

# **Infection Control Assessment in Hospitals Admitting Coronavirus Infection (COVID-19) and Pneumonia Patients in the Cities of Bishkek, Osh and Chuy region**

## **Kyrgyz Republic, 2020**

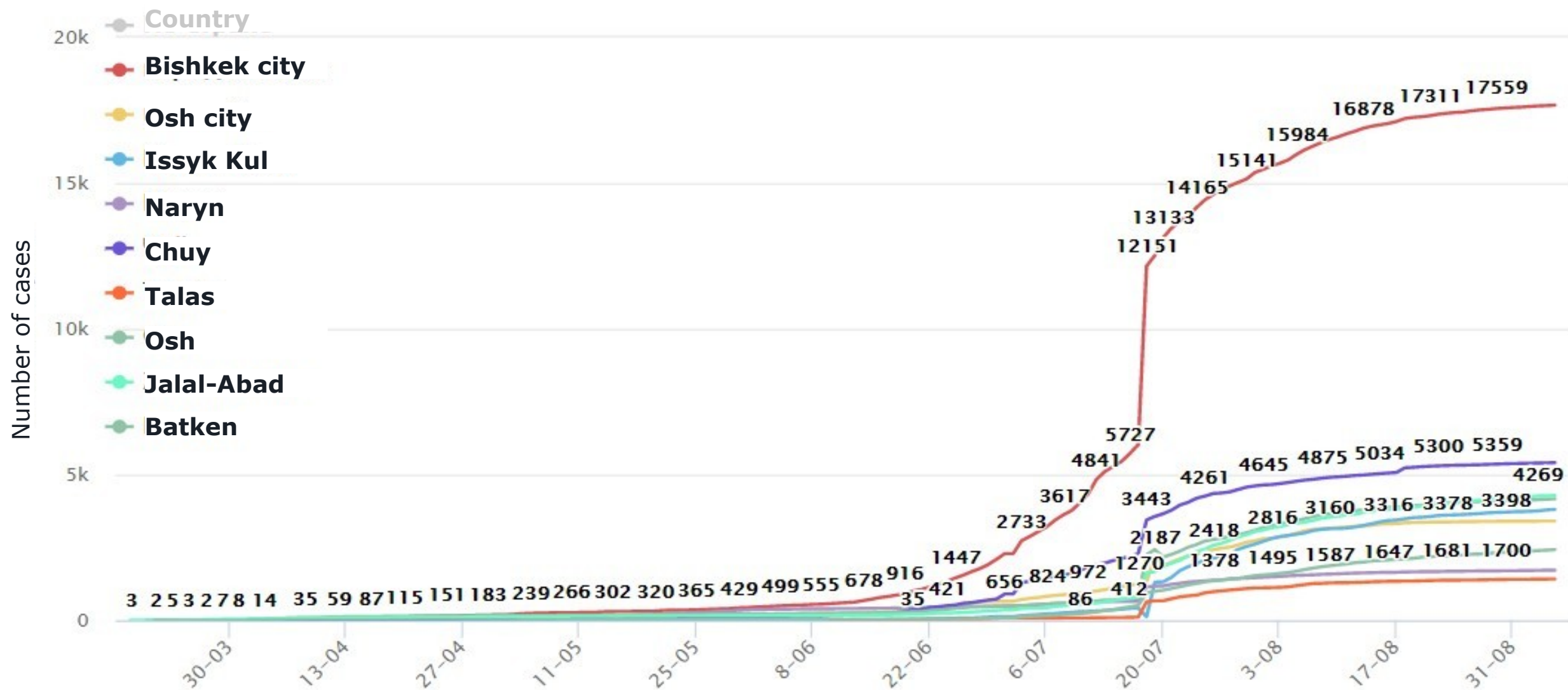
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# COVID-19 cases among the population of the Kyrgyz Republic by regions



## Background Information

- September 2020 3000 COVID-19 cases among healthcare workers ~20% of population morbidity
- Introduction of IPC in medical organizations is of paramount importance for the safety of patients, healthcare workers and is a threat containment factor to the local population

## We assessed infection control in hospitals

### What?

16 medical and outpatient organizations (23 departments)

