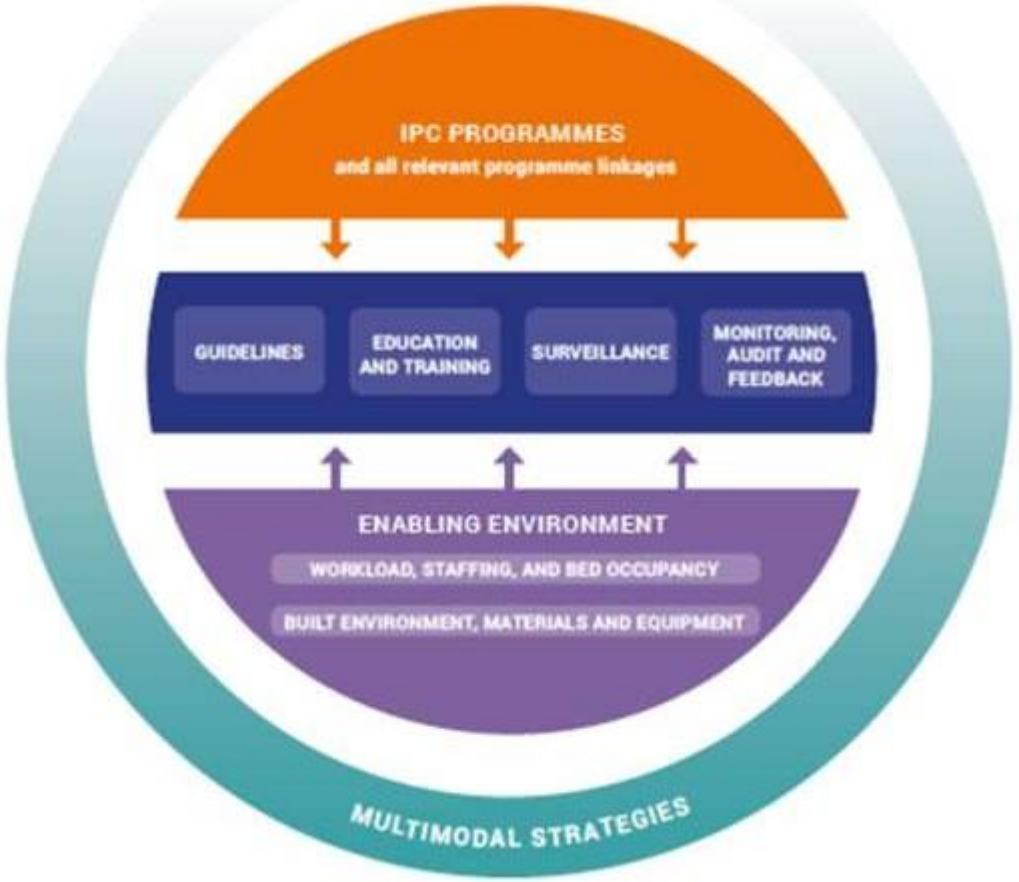
Multimodal thinking



Multidisciplinary team
Joint project elaboration

Источник: Interim practical manual supporting national implementation of the WHO guidelines on core components o
Organization; 2017 (https://www.who.int/infection-prevention/tools/core-components/en/).

WHO core components for effective IPC programmes



- 8 Core components
  - *8 Facility level*
  - *6 National level*
- 11 evidence*-based recommendations
- 3 good practice statements

R = recommendation; GPS: good practice statement

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Core component 1 – IPC program

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1 IPC Programmes	R1a *Strong*	R1b *GPS*

An IPC programme with a dedicated, trained team should be in place in each **acute health care facility** for the purpose of preventing HAI and combating AMR through IPC good practices.

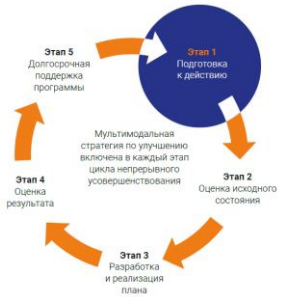
Stand-alone, active **national** IPC programmes with clearly defined objectives, functions and activities for the purpose of preventing HAI and combating AMR through IPC good practices should be established. National IPC programmes should be linked to other relevant national programmes and professional organizations.

Evidence base (two studies) shows that IPC programs with specially trained professionals are effective in reducing HCAI in emergency settings.

IPC Program should include:

- Clearly defined objectives, functions and annual action plans
- Dedicated, trained IPC professionals (1 IP/250 beds) & multidisciplinary team & linkages to other programmes
- Budget & support from the senior management leadership
- Good quality microbiological laboratory

Conducted and implemented in Kazakhstan



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Preparing for action	Baseline Assessment	Development and implementation	Evaluation of results	Long term support
Identification of contact specialists for IPC by the MoH and NCHC (filial)	IPCAF 2019 (WHO) IPCAT 2019 (WHO) TrACSS 2016, 2017, 2018, 2019 (WHO, FAO, OIE) SPAR 2018, 2019 (WHO) Simulative training COVID-19 (WHO, 2020) National guideline assessment (WHO, 2020) Operational checklist for COVID-19 response (WHO, 2020) Critical readiness and response actions for COVID-19 (WHO, 2020)	Analysis of IPC implementation at the national level by WHO and others can be used as a basis for a national action plan to strengthen IPC **Development of a national IPC strategy, roadmap** Support in the formation of a national IPC expert group Assistance to the MoH in establishing a coordination platform for IPC activities at the national level	Joint development of tools to monitor the implementation of national recommendations on IPC in the context of COVID-19	Support in the implementation of activities within the roadmap

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Core component 2: IPC guidelines

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2	Evidence Based Guidelines	R2 *Strong*

Evidence-based guidelines should be developed and implemented for the purpose of reducing HAI and AMR. Education and training of relevant health care workers on guideline recommendations and monitoring of adherence with guideline recommendations should be undertaken to achieve successful implementation.

Evidence-based guideline (six studies) shows that guidelines on the most important best practices and procedures for IPC, implemented in combination with the education and training of healthcare professionals, are effective in reducing the prevalence of HCAI.

ICP guidelines require:

- Strong recommendation (combined national & facility)
- Expertise
- Local prioritization
- Providing resources for implementation
- HCWs education on recommended practices
- Monitoring implementation

Conducted and implemented in Kazakhstan

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Preparing for action	Baseline Assessment	Development and implementation	Evaluation of results	Long term support
Formation of an expert working group to develop national guidelines for the introduction of IPC at the facility level	Implementation of the WHO Pilot Tool to Assess National Guidelines Commitment to Evidence-Based International Guidelines (2020) Determining sources of guidance	Revision of national guidelines on IPC during COVID based on the implementation of the WHO Pilot Tool (Rational use of PPE, engineering control, handling of the dead bodies) Distribution of WHO guidelines and printed materials (brochures, leaflets) among the Ministry of Defense of Kazakhstan Development of a national practical guide on IPC	Regular technical consultations with specialists from the MoH, NCPH and MoE	Development of national guidelines for the introduction of IPC at the facility level

THANK YOU

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