



Visualization as a Foundation for Shared Understanding: Leveraging Local Data to Enhance Effective Decision- Making

**Director, Community Development Special Mission, Ama Town Hall
Director, Co-Learning Division, Ama Town Board of Education
Kaori Hamanaka**

Overview of Ama Town and the AMASAS Initiative

Past Initiatives and Current Status of Ama Town

Ama Town has steadily accumulated achievements in both education and industry, resulting in increased external revenue and job creation.



Shimane Prefecture Oki Islands

Dougo Region

Okinoshima Town
14,000 people

Dozen Region

Nishinoshima Town
2,900 people

Ama Town
2,300 people

Chibu Village
600 people



The Nature of Ama Town

- 1963 Designated as part of Daisen-Oki National Park
- 1985 "Tenkawa Spring Water" selected as one of Japan's Top 100 Natural Water Sources
- 1997 Designated as a Marine Park (Ministry of the Environment)
- 2009 Joined The Most Beautiful Villages in Japan Association
- 2013 Oki Islands recognized as a UNESCO Global Geopark



Past Initiatives and Current Status of Ama Town
Ama Town has steadily accumulated achievements in both education and industry, resulting in increased external revenue and job creation.

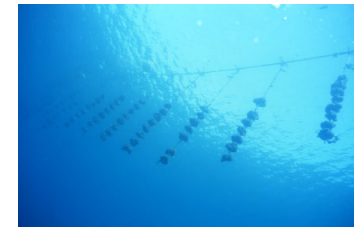


Ama Town's Challenges

Industry

Iwagaki Oyster "Haruka"

High-quality, safe brand oysters recognized with the Delicious Shimane Certification by Shimane Prefecture.



Industry

Oki Beef (Born and Raised on the Island)

A rare Japanese Black beef raised under strict management practices.



Education

Oki Dozen High School Revitalization Project

Through initiatives such as the "Island Study Program," the high school—once on the brink of closure—was successfully revitalized



Realized greater external earnings and new employment opportunities

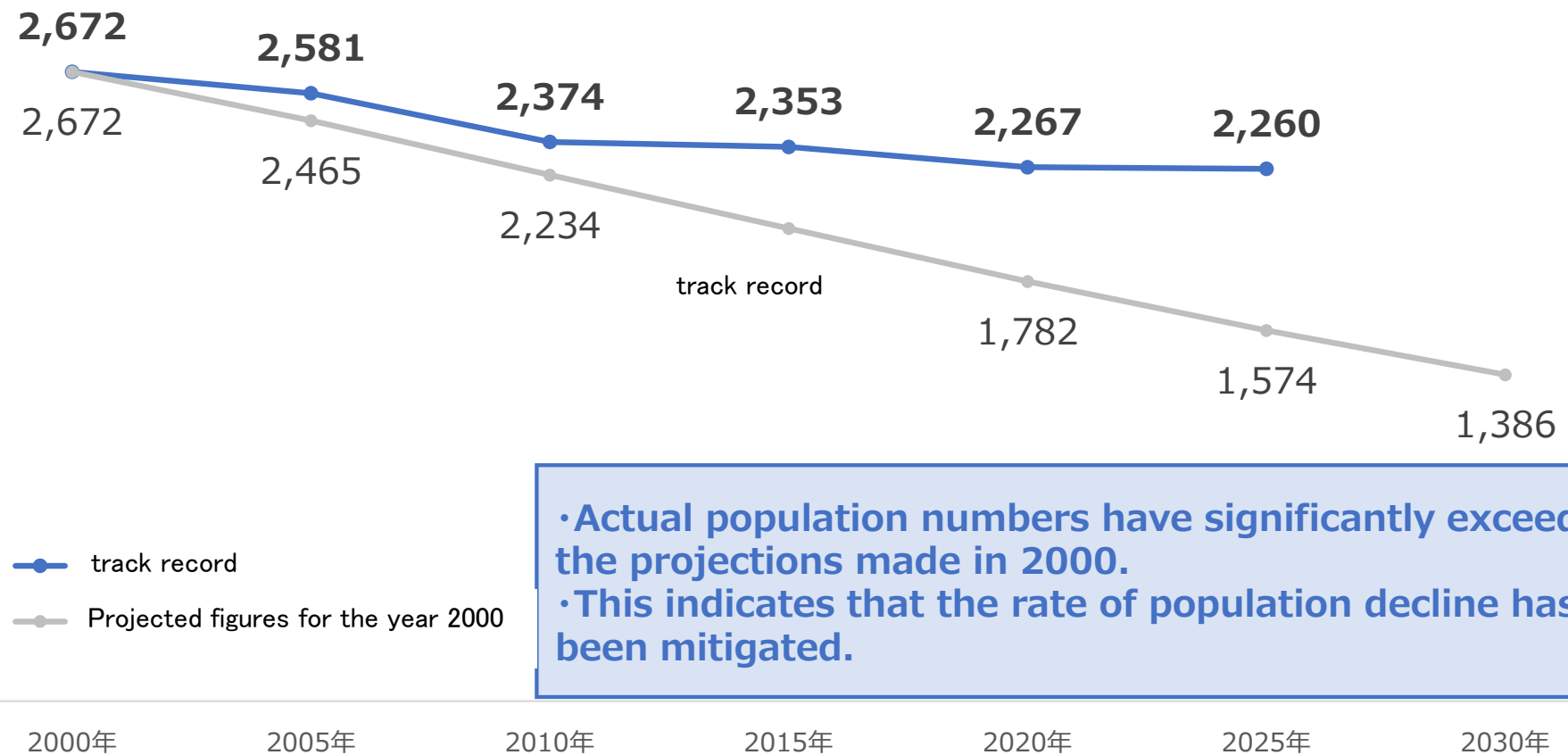
Source: Naimono wa Nai Project

Past Initiatives and Current Status of Ama Town

As a result, Ama Town has managed to slow the pace of population decline.



