

# Healthy Lifestyles for Europe (HL4EU)

## Data analysis: Cross-Sectoral Integration, Innovation, and Impact

*De La Cruz Lastre L.D. , January 2026 | EIEIM*

### 1. Summary

This report presents an analytical assessment of **136 good practices** collected under the *Healthy Lifestyles for Europe (HL4EU)* initiative by January 2026. The analysis examines partnership structures, innovation characteristics, sectoral coverage, and cross-sectoral integration, with a particular focus on how sectoral combinations relate to impact, sustainability, innovation diversity, and scalability.

Results indicate that good practices included in the HL4EU Database are characterized by strong public-private collaboration, a predominance of social and methodological innovation, and a high degree of cross-sectoral integration, particularly between health, physical activity, and community-oriented sectors. While multi-sectoral design is widespread, weighted analyses show that higher-impact, more sustainable, and more scalable good practices are associated with specific sectoral configurations, especially those involving institutional and governance-related domains.

The findings support evidence-based reflection on future programme design, highlighting opportunities to strengthen life-course balance, diversify sectoral engagement, and explicitly incentivize sustainability and scalability in funding criteria.

*Notes: For simplicity through the document, the word project = good practice; the equations and models were developed by the author in a context-sensitive manner with the needs and particularities of this dataset.*

### 2. Data Scope

The analysis is based on a harmonized dataset of **136 good practices**, including information on:

- Partnership type
- Innovation type
- Target age groups
- Sectoral involvement
- Geographic participation
- Good practice duration and continuity

- Qualitative outcome descriptions (aims and outcomes)

All variables were standardized and transformed into structured indicators to enable consistent portfolio-level analysis.

### 3. Partnership and Innovation Characteristics

#### 3.1 Partnership Types

**Figure 1** presents the distribution of partnership models.

Public–private partnerships account for **52.2%** of projects (71 projects), followed by public-only initiatives (**42.6%**, 58 projects). Purely private partnerships represent a small share (**5.1%**, 7 projects).

This distribution reflects a program design that prioritizes multi-actor collaboration, aligning with EU policy objectives promoting co-creation and shared responsibility in health promotion.

#### 3.2 Innovation Types and Overlap

**Figure 2** illustrates the overlap between technological, methodological, and social innovation.

- Social innovation appears in **64.7%** of projects.
- Methodological innovation appears in **63.2%**.
- Technological innovation is present in **16.2%**, rarely as a stand-alone component.

Approximately **36.8%** of projects combine social and methodological innovation, while only 0.7% integrate all three innovation types. This pattern highlights a portfolio oriented toward behavioural, social, and implementation-driven innovation, rather than technology-centric solutions.

### 4. Geographical Distribution of Good Practices

The geographical distribution of HL4EU projects is shown in **Figure 4**. Projects involve a wide range of European countries, with participation concentrated in **Western and Southern Europe**, while Central and Eastern European countries are comparatively less represented.

The map reflects project participation, not funding volume or coordination role. Countries with higher counts often participate as consortium members in multi-

country projects, indicating stronger integration into transnational networks rather than higher national funding intensity.

From a policy perspective, the observed distribution suggests scope for:

- Targeted capacity-building in underrepresented regions.
- Enhanced geographical balance in future calls.
- Leveraging established networks to promote knowledge transfer across Europe.

## 5. Sectoral Coverage and Target Groups

### 5.1 Sector Distribution

**Figure 5** shows that the most frequently addressed sectors are:

- **Physical Activity, Exercise & Sports** ( $\approx 95\%$  of projects),
- **Health** ( $\approx 88\%$ ),
- **Community** ( $\approx 59\%$ ).

Sectors such as Environmental Sustainability and Culture & Arts appear in fewer than 20% and 5% of projects respectively, indicating a relatively narrow sectoral focus despite broadly programmed objectives.

### 5.2 Age Groups and Sectoral Targeting

The age–sector heatmap (**Figure 3**) shows a strong emphasis on:

- Adults (26–64 years),
- Children (5-13 years) and adolescents (14-19 years).

Early childhood and older age groups are less frequently targeted across sectors, suggesting an imbalance in life-course coverage and potential areas for future strategic adjustment.

## 6. Sector Co-occurrence Analysis

### 6.1 Concept and Computation

Sector co-occurrence measures how often two sectors are addressed within the same project. For each sector pair ( $i, j$ ), co-occurrence is computed as:

$$C_{ij} = \sum_{p=1}^N \mathbb{1}_{ip} \cdot \mathbb{1}_{jp}$$

(De La Cruz Lastre L.D., 2026)

where  $\mathbb{1}_{ip} = 1$  if project  $p$  addresses sector  $i$ .

Matrices are presented as:

- **Absolute counts** (Figure 6a),
- **Percentages of total projects** (Figure 6b).

## 6.2 Baseline Co-occurrence Patterns

The strongest sectoral combinations are:

- Physical Activity & Health ( $\approx 90\%$  of projects),
- Physical Activity & Community ( $\approx 58\%$ ),
- Health & Community ( $\approx 51\%$ ).

This reveals a core triad of integration, around which most HL4EU projects are structured.

