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Analysis of the Consumption Trends of Narcotic Appetite Suppressants Following DRTNV upon NIMS Big Data



*DRTNV: Digitalized Real Time Narcotic Vigilance
*NIMS: Narcotic Information Management System



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Table of Contents

I. Background
II. Objectives
III. Methods

IV. Results
V. Discussion
VI. Conclusion



Background

Narcotic appetite suppressants are highly addictive psychotropic drugs.

However, aside from the purpose of treating diseases such as obesity, they are occasionally sold illegally.

These led to increasing concerns on its misuse and abuse.

Background (continued)



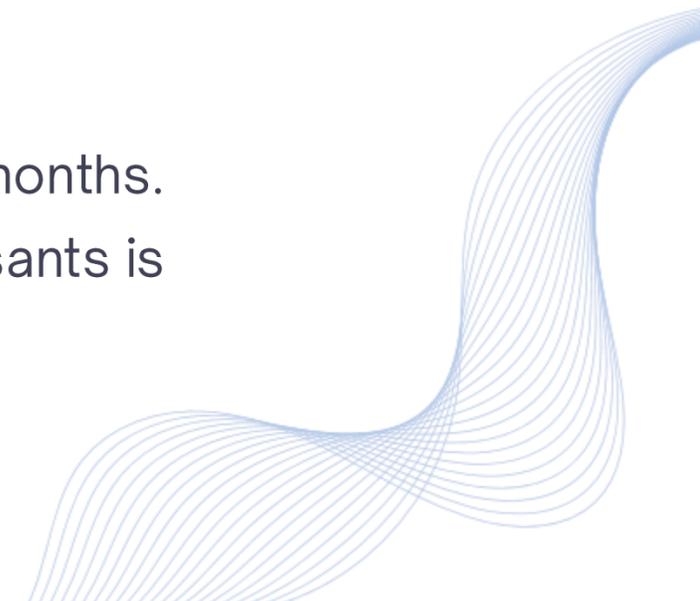
Ministry of Food and Drug Safety (MFDS) of South Korea

- established safe utilization standards
- monitors doctors who violate these by sending out an advance notice letter



Safe Utilization Standards of Narcotic Appetite Suppressants

- Patients should not be prescribed appetite suppressants longer than three months.
- Combination prescription of two or more types of narcotic appetite suppressants is prohibited.
- Prescribing to adolescents and children is prohibited.



Objectives

Objective #1

To evaluate changes in **consumption patterns of narcotic appetite suppressants** in South Korea

Objective #2

To assess the impact of domestic appetite suppressants consumption change following the implementation of **DRTNV (Digitalized Real-Time Narcotics Vigilance)**.