Population Trends and Forecasts for Ama Town



Sources:

Census data; Population Composition Analysis – RESAS

Basic Resident Register (for 2025)

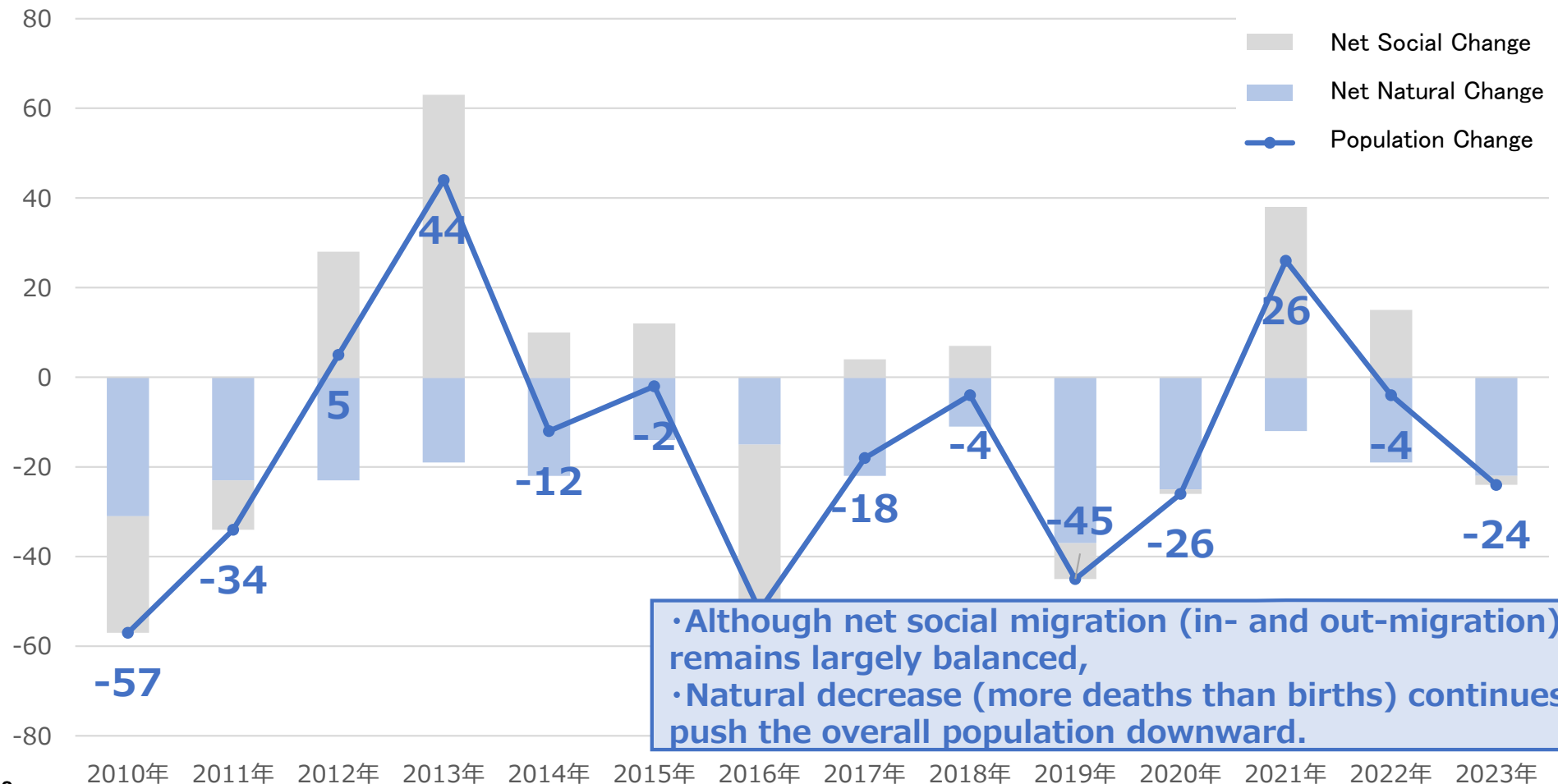
National Institute of Population and Social Security Research (Population Projections by Municipality, 2003 estimate)

Past Initiatives and Current Status of Ama Town

However, despite progress, Ama Town continues to face ongoing challenges related to population decline.



Annual Population Change in Ama Town (2010–2023)



• Although net social migration (in- and out-migration) remains largely balanced,
• Natural decrease (more deaths than births) continues to push the overall population downward.

Source:

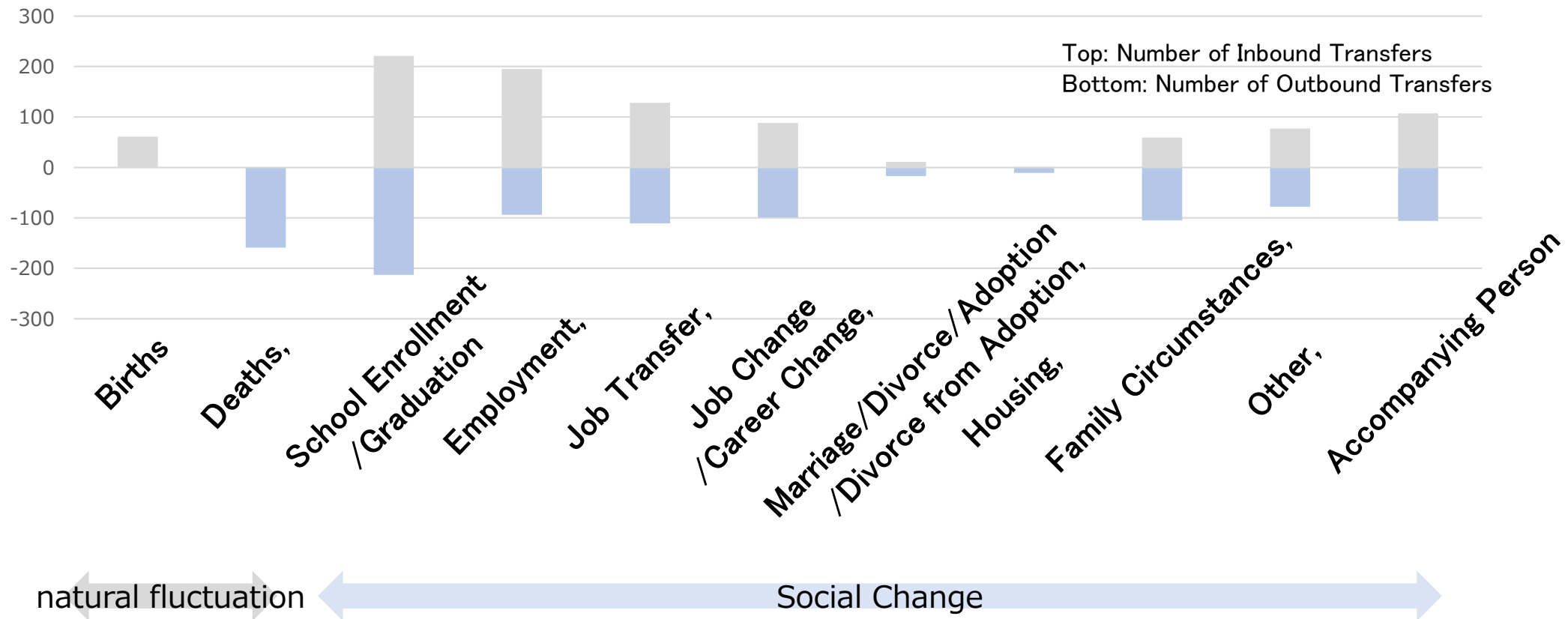
Ministry of Internal Affairs and Communications, "Population, Demographic Change, and Number of Households Based on the Basic Resident Register," reorganized using RESAS Population Change Analysis.