## 7. Operationalization of Qualitative Dimensions

### 7.1 Sustainability

Let  $E_i$  be start year,  $F_i$  end year, and  $T$  the current year:

$$D_i = \begin{cases} T - E_i, & \text{if ongoing} \\ F_i - E_i, & \text{if completed} \end{cases}$$

$$S_i = \begin{cases} \text{High}, & D_i \geq 10 \\ \text{Moderate}, & 5 \leq D_i < 10 \\ \text{Low}, & D_i < 5 \end{cases}$$

(De La Cruz Lastre L.D., 2026)

## 7.2 Scalability

$$C_i = \begin{cases} \text{Low,} & \text{single country} \\ \text{Moderate,} & \text{multiple countries, same continent} \\ \text{High,} & \text{two or more continents} \end{cases}$$

(De La Cruz Lastre L.D., 2026)

## 7.3 Innovation Diversity

$$I_i = \sum_{k=1}^3 \mathbb{1}_{ik}$$

$$D_i = \begin{cases} \text{Low,} & I_i = 1 \\ \text{Moderate,} & I_i = 2 \\ \text{High,} & I_i = 3 \end{cases}$$

(De La Cruz Lastre L.D., 2026)

## 7.4 Impact

Seven outcome domains were identified (policy, capacity, behavior, infrastructure, social, financial, health). Binary indicators  $O_{ij}$  were assigned via keyword-assisted detection:

$$B_i = \sum_{j=1}^7 O_{ij}$$

Ordinal scores were assigned:

$$s(\text{Low}) = 1, s(\text{Moderate}) = 2, s(\text{High}) = 3$$

Composite multiplier:

$$M_i = s(S_i) + s(D_i) + s(C_i)$$

Final impact score:

$$I_i = M_i \times B_i$$

Impact levels were classified using empirical percentiles:

$$\text{Impact}_i = \begin{cases} \text{Low,} & I_i \leq P_{33} \\ \text{Moderate,} & P_{33} < I_i \leq P_{67} \\ \text{High,} & I_i > P_{67} \end{cases}$$

(De La Cruz Lastre L.D., 2026)

## 8. Weighted Sector Co-occurrence Analysis

### 8.1 Interpretation of Weighted Plots

Weighted sector co-occurrence plots (Figures 7–10) aggregate joint sector participation while giving greater weight to projects with higher scores in impact, sustainability, innovation diversity, or scalability.

Higher values may reflect:

- frequent collaboration,
- concentration of high-quality projects,
- or both.

These plots are comparative and exploratory, not causal.

### 8.2 Key Findings

- **Impact-weighted co-occurrence (Figure 7)** highlights combinations involving Health, Physical Activity, Community, and Public Administration.
- **Sustainability-weighted co-occurrence (Figure 8)** shows stronger contributions from Equity and Community sectors.
- **Innovation-diversity-weighted co-occurrence (Figure 9)** emphasizes socially oriented sector combinations.
- **Scalability-weighted co-occurrence (Figure 10)** highlights governance and infrastructural sectors, including Public Administration and Mobility.

## 10. Conclusions

HL4EU demonstrates a mature, integrative approach to healthy lifestyle promotion. By combining structural and weighted analyses, this report shows that the quality of cross-sector collaboration matters as much as its frequency.

The methodological framework developed here offers a transparent, reproducible model for future programme-level evaluations and supports evidence-informed policy design.

## **11. Limitations and Considerations**

This analysis should be interpreted within the framework of methodological constraints and data characteristics that inform both the scope of findings and their application to policy development.

### **11.1 Data Collection Framework and Sample Representativeness**

The dataset comprises 136 good practices identified through a systematic internet-based search protocol executed on the year 2025 by eight partners: Europe Active, EPIONI, European Liver Patients Association (ELPA), European Network of Outdoor Sports (ENOS), Federation of the European Sporting Goods Industry (FESI), It's Great Out There Coalition (IGOT), POLIS and European Initiative for Exercise in Medicine (EIEIM). Data collected through the free online form in the HL4EU website was also included.

While this multi-stakeholder approach ensured methodological consistency and enhanced organizational diversity, the sampling strategy introduces inherent selection effects. Projects characterized by robust digital presence, comprehensive online documentation, and active knowledge dissemination strategies demonstrate higher probability of inclusion. Consequently, community-embedded initiatives, grassroots programmes with limited digital infrastructure, or projects documented primarily in languages underrepresented within the search protocol may exhibit systematic underrepresentation in the analytical sample.

The geographic distribution observed in this portfolio (Figure 4) reflects documented participation patterns across countries rather than constituting a comprehensive census of European health promotion initiatives. While Western and Southern European countries demonstrate substantial representation, Central and Eastern European regions remain comparatively underrepresented. This geographic imbalance constrains the generalizability of findings across the European context and may not fully capture regional variations in partnership models, implementation strategies, or sectoral configurations.

Additionally, the inclusion of projects with non-European collaborative partners (beyond the primary European locus) introduces heterogeneity in implementation contexts that complicates direct cross-national comparisons.

## 11.2 Data Quality, Validation, and Harmonization

Despite implementation of rigorous data cleaning protocols and systematic validation procedures, including direct consultation with 136 project owners to resolve ambiguities and verify critical information, residual data incompleteness persists.