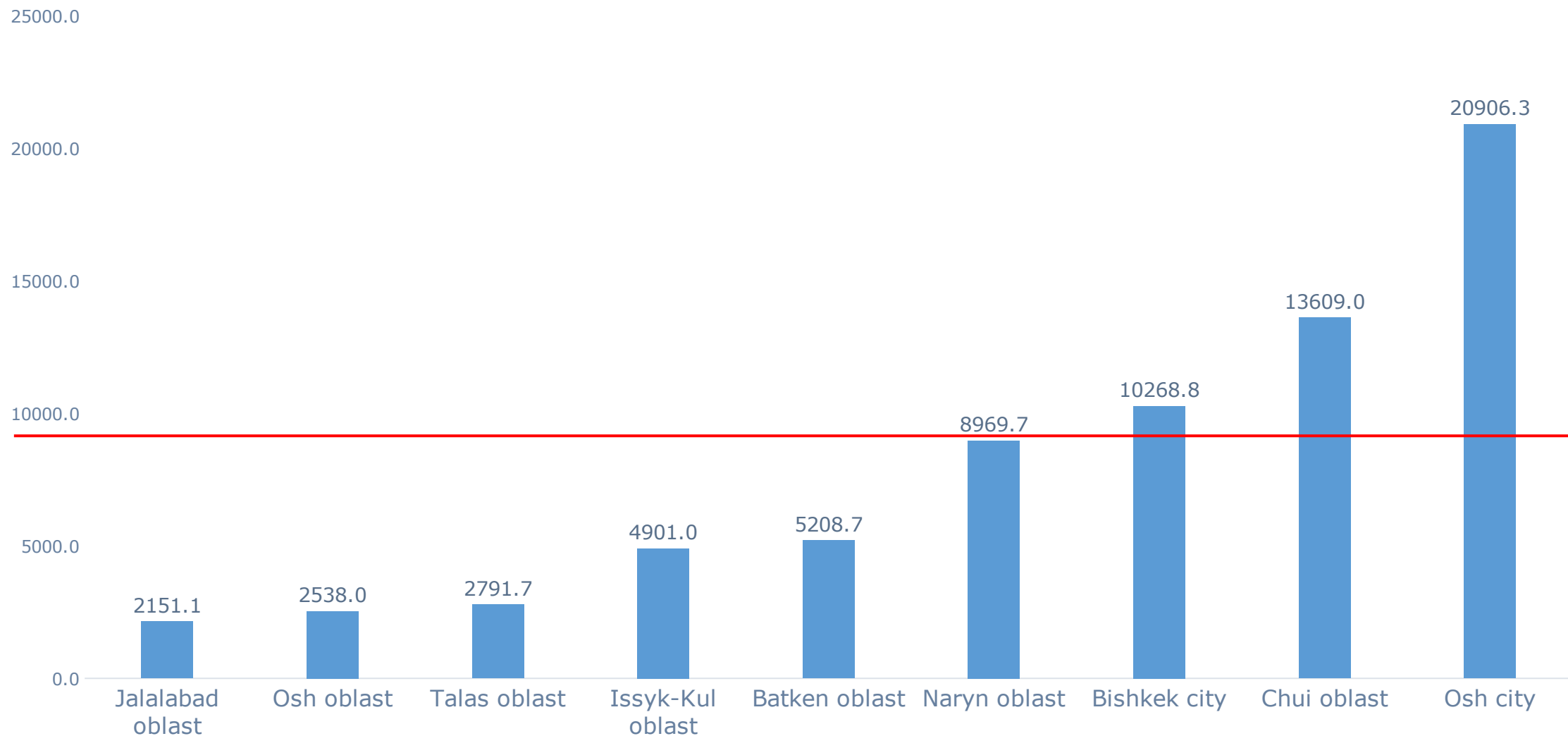
### Where?

Bishkek city %,  
Osh city -14% and Chuy region -18%

### When?

September  
2020

# COVID-19 cases among healthcare workers by regions per 100,000 people



## We assessed IPC in 16 medical organizations



## Goals and Objectives

- The goal is to assess infection control practices and readiness of medical organizations to admit patients with suspected or confirmed coronavirus infection in healthcare organizations and outpatient hospitals.
- Objectives include assessment of:
  - How patients are divided into streams, early disease diagnosis, and isolation of patients with suspected COVID-19
  - Standard precaution measures
  - Implementation of protective measures against airborne and contact infections in standard situations and when performing high-risk procedures with suspected COVID-19 cases
  - implementation of administrative infection control (IC) measures
  - monitoring of the environment and utility systems.