Past Initiatives and Current Status of Ama Town

Multiple factors—education, employment, and welfare—are driving out-migration, and these issues intersect in complex ways across different sectors.



Life Stage Trends (2020–2024 Total) (Persons)



Factors Influencing Out-Migration

Educational factors/Employment conditions/Family and welfare-related circumstances

Source: Shimane Prefecture "Shimane Statistical Information Database," Resident Life Division, AMASAS, reorganized and processed

To address these intertwined, cross-sectoral challenges, Ama Town began using data as a shared language to enable deeper, fact-based discussions.

Current Issues

- Current Issues in Sharing Challenges Among Stakeholders
- Because challenges span multiple domains, stakeholders often fail to share a common understanding from the outset, leading to misalignment and time-consuming coordination.

Perhaps XX is the problem...



I can't tell what the real issue is...



Approach

By using data as a shared language, the town aims to:

- Establish an objective recognition of challenges
- Facilitate smoother consensus-building
- Improve the quality of cross-sectoral discussions

So the real issue is XX!

Then the policy should be OO.



By relying on data, we enhance the quality of cross-disciplinary discussions.

Past Initiatives and Current Status of Ama Town
This led to the creation of “AMASAS,”
a system that visualizes local issues and enables businesses,
residents, and government to share the same data.



Social issues



Population



Industry



Daily Life



Health

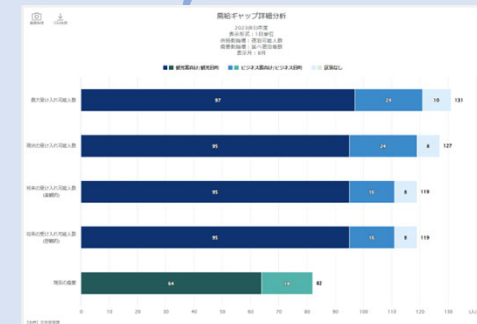
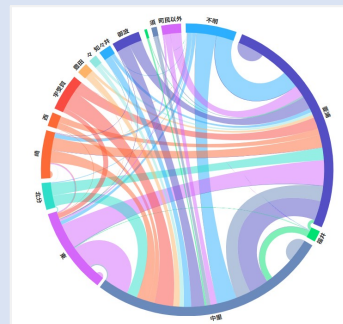
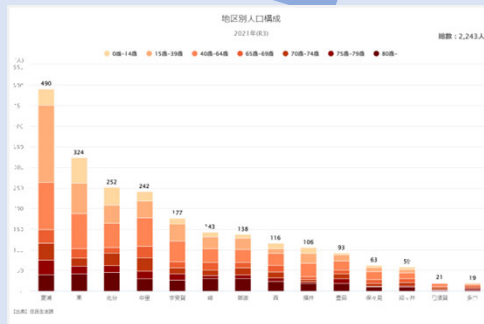
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Ama Town Hall

**Collect and analyze
regional data**

AMASAS

**Data-driven policy
and measure
formulation**



Access to AMASAS

Anyone can easily access AMASAS by searching “AMASAS” on Google or other search engines.
It is also accessible via the QR code.



【Access Method】

- Search for “AMASAS” on Google, etc.
- URL :
amasesas.town.ama.shimane.jp



Features of AMASAS

Characteristics of AMASAS (1): Hypothesis-Driven Design

AMASAS is not designed to simply visualize data comprehensively. Instead, it is built to support hypothesis development and policy formulation.



Analysis Process Using AMASAS

Formulating hypotheses

- Based on existing analysis (RESAS) and interviews

Collecting necessary datasets

- Including Excel files held by each municipal division

Visualizing data for intuitive understanding

- Even for users unfamiliar with data analysis

Supporting policy design

- Enabling stakeholders to discuss solutions while viewing the same visualized issues

Rather than merely comprehensively visualizing data, **formulate hypotheses before visualizing data to utilize it for policy formulation.**

AMASAS includes **10 thematic menus and 44 analytical screens**, enabling the analysis of a wide range of regional issues.