Missing values, particularly regarding temporal continuity (affecting sustainability calculations), detailed partnership composition, and granular outcome indicators, necessitated case-specific inclusion decisions. While predefined inclusion criteria were applied systematically, their operationalization required interpretive judgment, introducing a measured degree of analytical subjectivity.

The reliance on self-reported project documentation and publicly accessible materials may have generated descriptive inconsistencies across functionally similar interventions. This variability impacts the precision of categorical assignments, most notably within innovation typology (Figure 2: 64.7% social innovation, 63.2% methodological innovation, 16.2% technological innovation) and sectoral classification matrices (Figures 6a-b).

Such measurement heterogeneity should be considered when interpreting weighted co-occurrence analyses and their associated policy implications.

## 11.3 Analytical Framework and Indicator Operationalization

The transformation of qualitative project attributes into quantifiable indicators (sustainability, scalability, innovation diversity, and impact) employed context-specific frameworks developed expressly for this dataset, utilizing empirically derived thresholds including percentile-based classification (P33, P67) for impact stratification. While these operationalizations ensure transparency and methodological reproducibility, they constitute proxy measures capturing selected dimensions of inherently multidimensional constructs. Alternative operationalization strategies would yield variant classifications and potentially divergent weighted associations, particularly within sector co-occurrence analyses (Figures 7-10).

The weighted sector co-occurrence matrices represent exploratory analytical tools designed to identify associations between sectoral configurations and performance across key dimensions. These analyses indicate correlation rather than establishing causal relationships. Elevated weighted scores may reflect both intrinsic qualities of cross-sectoral integration and confounding factors including differential funding intensity, organizational capacity, or strategic prioritization within specific sectoral combinations. The composite impact score ( $I_i = M_i \times B_i$ ), while mathematically transparent, integrates multiple assumptions regarding the relative weighting of sustainability, innovation diversity, and scalability in determining overall project impact.

## 11.4 Temporal Scope

The analysis reflects the HL4EU portfolio status as of January 2026, establishing a fixed temporal reference point. Ongoing projects may undergo substantive evolution in scope, outcomes, or sectoral engagement beyond the observation period, while initiatives launched after data collection remain unrepresented. This temporal constraint limits capacity to assess longitudinal sustainability patterns or track outcome realization across extended implementation cycles, particularly for projects classified as "High Sustainability" ( $\geq 10$  years duration) but still in active implementation phases.

### **11.5 Analytical Scope and Thematic Boundaries**

The focused examination of cross-sectoral integration and physical activity promotion necessarily excludes analysis of within-sector heterogeneity and single-sector initiatives that may employ equally valid alternative approaches to health promotion. The analysis does not account for variance in funding magnitude (absolute or per capita), implementation intensity, or geographic scale of intervention factors that may independently influence observed outcomes and sustainability trajectories. Furthermore, the predominant concentration within the Physical Activity, Exercise and Sports-Health-Community sectoral triad (90%, 88%, and 59% of projects respectively, Figure 5) may limit detection of emergent or innovative sectoral combinations operating at lower prevalence levels.

The HL4EU partners, who did the data collection, are also represented by the sectors: physical activity, exercise and sports, health, urban design, environmental sustainability, which might have biased the findings for each accordingly.

### **11.6 Considerations for Policy Development and Future Research**

Notwithstanding these methodological constraints, this analysis provides evidence-based insights into partnership architectures, innovation patterns, and sectoral integration characteristics within the documented HL4EU portfolio. The findings should be interpreted as indicative of trends within the analytical sample rather than definitive characterizations of the entirety of European health promotion practice.

## **12. Policy-relevant considerations**

The analysis suggests that the following should be considered in future approaches and initiatives aiming to gather good practices for the promotion of healthy lifestyles via physical activity in Europe:

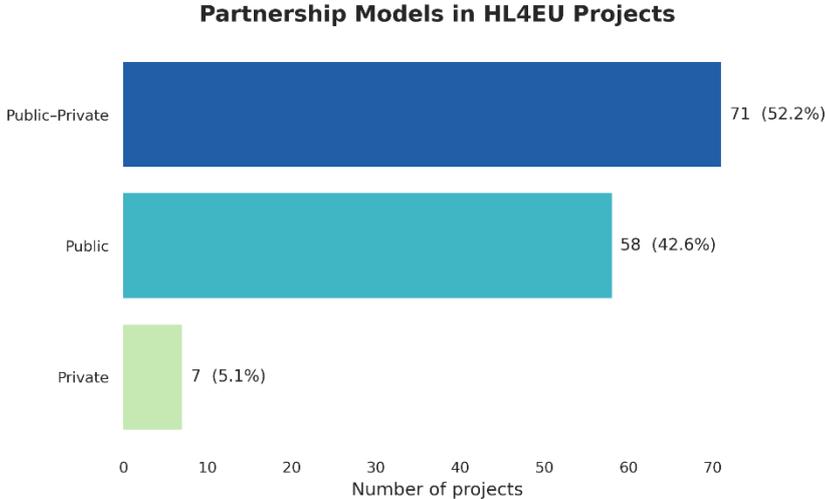
1. Geographic Equity in Programme Design: The observed underrepresentation of Central and Eastern European participation suggests opportunity for targeted capacity-building investments and enhanced inclusion mechanisms in future programme calls to ensure equitable geographic distribution of health promotion expertise and resources.

