

# Visualizing Hospital Health Promotion Activities on Social Determinants of Health: Effects and Prospects of the HPH Evaluation Intervention System



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## Background and Objective

- Intervention addressing patients' Social Determinants of Health (SDH) is increasingly required in hospital settings<sup>#1</sup>.
- In Japan, while social support for individual patients is expanding, there is no quantitative system to evaluate the implementation of equitable healthcare in hospitals.
- If each hospital could quantitatively assess its practices in delivering equitable healthcare, this would lead to an improvement in the level of equity.
- To achieve this, our hospital developed a system called the "HPH Evaluation Intervention Sheet (HPH Sheet)" to evaluate and quantitatively measure intervention related to determinants of health, including SDH, and to visualize this intervention. This report outlines the system, its effectiveness, and challenges.

## Subjects and Methods

- The HPH Sheet is a database created by extracting interview results related to patients' determinants of health from electronic medical records.
- The information is based on interview results covering eight areas. These include smoking, alcohol consumption, nutrition, poverty, social isolation, and oral hygiene (Table 1).
- For each item, the system is designed to measure healthcare equity by calculating the rate of interview implementation, the rate of relevant cases, and the rate of pre-determined intervention implementation. The intervention is carried out by professionals.
- The system is designed to minimize staff burden by automatically inputting and calculating necessary items from existing patient information.

Table 1 Content of Interview Items

	Items	Interview	Intervention
Lifestyle	Smoking	Do you smoke regularly?	Smoking Cessation Education
	Intention to Quit Smoking	For smokers: Do you want to quit smoking?	Referral to a Smoking Cessation Clinic
	Harmful Drinking Habits	Alcohol consumption > 40g per day	Referral to an Alcohol Specialty Clinic
	Obesity	BMI>25	Guidance by a Dietician
	Malnutrition	BMI<18	Guidance by a Dietician
	Oral Hygiene	Have you visited a dentist in the last 6 months?	Guidance by a Dental Hygienist
SDH	Financial Hardship	Have you had any financial or life difficulties before hospitalization?	Interview with a MSW
	Social Isolation	Do you have someone to rely on when you are sick?	Interview with a MSW

## Results

- The data can be obtained in real-time for individual patients, wards, and all inpatients. This allows data tables to be displayed at each of these levels (Fig. 1).
- For the eight determinants of health, the number and rate of evaluations, relevance rates, and intervention rates can now be easily identified at the ward level and all inpatient level (Fig. 2).
- Regarding SDH for all patients, the relevance rate for poverty was 16.2%, and the implementation rate of support by medical social workers (MSW) was 48.8%. For social isolation, 21.3% of patients were affected (Table 2).