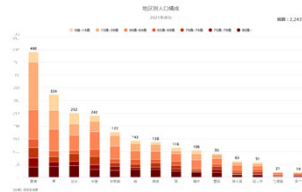


Analysis Menu

Analyze the screen

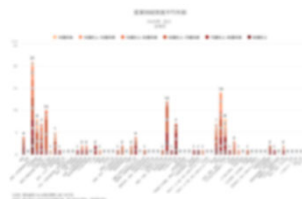
What the analysis reveals

Population

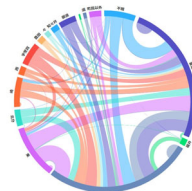


- Population Composition by District and Changes Over Time
- Life Stages and Household Composition of Incoming and Outgoing Residents
- Birth Order with Highest/Lowest Birth Rates and Age Groups Marrying
- Industries facing the need for business succession due to aging owners
- Industries supporting local employment/Skills possessed by local businesses
- Trends in farmland and agricultural workforce, and districts where maintenance is becoming difficult

Industry



Consumption



- Consumer trends by purchaser, location, district, and age group
- Potential for enhancing sales and marketing efforts for specific consumption categories
- Economic impact per related population member or tourist

Tourism



- Periods when a gap exists between tourism supply and demand
- Periods when lodging supply is strained, with future strain anticipated
- The ripple effects the tourism industry has on other industries within the island

Education



- Trends in Elementary School Enrollment by Grade Level and the Need for Multi-Grade Classrooms
- The Ability to Live Authentically (Ama Town's Unique Human Development Indicator) and Its Trends

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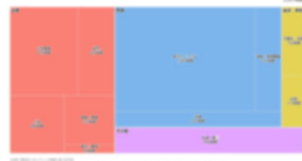


Analysis Menu

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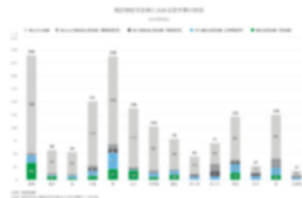
What the analysis reveals

Welfare



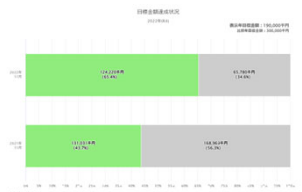
- Number of individuals requiring care by region and level of support/care needs
- Workload for care tasks in care facilities
- Areas requiring focus for care prevention and daily living support

Housing



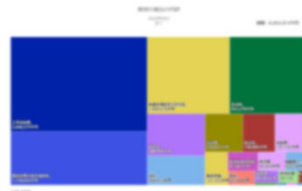
- Trends among Town-Operated Housing Residents (Industry Affiliation, Length of Residence)
- Number of Housing Units in Each District, Including Available Vacant Units
- Future Housing Demand and Supply Trends, Housing Shortage Projections

Hometown Tax Donation



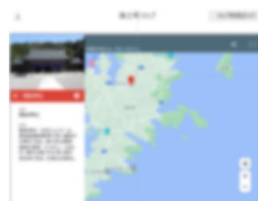
- Popular categories and products for hometown tax return gifts
- Regions with high donation volumes, regions with many frequent/high-value donors
- Achievement rate of donations against goals, designated usage purposes

Fiscal



- Large-scale municipal expenditures, amounts leaking outside the region
- Amounts allocated to each section by department, amounts leaking outside the region
- Amounts paid to each creditorFuture project plans, projected amounts for each project

Map



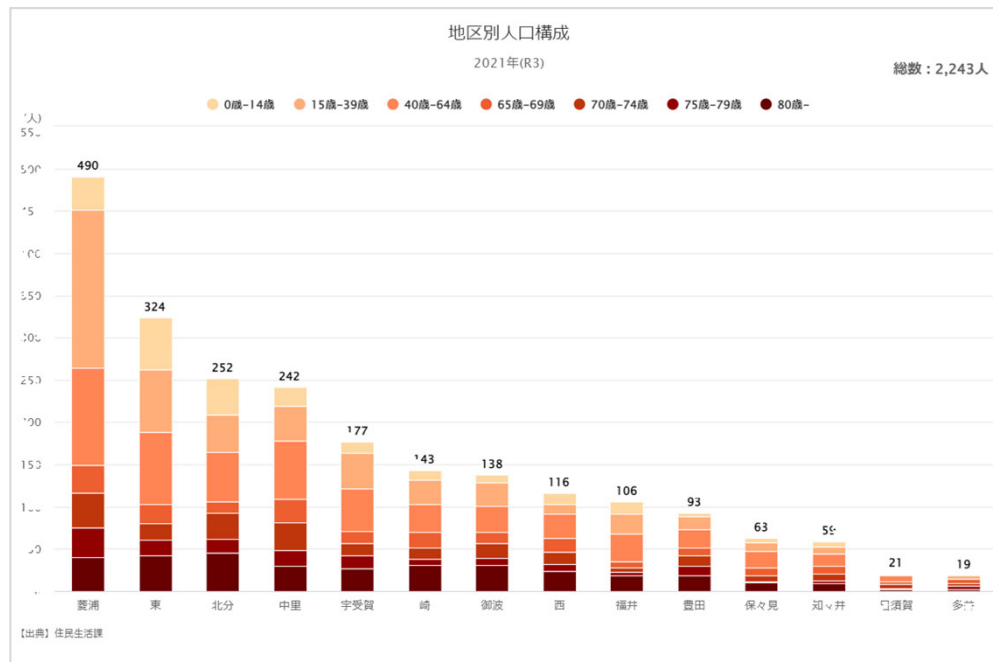
- Locations of Bus Stops and Cultural Properties in Ama Town
- Locations of Spots Related to the Gotoba Imperial Court

Characteristics of AMASAS (2): Cross-Departmental Use of Data
To broaden adoption across the entire town, Ama Town aims to ensure that each division can utilize consistent data for decision-making.