2. Sectoral Diversification Incentives: The concentration of projects within the Physical Activity, Exercise and Sports-Health-Community triad (Figures 5, 6a-b), coupled with minimal engagement of Environmental Sustainability (<20%) and Culture & Arts (<5%) sectors, indicates scope for explicit funding criteria that incentivize integration of underutilized sectors demonstrating potential synergies with health promotion objectives.
3. Life-Course balance in target population coverage: The age-sector heatmap (Figure 3) reveals systematic underrepresentation of early childhood (0-1 years: 2.2%, 1-3 years: 5.1%) and older age groups (65+: 14.7%), suggesting need for strategic adjustment to achieve comprehensive life-course coverage aligned with WHO healthy ageing frameworks.
4. Sustainability and scalability as core selection criteria: Weighted analyses (Figures 8, 10) demonstrate that projects exhibiting institutional and governance sector engagement demonstrate enhanced durability and geographic scalability. Future programme design could incorporate explicit sustainability planning requirements and scalability potential as weighted evaluation criteria in competitive calls.
5. Methodological standardization for portfolio evaluation: Future iterations would benefit from standardized reporting frameworks established at programme inception, facilitating systematic longitudinal tracking, reducing measurement heterogeneity, and enabling more robust comparative analyses across intervention types and geographic contexts.

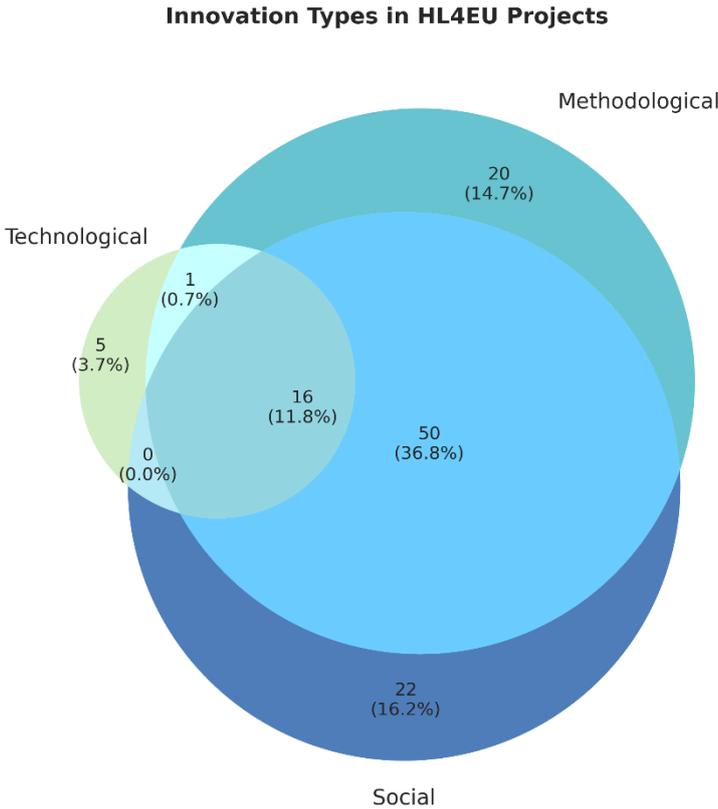
These recommendations should be considered alongside recognition of the diverse national contexts, funding mechanisms, and health system architectures across the European Union, which necessarily influence programme design, implementation feasibility, and outcome realization patterns.

**List of Figures**

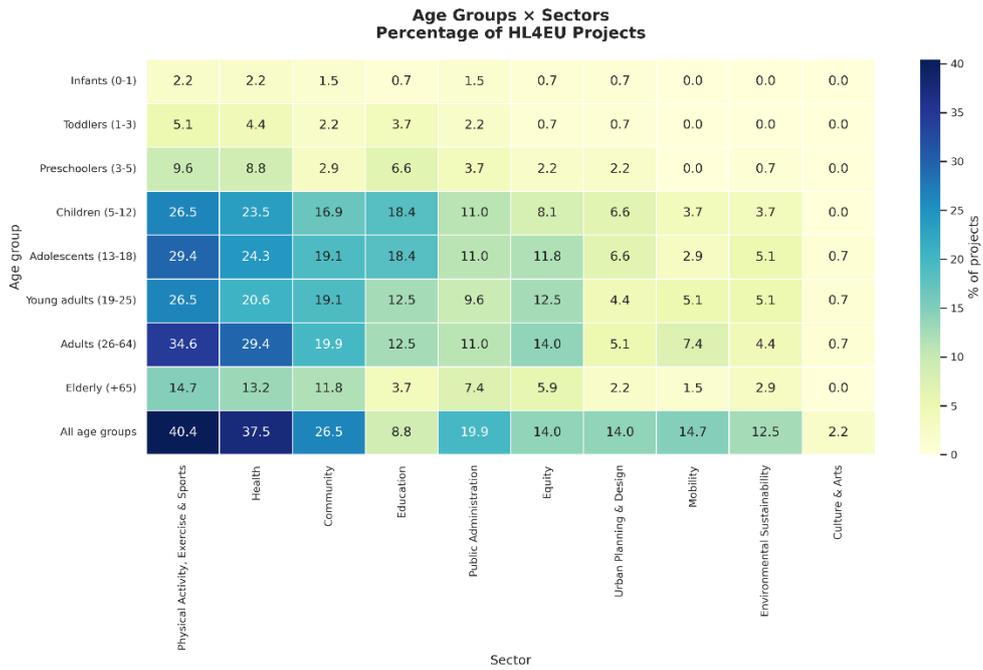
**1. Figure 1 – Distribution of Partnership Type/Models**