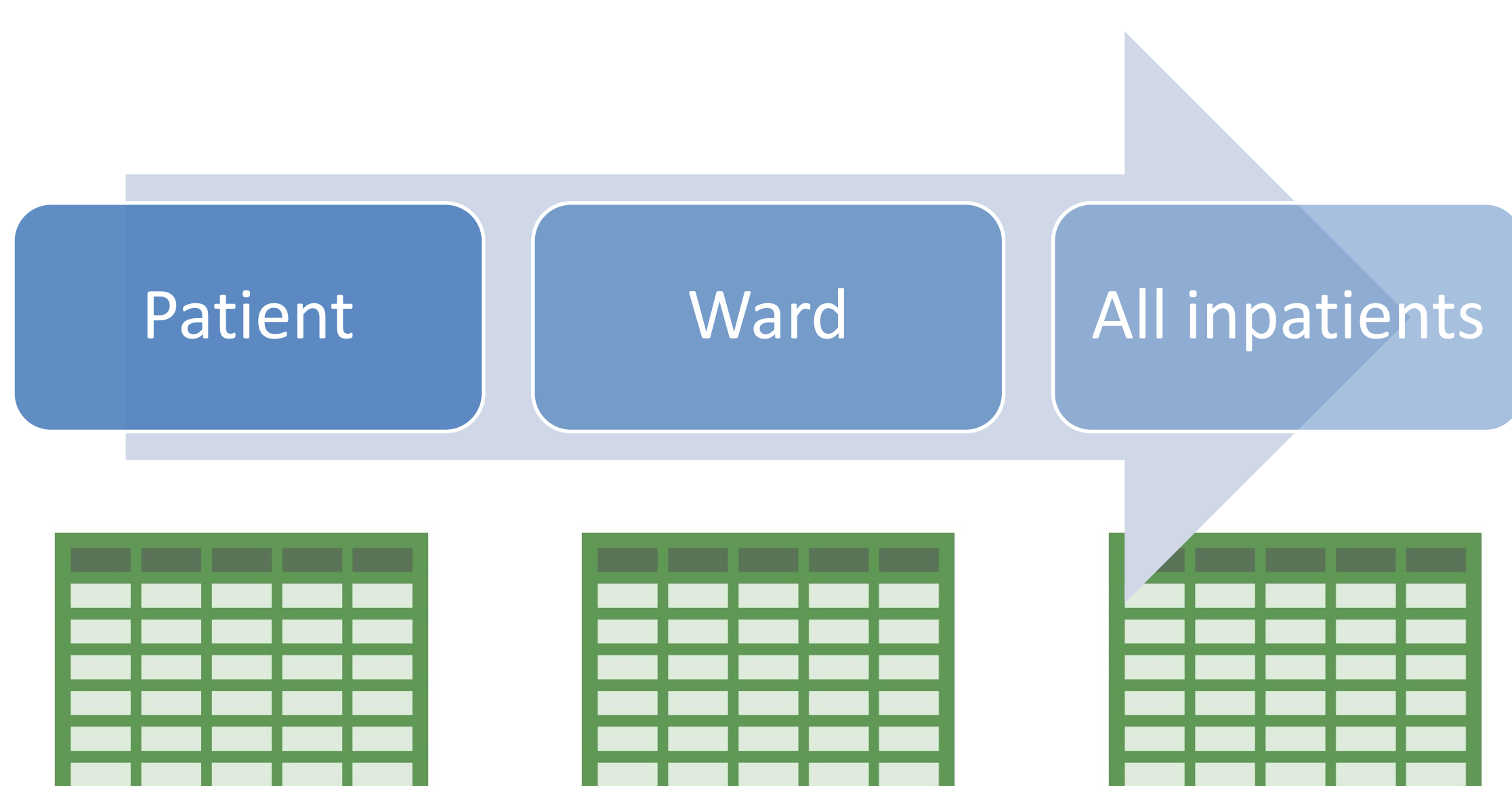


Fig. 1 Table Display Function by Level

メニュー		HPH評価・介入シート									
患者ID・性別・年齢	患者氏名	入院日・入院病棟	退院予定日・在院	喫煙	飲酒 (>40g)	肥満 (>25)	低栄養 (<18.5)	貧困 (問診)	孤立 (頼れる人+ キーパーソン数)	口腔衛生 (OHAT)1点	点数
0002426164	男 54歳	2024/09/09	HCU 205号	過去1度も吸ったことが無い	28	22.5	無	有	1	合計 0 最大 0	0
0005355572	女 73歳	2024/09/09	HCU 208号	現在も吸っている		23.9	無	有	1	合計 0 最大 0	3
0005160336	男 79歳	2024/09/05	HCU 207号	過去1度も吸ったことが無い		14.8			1	合計 1 最大 1	1
0004655144	男 80歳	2024/09/09	ICU 西5 567号			28	無	有	1	合計 1 最大 1	1
0003381913	女 72歳	2024/09/09	西3 355号	過去1度も吸ったことが無い	20	21.5	無	有	2	合計 0 最大 0	0
0005348144	男 36歳	2024/09/09	東4 421号	現在も吸っている		27	有	有	0	合計 1 最大 1	4
0005137210	男 80歳	2024/09/09	西5 564号	過去吸ったことがある		24.5	無	無	1	合計 0 最大 0	0
0000732274	女 90歳	2024/09/09	1D 東5 540号	過去1度も吸ったことが無い		14.8	無	有	1	合計 0 最大 0	1
0000017724	女 48歳	2024/09/09	東3 318号	現在も吸っている		22.5	有		1	合計 0 最大 0	2
0002092844	男 72歳	2024/09/09	西5 551号	現在も吸っている		16.2	無	有	1	合計 1 最大 1	2

Fig. 2 Actual display screen<sup>#1</sup>

#1, From the left side of the screen, the patient's name, gender, age, ward, smoking cessation, alcohol consumption, BMI, and oral health condition were displayed, along with the SDH items such as the presence of poverty and social isolation. Additionally, the risk score was shown.

Table 2, Analysis Results of Health Determinants, Data as of Aug. 16, 2024

	Interviews Conducted		Interview Responses		Intervention
	Number of People Interviewed (n)	Interview Implementation Rate (%)	Number of Applicable People (n)	Applicability Rate (%)	Intervention Rate (%)
Smoking	252	88.1	109	43.3	14.7
Intention to Quit Smoking	38	34.9	16	14.7	NDA
Harmful Drinking Habits	45	15.7	16	35.6	NDA
Obesity	285	99.7	53	18.6	43.4
Malnutrition	285	99.7	68	23.9	27.9
Oral Hygiene	277	96.9	186	65	95.7
Financial Hardship	266	93	43	16.2	48.8
Social Isolation	263	92	56	21.3	NDA

NDA: No data available at this time

## Discussion

- It has become possible to identify the number of patients dealing with SDH (poverty and social isolation). This allows us to measure the equity of support provided.
- In terms of poverty, the support provided by MSW has shown positive results.
- As a measure against social isolation, post-discharge support has been initiated. In October and November 2023, a total of 81 staff members visited the homes of patients who reported feeling isolated, connecting them to the "Fukuoka Health Friends Association," a health promotion group. Additionally, six patients were connected to MSW, allowing them to receive social support.
- It is essential to increase the implementation rate of support for poverty and social isolation and ensure that the support provided is more effective and equitable.
- Globally, many healthcare institutions conduct interviews covering various SDH aspects and provide support to patients (Table 3). Our hospital also needs to conduct interviews on a broader range of SDH issues and connect patients with necessary support to assist those facing multiple SDH challenges.

## Conclusion

- We have been able to quantitatively assess the situations of patient poverty and social isolation, as well as intervention using social resources. This allows us to understand the current state and challenges of practicing equitable healthcare in our hospital.
- We plan to promote awareness and make improvements to encourage the use of this system in the field.
- Additionally, it is necessary to increase the number of evaluation items related to SDH.
- We are using this sheet to facilitate home visits after discharge.

## Reference

#1 BEST ADVICE: SOCIAL DETERMINANTS OF HEALTH. THE COLLEGE OF FAMILY PHYSICIANS OF CANADA 2015.

## Contact

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• There is no conflict of interest.