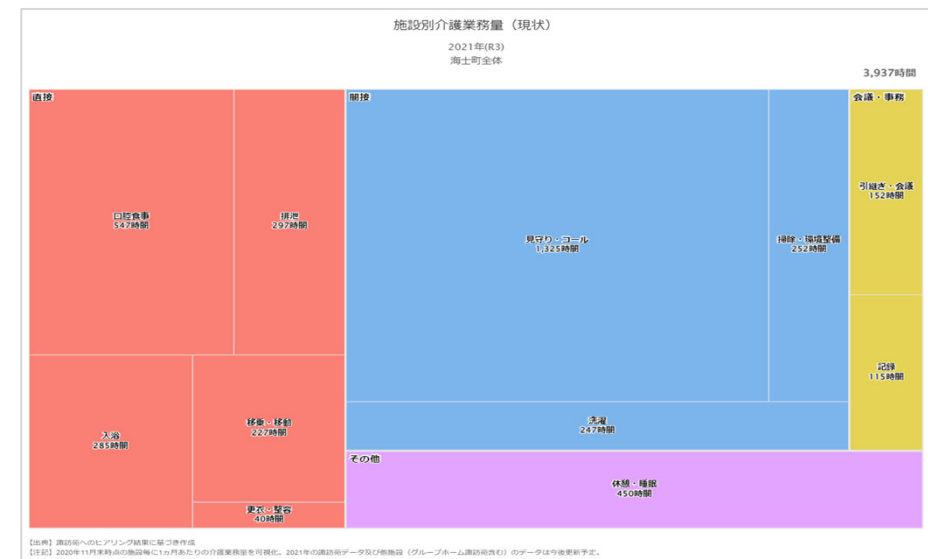
Example: Population graph

Population composition by district and age group can be intuitively understood



Care Graph

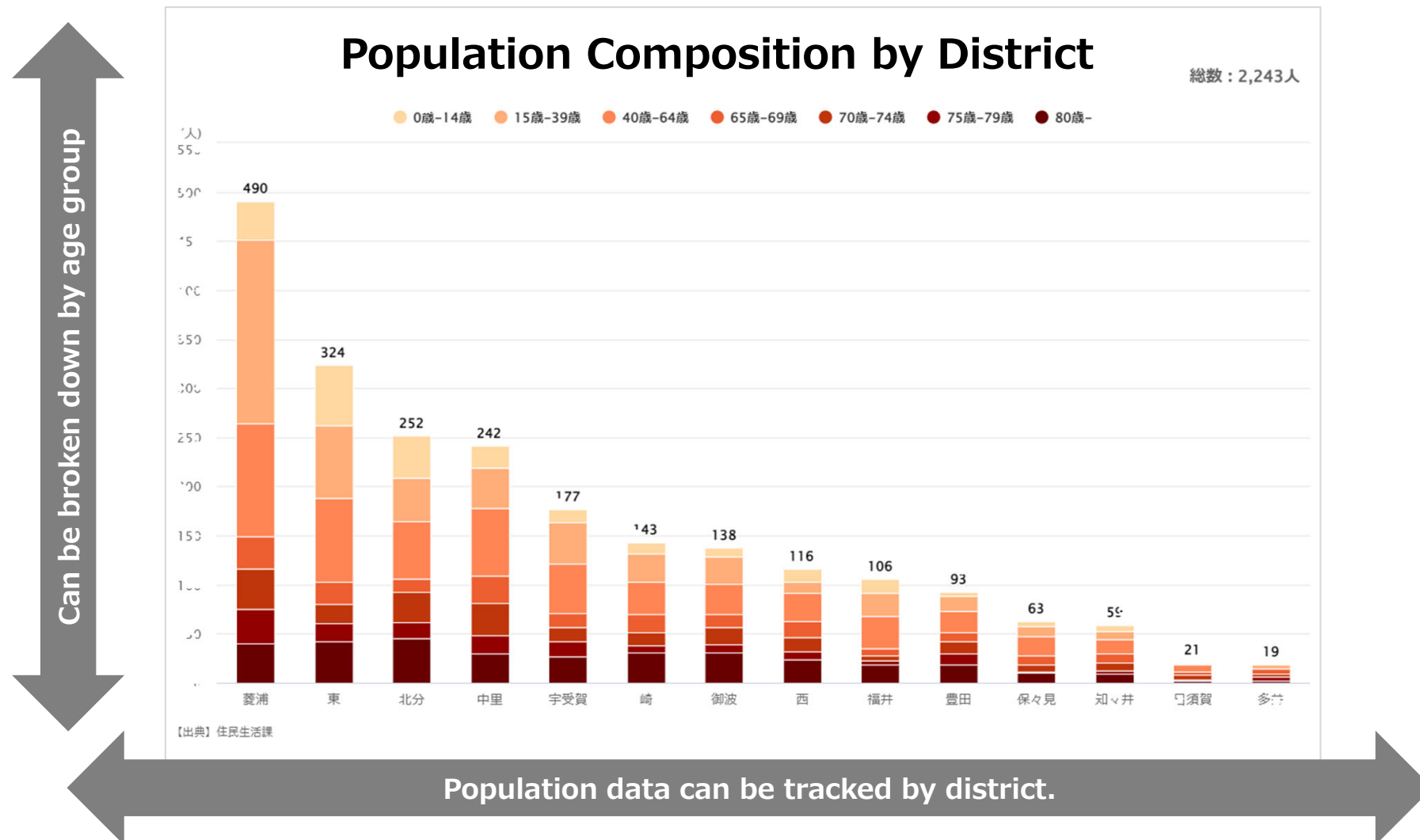
Gain an overview of the total workload in caregiving and intuitively understand which tasks are the most demanding.



AMASAS's simple graphs are utilized in policy formulation and resident materials, facilitating shared understanding of issues in a form accessible to everyone.

Characteristics of AMASAS (3): Accessible User Interface

It enables analysis at a finer granularity than the municipal level, making it useful for considering more specific policy measures.



Specific Examples of AMASAS Utilization

Its use is expanding widely among government offices, businesses, schools, residents, and others. Today we will introduce case studies from regional integrated care conferences and initiatives in care DX.



Previous Utilization Results

Total: 16 cases (including 7 from the municipal office, 3 from businesses, 5 from schools, and 1 from residents)

Planning formulation, grant applications, sharing analysis results at meetings, and materials for school lessons

Today's Introduction

Case Studies

Community-Based Integrated Care
Conference Analysis of Factors
Contributing to Elderly Population
Decline on Remote Islands

Reducing the Burden on Care
Facilities (Care Digital
Transformation)

Initiative Overview

In Ama Town, many elderly residents leave the island due to anxieties about their later years. The town analyzed what specifically causes these anxieties about daily life, shared the challenges, and discussed policy directions.