**2. Figure 2 – Venn Diagram of Innovation Type**

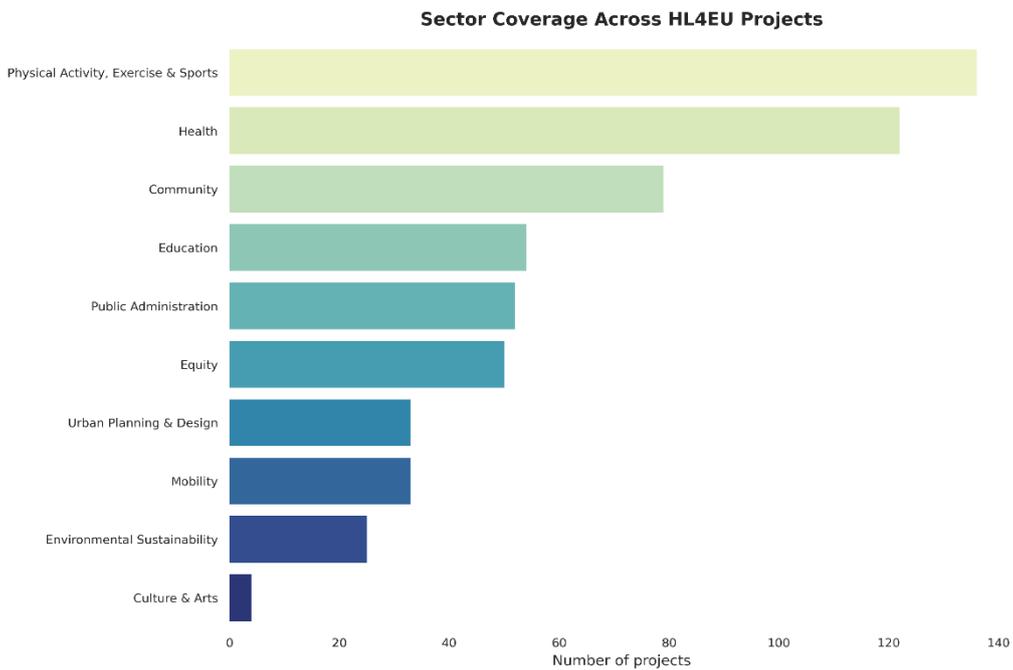


**3. Figure 3 – Age Groups × Sectors Heatmap (% of good practices)**

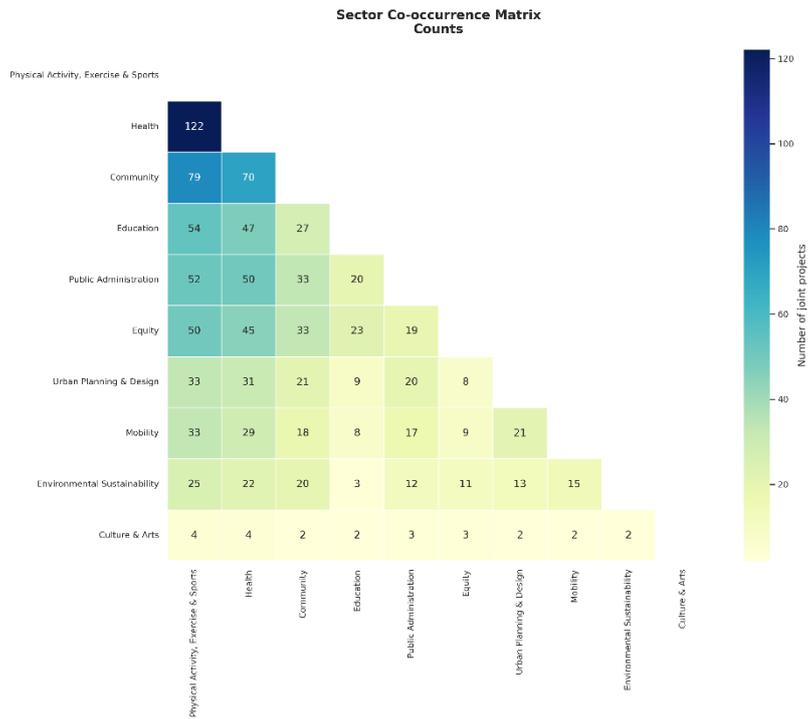


4. **Figure 4** – Geographical Distribution of good practices participation  
By a click [here](#).