## Methodology

- A cross-sectional study based on observation of IC practices in COVID-19 and pneumonia management in healthcare organizations
  - Patient common areas, filter rooms, isolation rooms, and general practitioner offices were assessed in outpatient organizations.
  - “Filter rooms” rooms, departments, and cubicles for admitting patients with suspected COVID-19 were assessed in hospitals.
  - To assess IC risks in healthcare organizations, we used a structured questionnaire developed and adapted from the CDC and WHO guidelines on IPC and the CDC and WHO interim guidelines for COVID-2019

## Outcomes Management and Administrative Measures

Description	Bishkek city (N=8)	Osh city (N=2)	Chuy region (N=6)
	n (%)	n (%)	n (%)
Patient streamlining station	7 (87)	1 (50)	4 (66)
Pointer to the location of specific cubicles	6 (75)	1 (50)	3 (50)
Entrance sign explaining if patients are allowed to enter a cubicle	7 (87)	2 (100)	4 (66)
Employee at the entrance to guide patients through the “filter” room	8 (100)	2 (100)	5 (83)
Hand-out masks for patients	4 (50)	(0)	3 (50)
A separate cubicle for COVID-19 case definition?	5 (62)	1 (50)	2 (33)
Availability of surgical masks for patients	2 (25)	(0)	1 (16)
Availability of napkins (paper, cloth) for patients	3 (37)	(0)	2 (33)
Availability of garbage bins with lid	3 (37)	1 (50)	2 (33)



# Infection Control Program

Description	Bishkek city (N=8)	Osh city (N=2)	Chuy region (N=6)
	n (%)	n (%)	n (%)
Written Program on Infection Control	6 (75)	2 (100)	3 (50)
COVID-19 Emergency Response Plan	7 (87)	(0)	(0)
Is compliance with IC measures provided for in the budget of healthcare organizations?	5 (62)	2 (100)	1 (16)
Technical measures (rooms with negative pressure, supply and exhaust system, etc.)	0 (0)	0 (0)	0 (0)
Environmental control measures (germicidal lights, including recirculators)	4 (50)	2 (100)	1 (16)
Personal Protective Equipment (PPE)	8 (100)	2 (100)	6 (100)
Disinfection measures	8 (100)	2 (100)	6 (100)
COVID-19 Testing protocols for healthcare workers?	7 (87)	2 (100)	6 (100)
Availability of kits for air tightness testing of respiratory face masks (Fit test)?	1 (12)	(0)	(0)
Screening among healthcare workers	7 (87)	(0)	1 (16)

# Training of healthcare workers and patient education

Description	Bishkek city	Osh city	Chuy region
	(N=8)	(N=2)	(N=6)
	n (%)	n (%)	n (%)
Does the health facility provide patient education on	6 (75)	1 (50)	3 (50)
<i>Signs and symptoms of SARS / COVID-19</i>	5 (62)	1 (50)	3 (50)
<i>Sneeze/cough hygiene</i>	5 (62)	1 (50)	2 (33)
Training on infectious disease control for healthcare professionals?	7 (87)	2 (100)	5 (83)
Has additional Infection Control training been provided due to the COVID-19 outbreak?	5 (62)	2 (100)	5 (83)
Training on how to use PPE	7 (87)	2 (100)	4 (66)

## Technical measures

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
Availability and use of local (natural) exhaust ventilation?	3 (25)	0 (0)	0 (0)
<i>% open windows in the department</i>	50%	57%	42%
<i>% open doors in the department</i>	27%	5%	33%
Using fans to mix air	4 (33)	0 (0)	1 (11)
Availability and use of mechanical plenum-exhaust ventilation?	1 (8)	0 (0)	0 (0)
Shielded UV germicidal irradiators	1 (8)	0	0
Unshielded UV germicidal irradiators	11 (91)	2 (100)	6 (66)
operates properly	8 (72)	(0)	2 (33)
operational but not used	3 (27)	2 (100)	4 (66)
HEPA filters (high-efficiency particulate absorbing)	0	0	0
Recirculators	4 (33)	2 (100)	2 (22)
operates properly	4 (100)	2 (100)	2 (100)

# Zoning and workflow management for healthcare teams

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
1+ meter distance between patient beds	11 (91)	(0)	3 (33)
The department is divided into clean and non-clean areas	10 (83)	2 (100)	2 (22)
<i>Barriers between the areas</i>	10 (100)	2 (100)	2 (100)
Duration of one shift (days)			
<i>average</i>	6,6	7	7,4
<i>range</i>	4-12	6-8	6-9