Reducing the burden of caregiving tasks was an urgent priority at Ama Town's only special nursing home for the elderly. By analyzing which specific tasks were causing the greatest strain and sharing this information with relevant parties, efforts to advance care digital transformation gained momentum, providing a foothold for reducing the burden.

Utilize data to deepen discussions and enhance resident understanding

AMASAS graphs are utilized not only in discussions of elderly care issues at regional comprehensive care conferences but also in pamphlets for residents, helping to share challenges and promote understanding.



Utilized in policy-making practice

- Used in regional comprehensive care conferences and similar forums to organize issues and discuss countermeasures
- Data-driven discussions enable rapid consensus building

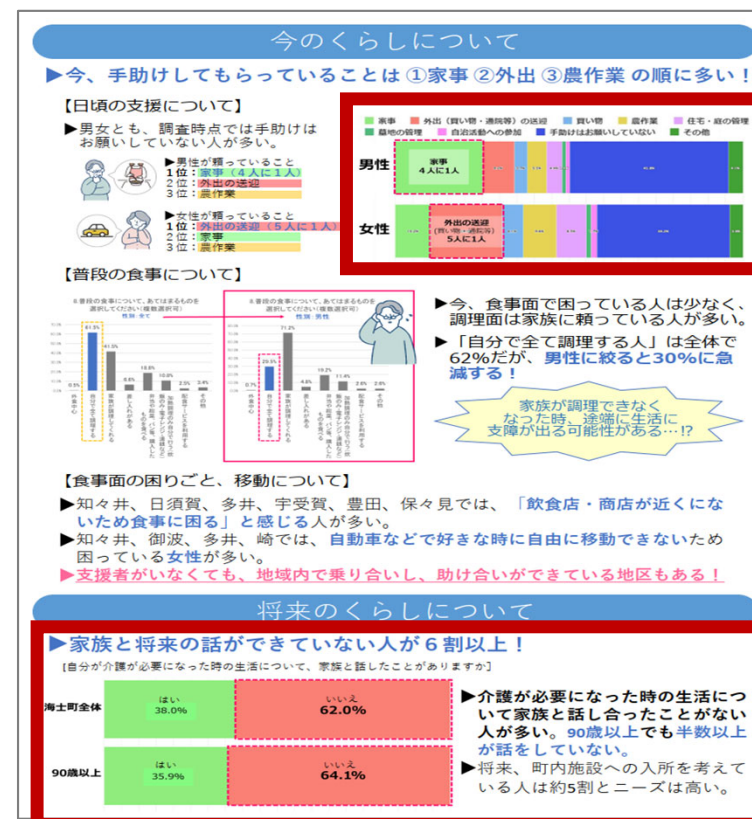


Discussions at the Regional Care Conference

Municipal offices, social welfare councils, clinics, and other diverse entities engage in discussions based on shared data

For use in materials for town residents

- Include graphs in the materials to clearly explain the issues
- This will help promote residents' understanding





At the regional care conference, we hypothesized that the factors leading to elderly individuals leaving remote islands could be categorized into three types: **'physical factors,' 'family environment factors,' and 'social factors.'**

Why are the elderly leaving the island?

Physical factors

- Unable to live independently (see Admission Guide/Independent Living Support)
 - Unable to move freely or doing so is dangerous
 - Cognitive decline and worsening daily routines prevent managing, preparing, or consuming meals

Factors in the home environment

- Eventually, home care will be necessary, but there is no one to provide it.
- Family members (such as children) live far away.

Social environmental factors

- want to go shopping at stores, but none are within walking distance, making transportation inconvenient.
- I don't have a car/can't drive, so I have to use infrequent buses. I cannot receive the nursing care
- Unable to receive required nursing care or medical services due to capacity limits or medical standards (e.g., unable to undergo dialysis)

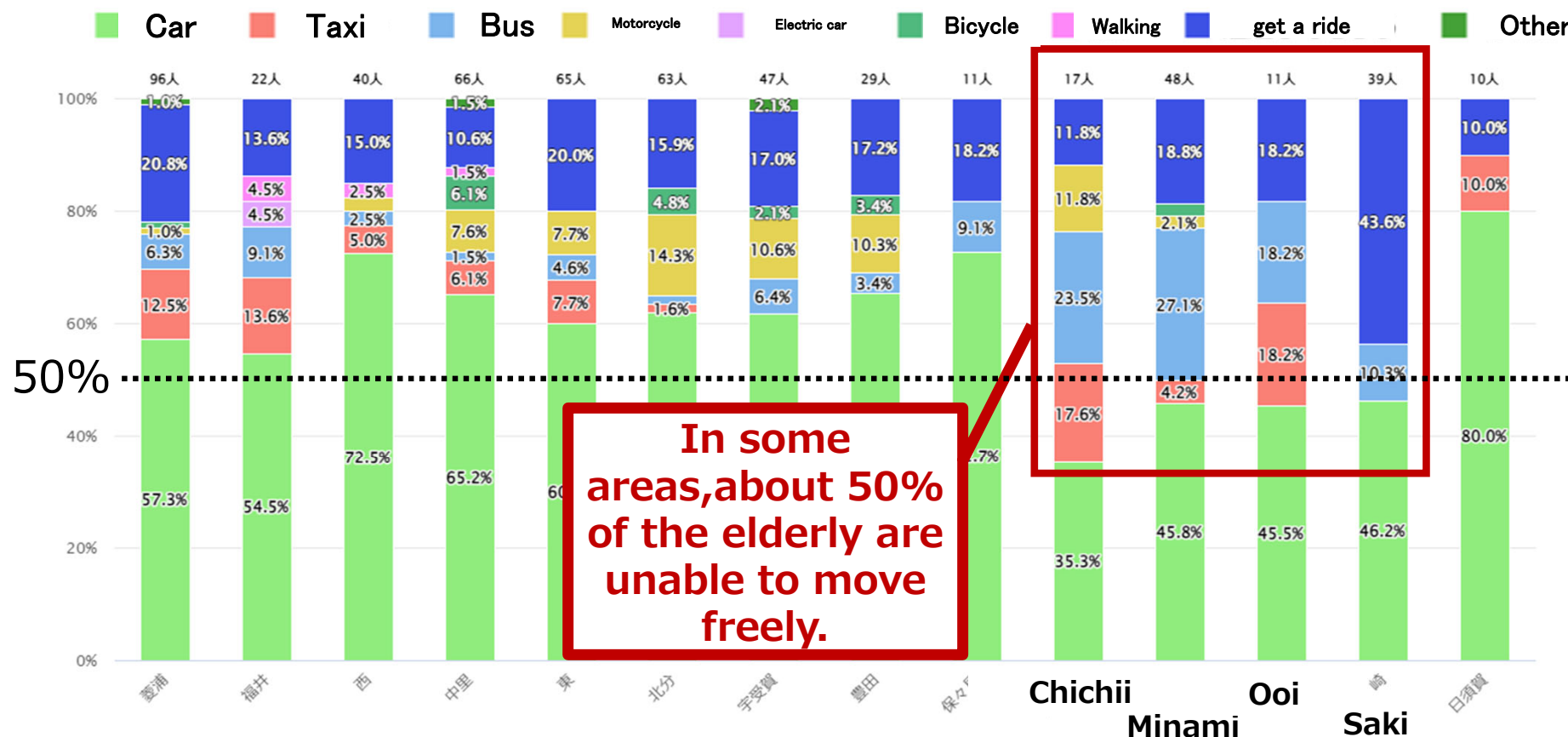
Analysis of 'social factors' revealed that approximately 50% of elderly residents in some districts cannot move freely, based on survey results that investigated and visualized mobility needs. This clearly demonstrated that the necessary support varies by district.