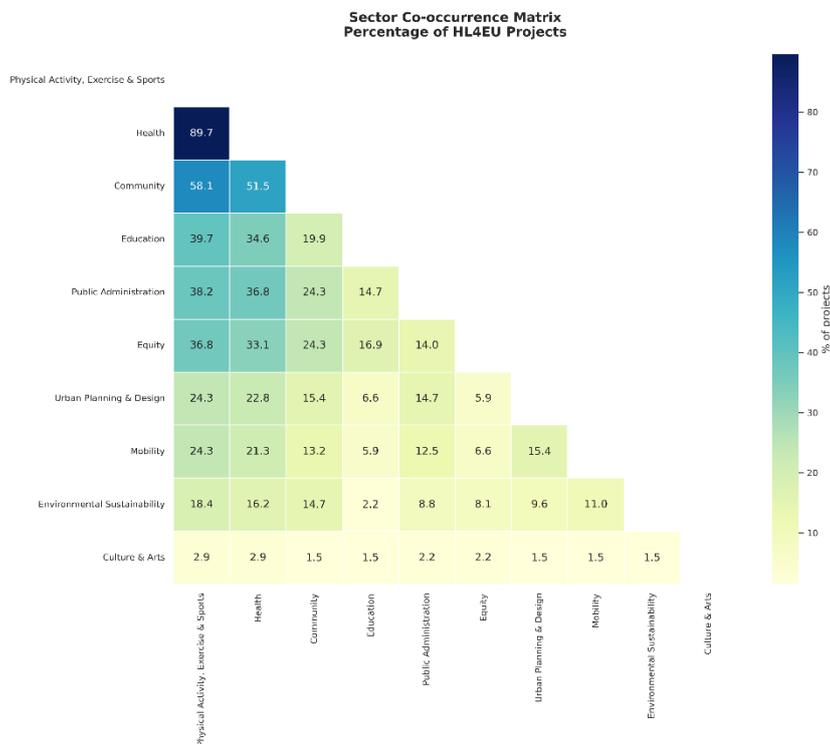
5. **Figure 5** – Sector Coverage Across good practices



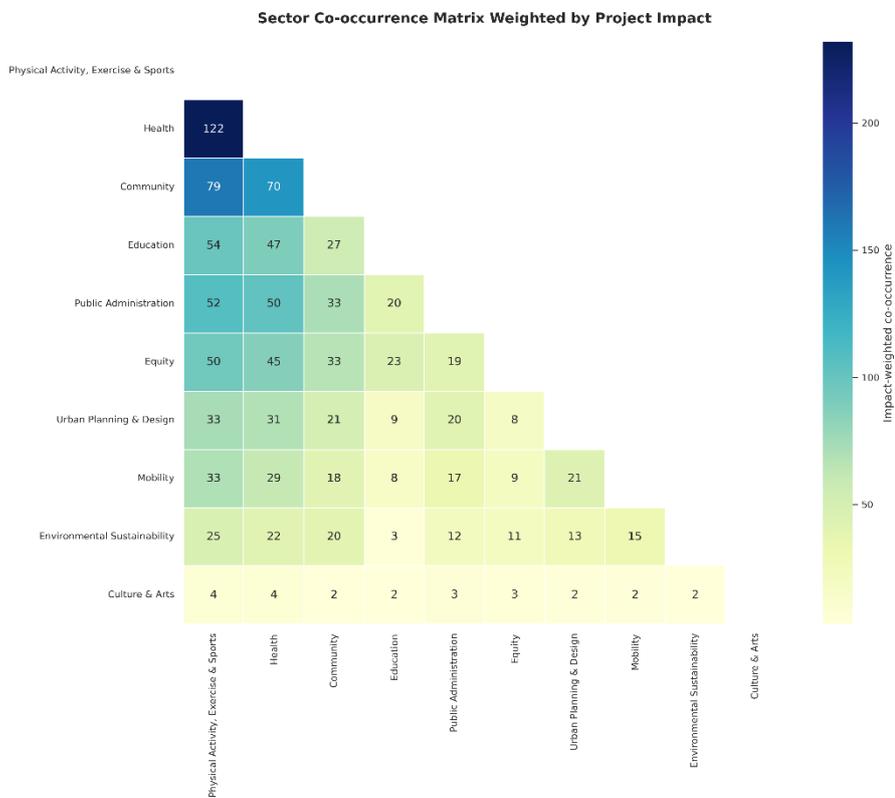
## 6. Figure 6a – Sector Co-occurrence Matrix (Counts)