Key Features of DRTNV



Monitors real-time prescribing and dispensing behavior



Sends alerts to prescribers exceeding thresholds

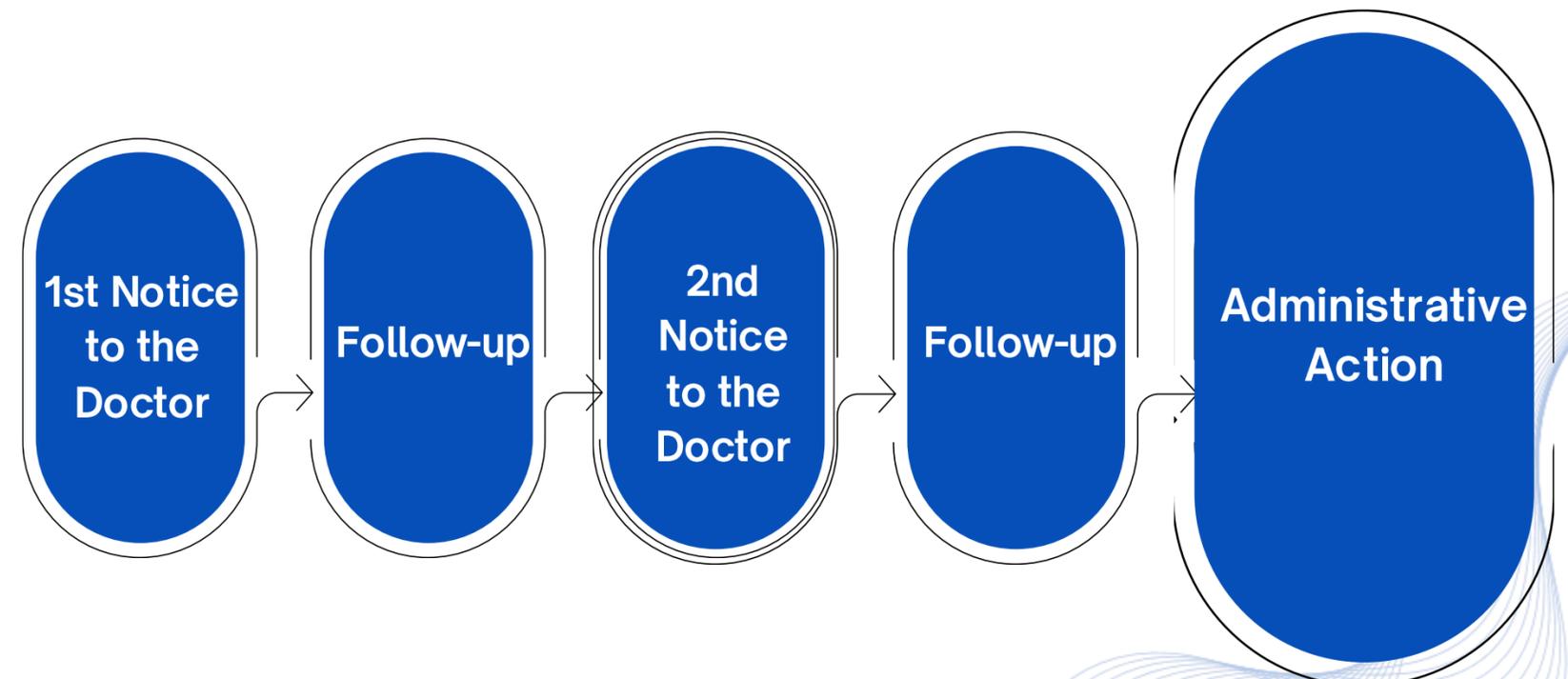


Informs MFDS of violations



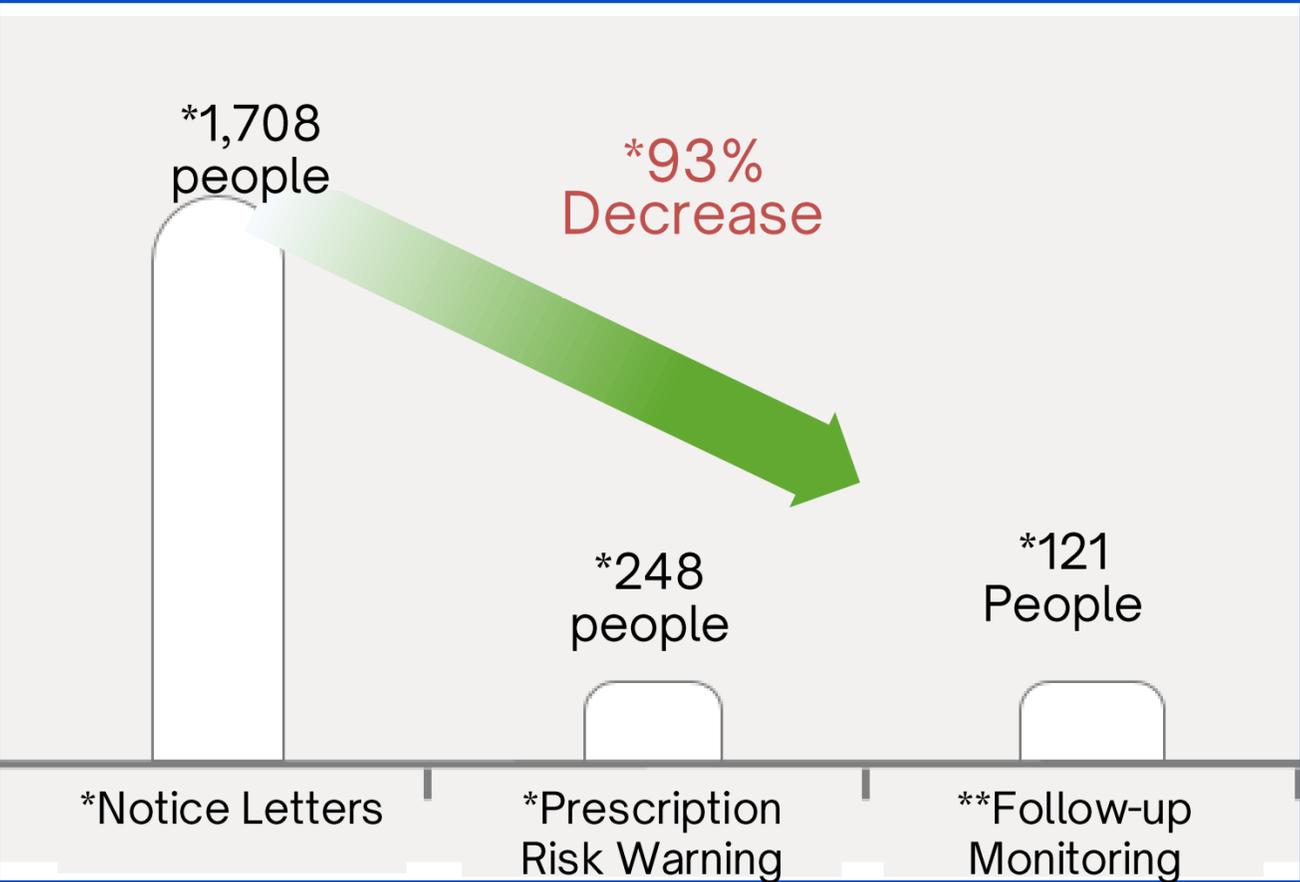
Promotes immediate self-regulation among clinicians

DRTNV Notification Process



Key Features of DRTNV

<Decrease in illegal prescriptions for appetite suppressants by 2022>



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Where innovations are collected and shared to disseminate and replicate good ideas

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Digitalized Real-Time Narcotics Vigilance: Agile Monitoring & Pre-notification Surveillance of Medicinal Narcotics for Doctors and Citizens.

절차

사전알리미 제공에 따른 조치 절차

처방정보 분석 (6개월) → 사전알리미 (정보제공) → 추적관찰 (3개월) → 사전통지 → 행정조치 → 조치이행 확인 → 후속조치 (감사·처분)