Percentage of Elderly Population by District

Total: 564 people

When traveling outside your area,
what mode of transportation do you typically use?



【出典】 実態調査データ

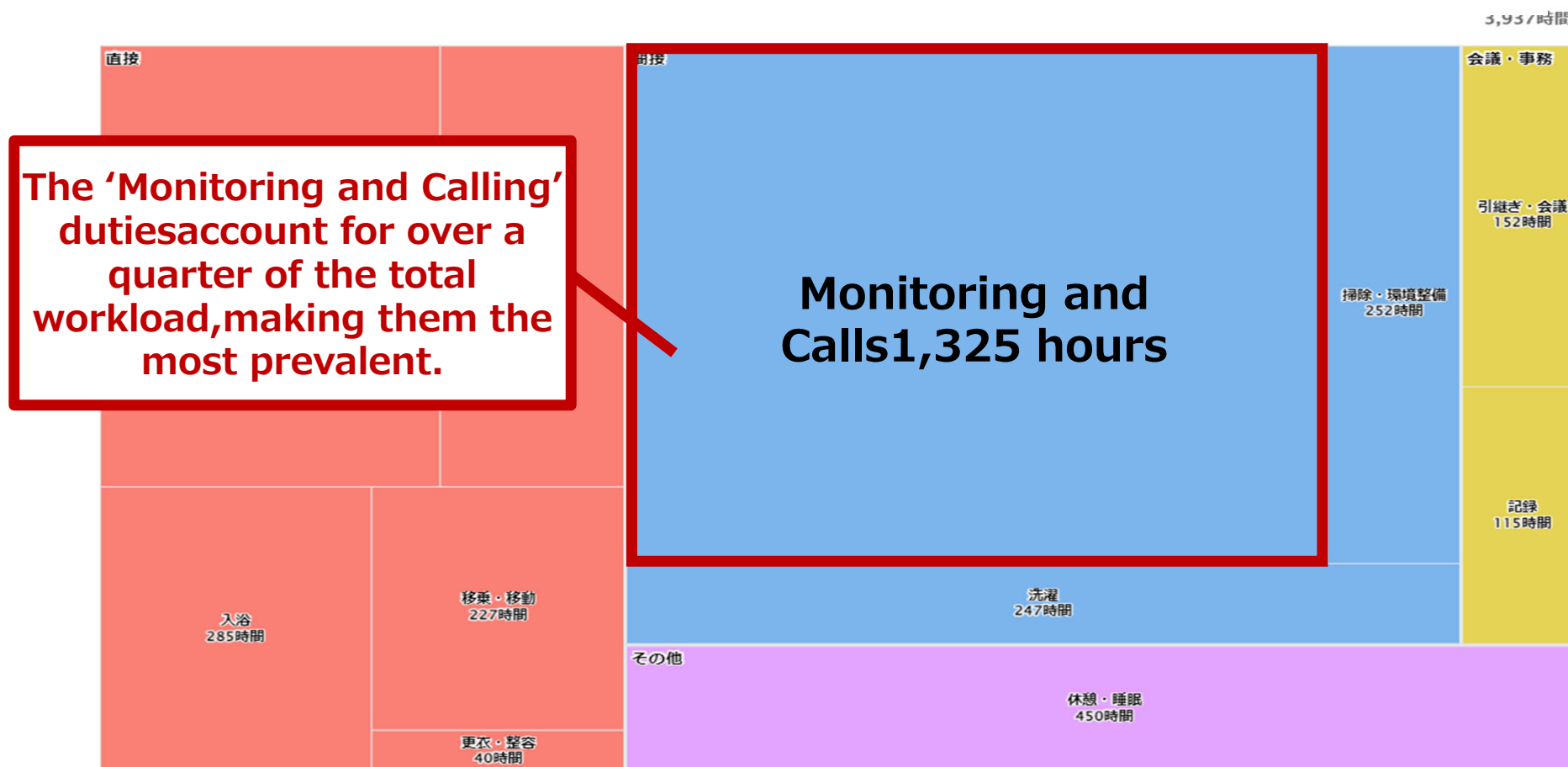
Ama Tc 【注記】 割合 = (該当選択肢の回答数/全体の回答数) であるため、「複数選択可」の設問については、グラフの使用をお控えください

Specific Use Case 2: Advancing Care DX: Visualizing Workload

To reduce the workload at local care facilities, we visualized their operational tasks and found that monitoring and call duties imposed the heaviest burden. We have therefore begun exploring measures to alleviate this burden.