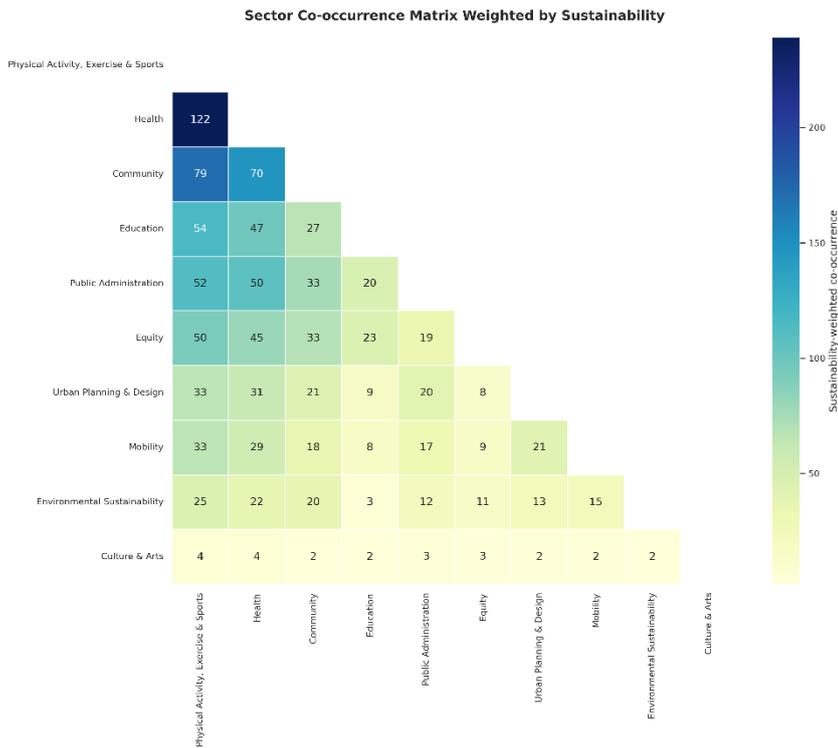
## 7. Figure 6b – Sector Co-occurrence Matrix (Percentages)



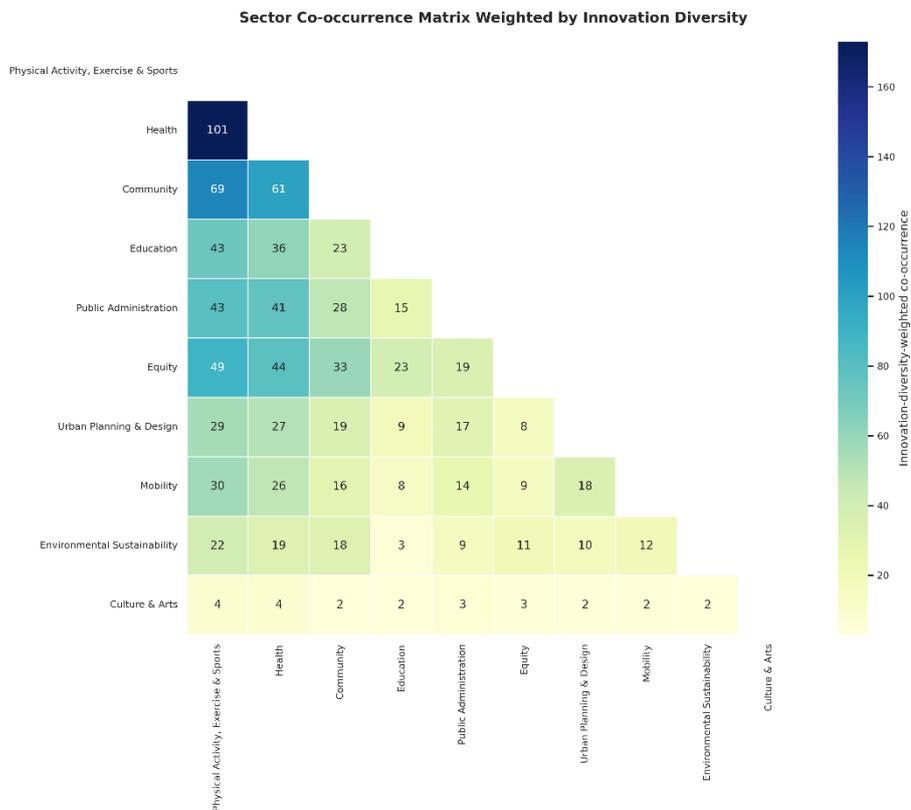
## 8. Figure 7 – Impact-Weighted Sector Co-occurrence Matrix