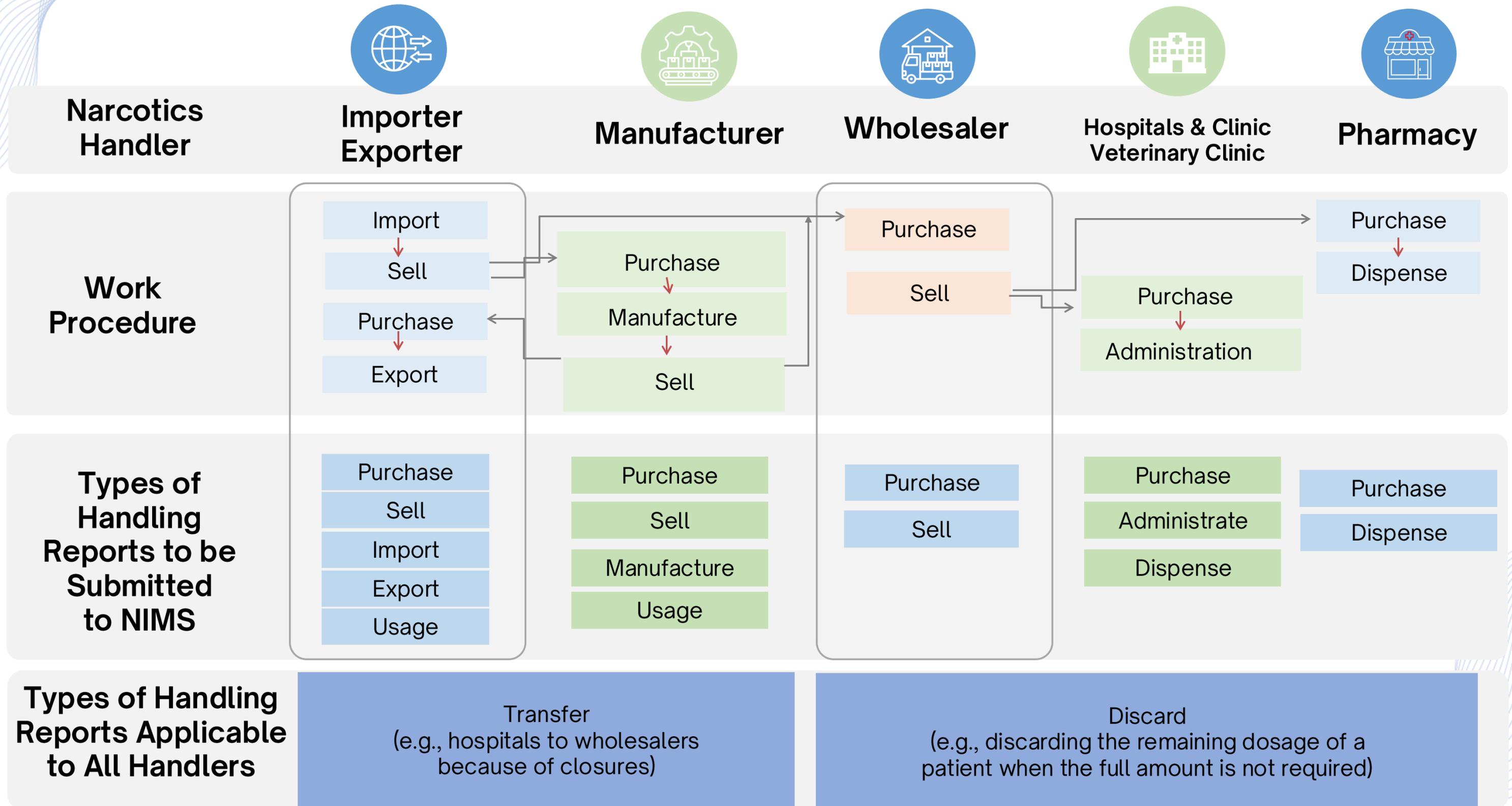
약물관리정보관리팀 사전안내 식용약물관리팀 마이류 관리에 관한 법률에 따른 행정조치

Korea

Year: 2023

Level of Government:
National/Federal government

Flow of Reporting to NIMS





Methods

Data source:

NIMS(Narcotics Information Management System) Big Data

- to which all handling data of narcotic drugs are reported regardless of reimbursement availability

Study Period:

January 2021 to December 2023

Drug Components:

- phentermine
- phendimetrazine
- amfepramone
- mazindol
- phentermine/topiramate complex

Analysis Tool:

Interrupted Time Series (ITS) analysis

- analyzed the data using SAS 9.4.