Visualization of Facility-Specific Workloads 2021 (R7)

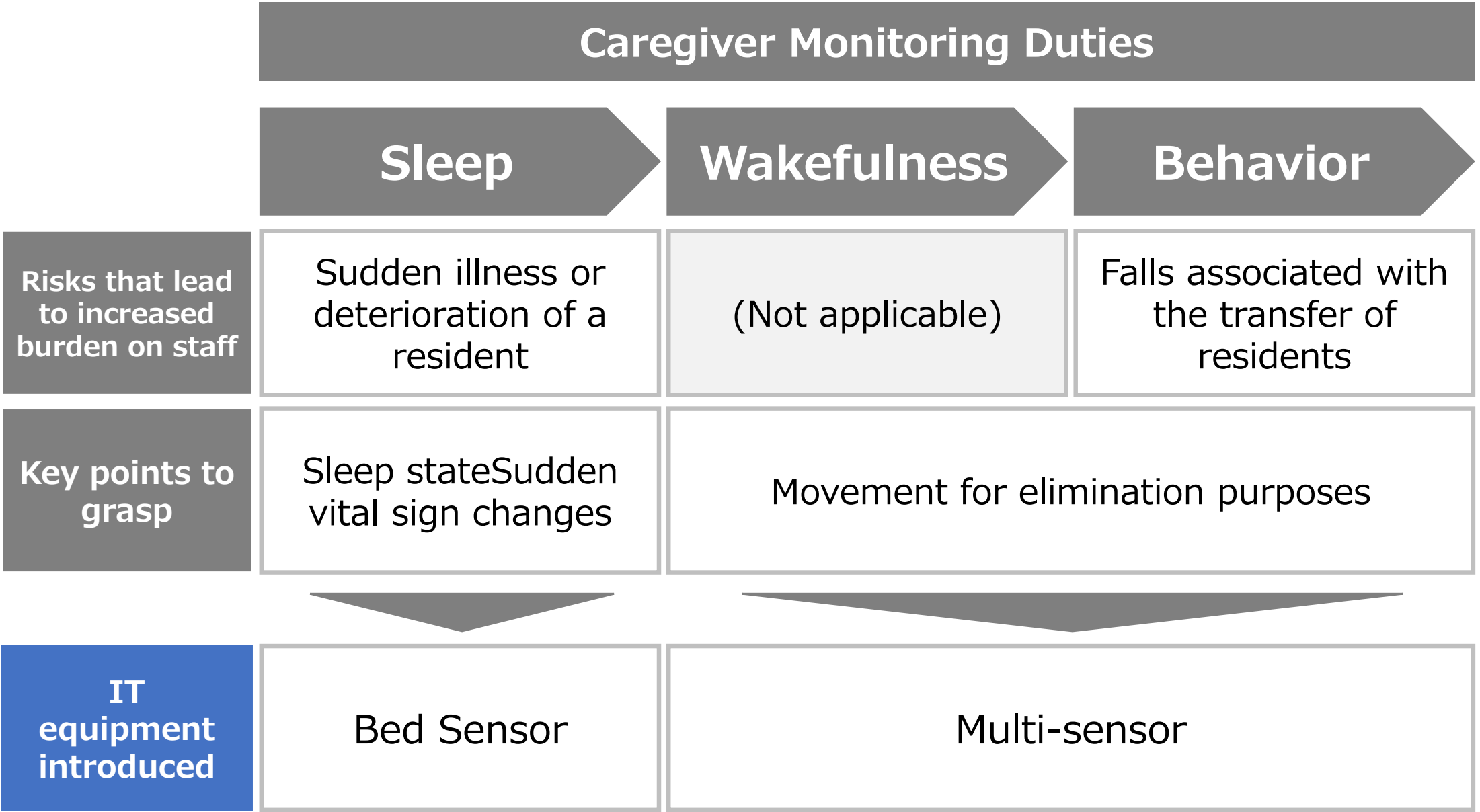


【出典】 諏訪苑へのヒアリング結果に基づき作成

【注記】 2020年11月末時点の施設毎に1ヵ月あたりの介護業務量を可視化。2021年の諏訪苑データ及び他施設（グループホーム諏訪苑含む）のデータは今後更新予定。

Specific Use Case 2: Visualizing the Workload of Nursing Care Tasks

A detailed investigation of monitoring duties revealed that staff bear a significant burden during residents' sleep and activities due to risks of sudden illness, sudden changes in condition, and falls. The introduction of vital sign sensors and multi-sensors has led to a reduction in the workload.



Toward Continuous Data Utilization

To continuously manage and operate AMASAS, it is necessary to build a framework that involves users who utilize the data, in addition to the existing structure.

Data Collection

Data Processing

Data Update

Assignment

The framework for the ongoing management and operation of AMASAS

- Delays in data collection
- Data management methods and formats are not standardized

- Work depends on specific individuals
- Updates require significant effort

- Delays in the update schedule
- Insufficient sharing of update content

Action Plan for Improvement

It is not just a matter of management and operation by the secretariat alone; **a sustainable framework must be established that involves users who utilize the data (such as municipal office staff, businesses, and chambers of commerce).**

By establishing a culture of data utilization and building collaborative frameworks, we will accelerate the adoption of AMASAS and its utilization across the entire region.



Assignment

Response Policy

There is room for further adoption.

Its use by the entire municipal office, businesses, and residents remains limited.

Implementation of public relations and explanatory sessions for promotion and dissemination

Familiarity with data utilization

Unaccustomed to data-driven discussions and operations, with a tendency to lag behind in utilizing data for decision-making

Regular study sessions for staff skill enhancement and sharing of practical application examples

Building momentum among top management

The culture of data utilization is immature, and there is a lack of understanding and promotion among management.

Fostering a Data Utilization Culture and Establishing Systems by Management

Thank you for your kind attention.