

Activities to Minimize Duplicate Diagnostic Tests in Outpatients

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Introduction

Duplicate diagnostic tests

Waste of medical resources

Decreased quality of care

Patient complaints

Choosing wisely campaign

Global efforts to reduce unnecessary diagnoses, tests, and treatments

3. Develop an automatic input system for reasons of non-blood-sampling tests
→ reduce employee workload associated with screening for duplicate prescriptions

4. Create a list of patient exam prescriptions

Diagnostic test

Examination prescription

→ Share prescription lists and appointment dates for other departments

Indicators and Goals

Indicator1. Percentage of patients who undergo duplicate diagnostic tests within the recommended period
Goal: 15% decrease compared to before (9.66 ‰ → 8.21 ‰ or less)

Indicator2. Percentage of patients who undergo duplicate diagnostic tests on the same day
Goal: 30% decrease compared to before (9.16 ‰ → 6.41 ‰ or less)

Methods

Cause Analysis

Outpatient department

Patient

Duplicated Diagnostic Tests

Recommended Examination Periods

Test	Recommended Period
HbA1c	Within 56 days
Cholesterol	
Triglyceride	
HDL-cholesterol	Within 28 days
LDL-cholesterol	

※ Appropriate test periods derived from domestic and international journal reviews

Improvement Activities

1. Newly establish liver- and lipid-profile group codes
→ reduce duplicate cholesterol tests resulting from duplicate prescriptions of liver- and lipid-profile group codes

Liver profile

Lipid profile

Liver & lipid profile

2. Generate duplicate outpatient prescription alert pop-ups for the blood collection room

Foreign duplicate orders for QI exist. Please check!

Result

Indicator1. Percentage of patients who undergo duplicate diagnostic tests within the recommended period

Test	Number of patients who underwent duplicate tests		Count	
	Preliminary Investigation (January 1-30, 2022)	Follow-up Investigation (September 1-30, 2022)	Preliminary Investigation (January 1-30, 2022)	Follow-up Investigation (September 1-30, 2022)
HbA1c	12	7	4,187	3,476
Cholesterol	156	143	7,254	6,890
Triglyceride	39	7	5,535	4,872
HDL-cholesterol	41	22	5,463	4,963
LDL-cholesterol	7	6	3,947	3,033
Total	255	185	26386	23,234

17.6% (1.7%p) ↓

9.66 7.96

Indicator2. Percentage of patients who undergo duplicate diagnostic tests on the same day

Test	Number of patients who underwent duplicate tests	Count		
	Preliminary Investigation (January 1-30, 2022)	Follow-up Investigation (September 1-30, 2022)		
Routine CBC / Routine CBC with diff	9	1	6,238	4,140
Na/K	44	27	6,198	6,129
BUN/Cr	96	20	9,769	9,684
OT/PT	96	26	10,095	9,830
Triglyceride	34	7	5,535	4,871
HDL-cholesterol	36	7	5,463	4,692
Cholesterol	148	87	7,254	6,889
Total	463	175	50,552	46,235

58.6% (5.37%p) ↓

9.16 3.79

Conclusion & Suggestions

Conclusion

All indicators achieved goals.

Suggestions

Due to the nature of outpatient care, there was a limit to reducing duplicate diagnostic tests within the recommended period resulting from the prescription of other medical treatments and changes in patients' conditions.

Efforts to reduce duplicate tests are continuously needed to realize future high-quality and adequate medical care.

ISQu's 39th International Conference

ISQua2023