Population:

All national prescriptions of appetite suppressants classified as narcotics

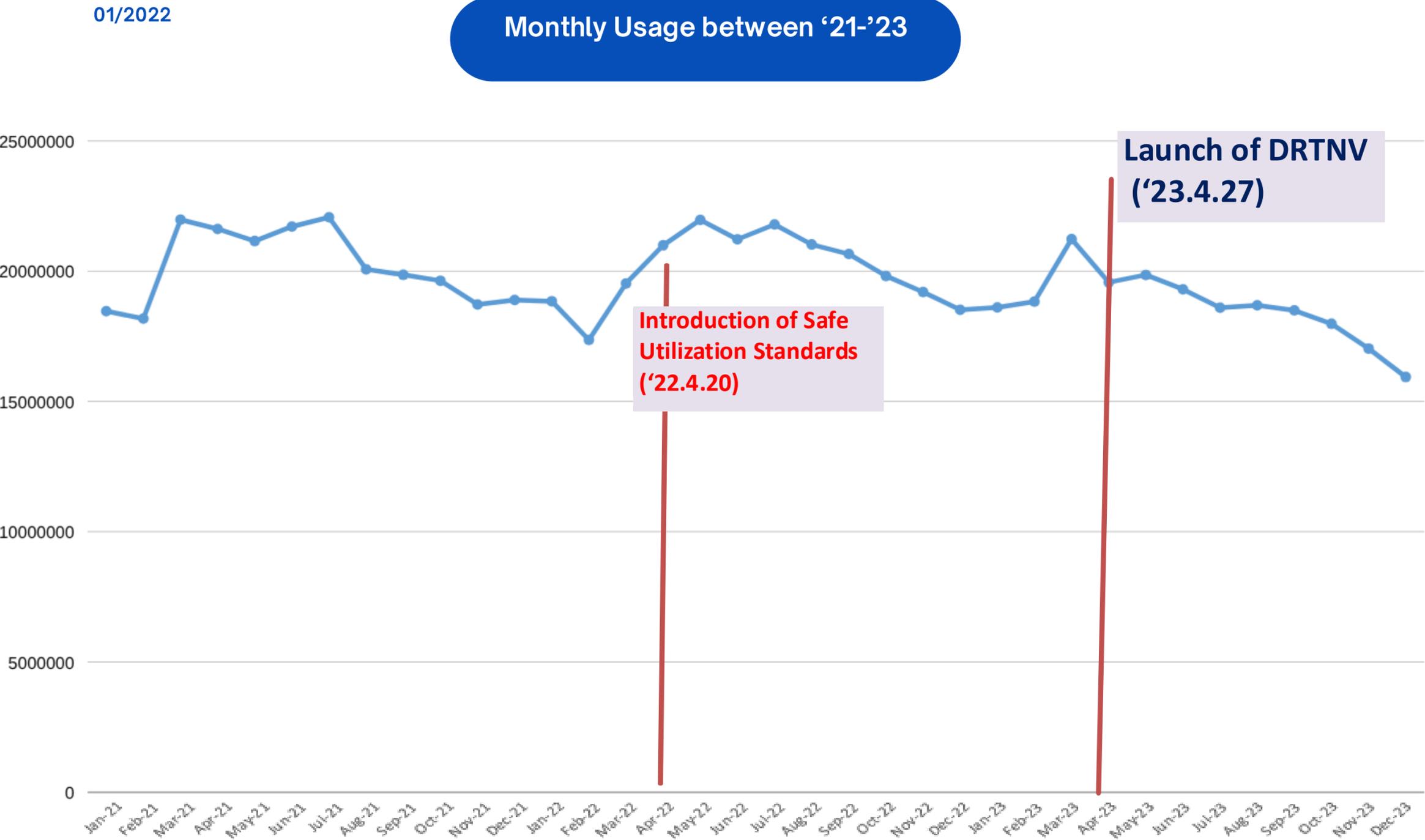
- 1.4 million patient
- 5.1 million number of prescription

Intervention Points:

- Introduction of Safe Utilization Standards in 2022
- Launch of DRTNV in 2023

RESULTS

Current Status of Narcotic Appetite Suppressants in Korea



RESULTS

IT Analysis Report

		Regression Coefficient		Statistical Significance		DW	R ²
		Immediate effect	Continual effect	Immediate effect	Continual effect		
April 2022 & April 2023						2.1599	0.9631
	2022.4.20	644,111	91,422	0.1291	0.0153		
	2023.4.27	-1,785,611	-111,972	0.0082	0.0697		

RESULTS

IT Analysis Report

		Regression Coefficient		Statistical Significance		DW	R ²
		Immediate effect	Continual effect	Immediate effect	Continual effect		
10's						2.2078	0.9851
	2022.4.20	-2,990	981	0.2556	0.0012		
	2023.4.27	-11,381	-841	0.0057	0.0429		
20's						2.2785	0.9786
	2022.4.20	10,453	14,846	0.8852	0.0240		
	2023.4.27	-420,686	-12,357	0.0011	0.2296		
Women						2.1740	0.9633
	2022.4.20	643,627	87,324	0.1101	0.0145		
	2023.4.27	-1,690,348	-90,731	0.0081	0.1149		
Clinic						2.1590	0.9633
	2022.4.20	641,630	84,846	0.1238	0.0208		
	2023.4.27	-1,736,318	-109,244	0.0087	0.0711		
Dental clinic						1.9028	0.8988
	2022.4.20	2,144	32	0.0002	0.5179		
	2023.4.27	1,230	-3	0.0559	0.9625		



Implications

- NIMS and DRTNV are effective surveillance and intervention tools.
 - High-quality data and targeted feedback are key success factors.
 - The Korean model demonstrates how real-time monitoring affects consumption behavior.
 - Policymakers can use this model to improve narcotic control systems.
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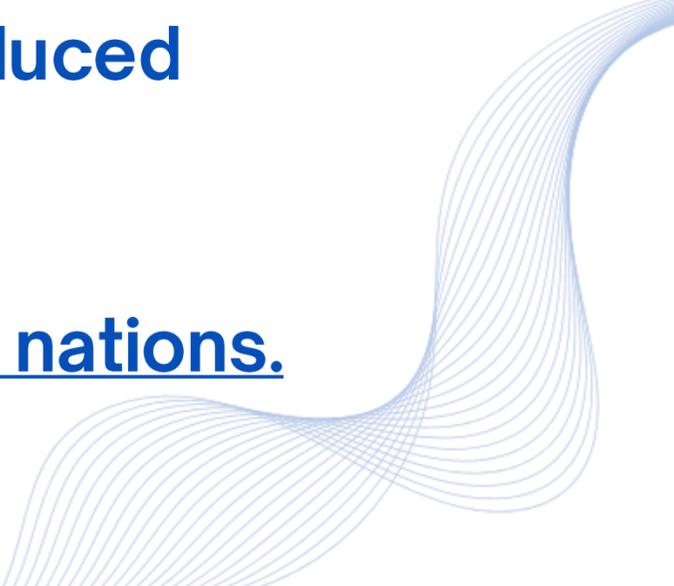


Policy Impact

- The implementation of DRTNV led to an immediate drop in narcotic appetite suppressant consumption.
 - NIMS big data offers strong monitoring capability.
 - Real-time feedback and standardized limits increase prescriber accountability.
 - Ongoing refinement and evaluation will maximize policy effectiveness.
- 



Conclusion

- **After using the NIMS big data to determine the overall consumption trends of narcotic appetite suppressants in South Korea and confirming the effects of government policies such as DRTNV and Safe Utilization Standards to prevent dependence of narcotics.**
 - **The results of this study suggests a potential association with reduced dependence of narcotics.**
 - **Korean surveillance infrastructure may serve as a model for other nations.**
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THANK YOU FOR LISTENING!



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