# Personal protective equipment

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
surgical mask	6 (50)	1 (50)	4 (44)
N95 mask, FFP2 or other	11 (91)	2 (100)	7 (77)
screen or goggles	12 (100)	2 (100)	8 (88)
gauze and cotton mask	12 (100)	2 (100)	9 (100)
surgical mask, N95 mask, FFP2 or other, screen or goggles	5 (41)	1 (50)	3 (33)
overalls	12 (100)	2 (100)	7 (77)
Disposable waterproof gown	0 (0)	0 (0)	2 (22)
Cloth robe	7 (58)	2 (100)	4 (44)
Protective gloves	12 (100)	2 (100)	9 (100)
Oilcloth apron	(0)	(0)	1 (11)
Gum boots	12 (100)	2 (100)	1 (11)
Caps	11 (91)	2 (100)	9 (100)
Waterproof shoe covers (durable)	11 (91)	(0)	3 (33)

# Hand hygiene

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
Availability of handwashing facilities for staff:			
<i>Toilet soap</i>	9 (75)	1 (50)	3 (33)
<i>Liquid soap without dispenser</i>	4 (33)	1 (50)	7 (77)
<i>Contact dispenser</i>	10 (83)	(0)	2 (22)
<i>Contact-free dispenser</i>	4 (33)	(0)	(0)
<i>Sink with running water</i>	12 (100)	2 (100)	6 (66)
<i>Hand washing visual aids</i>	11 (91)	2 (100)	6 (66)
<i>Contact dispenser, Sink with running water, Hand washing visual aids</i>	10 (83)	(0)	2 (22)
Does the doctor wash their hands after patient examination?	9 (75)	2 (100)	4 (44)
Are cloth towels used to dry hands?	2 (16)	(0)	1 (11)

# Availability of sanitizers

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
<b>Availability of hand sanitizers (in healthcare facilities)?</b>	11 (91)	2 (100)	5 (55)
<i>in every ward</i>	7 (58)	1 (50)	3 (33)
<i>in every room</i>	6 (50)	1 (50)	1 (11)
<i>next to every bed</i>	1 (8)	(0)	(0)
<i>partially missing</i>	(0)	(0)	1 (11)
<i>partially available</i>	2 (16)	1 (50)	2 (22)
<i>missing</i>	(0)	(0)	(0)
Hand sanitizing prior to examination	11 (91)	2 (100)	4 (44)
Hand sanitizing after examination	6 (50)	1 (50)	3 (60)

# Disinfection

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
Are surface disinfectants available in rooms?	9 (75)	2 (100)	5 (55)
Disinfection of horizontal surfaces	4 (44)	1 (50)	2 (40)
Floor mopping	12 (100)	2 (100)	9 (100)
<i>Frequency (per day)</i>	3,5	2,5	2,6
Floor disinfection	2-4	2-4	2-4
Surface cleaning	3 (25)	3 (150)	3 (33)



# Medical waste

Description		Bishkek city	Osh city	Chuy region
		(N=12)	(N=2)	(N=9)
		n (%)	n (%)	n (%)
Special buckets		12 (100)	2 (100)	9 (100)
	<i>labelled</i>	12 (100)	2 (100)	7 (77)
Polypropylene bags		12 (100)	1 (50)	3 (33)
	<i>labelled</i>	12 (100)	1 (100)	3 (100)
Are tools disinfected in offices?		4 (33)	1 (50)	2 (22)

# Sample collection and transportation

Description	Bishkek city	Osh city	Chuy region
	(N=12)	(N=2)	(N=9)
	n (%)	n (%)	n (%)
Safe blood collection system?	11 (91)	2 (100)	9 (100)
System with viral transport medium for swabs	12 (100)	2 (100)	9 (100)
Disposable probes with a swab?	12 (100)	2 (100)	5 (55)
Are there viral transport mediums?	12 (100)	2 (100)	5 (55)
Consumables and devices for collecting samples from the lower respiratory tract?			
<i>probes</i>	12 (100)	0	3 (33)
<i>spreading rods</i>	12 (100)	0	5 (55)
<i>aspiration devices,</i>	0	0	0
<i>spit collection containers</i>	2 (16)	0	2 (22)
<i>punctate containers etc.</i>	0	0	1. (0)

## Conclusions

- Hospitals provided medical care without adequate infection control measures
- Infection control program was available in many (69%) hospitals, but an action plan was not implemented, nor was it monitored
- Healthcare workers had vigilance skills when admitting patients, but did not always utilize them

## Recommendations

- Strengthening IPC is recommended in hospitals and outpatient clinics
- Pay more attention to personal protection measures, disinfection and regular staff training
- Conduct regular screenings among healthcare workers

**Thank you for your time!**