## 9. Figure 8 – Sustainability-Weighted Sector Co-occurrence Matrix

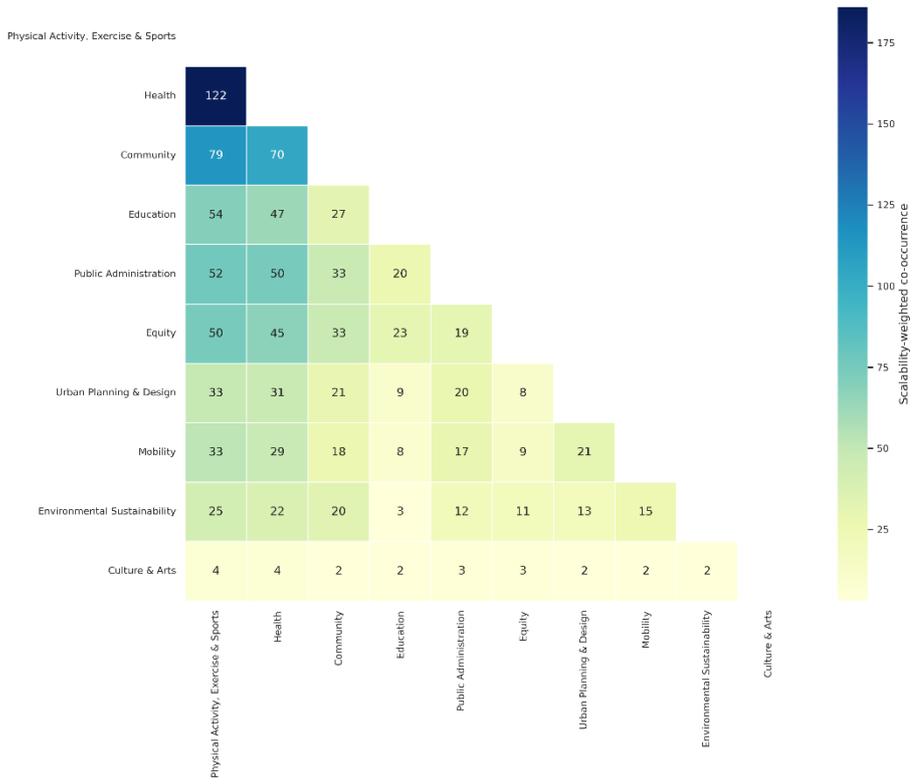


10. **Figure 9** – Innovation Diversity–Weighted Sector Co-occurrence Matrix



11. **Figure 10** – Scalability-Weighted Sector Co-occurrence Matrix

### Sector Co-occurrence Matrix Weighted by Scalability



## Annex – Analytical, methodological and contextual disclaimer

■ ANALYTICAL DISCLAIMER		Key Considerations	
<b>01</b> <b>SAMPLE REPRESENTATION</b> The dataset covers 136 good practices identified via systematic internet search by 8 consortium partners. Projects with strong digital presence are more likely to be included. <b>Grassroots or non-English-language initiatives may be underrepresented.</b>	<b>02</b> <b>GEOGRAPHIC BIAS</b> Participation is concentrated in <b>Western and Southern Europe</b> . Central and Eastern European countries are comparatively underrepresented. Findings should not be generalised as a census of European health promotion practice.		
<b>03</b> <b>DATA QUALITY &amp; SELF-REPORTING</b> Data relies on <b>publicly available documentation and self-reported project materials</b> . Despite validation with project owners, residual inconsistencies in classification (innovation types, sectoral categories) may affect result precision.	<b>04</b> <b>INDICATOR &amp; CONTEXT LIMITATIONS</b> Composite indicators for <b>impact, sustainability, scalability, and innovation</b> are context-specific proxies. Weighted co-occurrence analyses reveal associations, <b>not causal relationships</b> . Partner sector alignment may also influence sectoral distributions.		
<b>■ Interpretive note:</b> This analysis is an <b>evidence-informed, exploratory tool</b> to support policy reflection. Results reflect documented patterns within the HL4EU sample as of January 2026 and should be considered alongside diverse national contexts, health system architectures, and funding mechanisms across the EU.			

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## Methodological & Contextual Disclaimer

The following considerations are essential to the appropriate interpretation of the findings presented in this report and should be read in conjunction with the full limitations section (Section 11).

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### 1 SAMPLE REPRESENTATIVENESS & SELECTION BIAS

The 136 good practices analysed were identified through a systematic internet-based search conducted by eight consortium partners in 2025, supplemented by submissions via the HL4EU online platform. This methodology introduces inherent selection effects: initiatives with stronger digital visibility, comprehensive online documentation, and active knowledge dissemination are more likely to be captured. Community-embedded or grassroots programmes with limited digital infrastructure, or those documented primarily in underrepresented languages, may be systematically absent. The dataset does not constitute a comprehensive census of European healthy lifestyle promotion initiatives.

### 2 GEOGRAPHIC COVERAGE & GENERALISABILITY

Project participation is concentrated in Western and Southern Europe, with Central and Eastern European countries comparatively underrepresented. This geographic imbalance limits the generalisability of findings across the full European context and may not capture regional variations in partnership models, implementation strategies, or sectoral configurations. The geographic distribution reflects documented participation, not funding volume or coordination role.

### 3 DATA QUALITY, VALIDATION & HARMONISATION

Despite systematic data cleaning and direct consultation with project owners to resolve ambiguities, residual incompleteness persists — particularly regarding temporal continuity, partnership composition, and granular outcome indicators. Reliance on self-reported project documentation may generate descriptive inconsistencies across functionally similar interventions, most notably in innovation typology and sectoral classification. These factors should be considered when interpreting weighted co-occurrence analyses and their associated implications.

### 4 INDICATOR OPERATIONALISATION & ANALYTICAL SCOPE

Quantitative indicators for sustainability, scalability, innovation diversity, and impact were developed expressly for this dataset using context-specific, empirically derived thresholds (including percentile-based classification). These constitute proxy measures of inherently multidimensional constructs; alternative operationalisation strategies would yield variant classifications. Weighted sector co-occurrence matrices are exploratory and indicate association — not causation. Elevated scores may reflect intrinsic qualities of cross-sectoral integration as well as confounding factors such as differential funding intensity or organisational capacity. Additionally, consortium partner sectors (physical activity, health, urban design, environmental sustainability) may have introduced bias in the sectoral distributions observed.



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