MINDWELL SCIENCE PRESS SDN. BHD.

Journal of Sustainable Urban Wellbeing
2026, Volume 1, Issue 2

RESEARCH ARTICLE

Validation of Key Urban Sustainable Development Standards in the Elderly Care Sector

Jun Tong*, Shengquan Zhang, Lu Chen, Ren Zhang, Jing Zhang

Hangzhou Institute of Standardization, Hangzhou 310011, Zhejiang, China

Corresponding author: Jun Tong, E-mail: tongjun@hzis.org.cn

Published: 15 September 2026

Abstract

Taking the Zhejiang Provincial Da'ai Elderly Affairs Centre as the pilot subject, this paper sets out the background to and the implementation process of validation research on key urban sustainable development standards, and puts forward four recommendations: improve the content of the standards and follow up continuously so as to raise their applicability; advance piloting of the international standards on urban sustainable development and supply practical experience of benchmarking; strengthen the evaluation system for urban sustainable development and improve its management system; and carry out in-depth research on international standards so as to recommend Chinese experience to the world.

Keywords: sustainable development; elderly care services; standards validation

1. Introduction

The United Nations World Commission on Environment and Development formally introduced the concept of sustainable development in *Our Common Future*, published in 1987: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." In recent years the publication and implementation of three international standards—ISO 37101:2016 *Sustainable development in communities — Management system for sustainable development — Requirements with guidance for use*, ISO 37104:2019 *Sustainable cities and communities — Transforming our cities — Guidance for practical local implementation of ISO 37101* and ISO/IEC TS 17021-8:2018 *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 8: Competence requirements for auditing and certification of management systems for sustainable development in communities*—have given urban sustainable development standards-based leadership and certification assurance. ISO 37101 is the foundation, and ISO 37104 and ISO/IEC TS 17021-8 are used in conjunction with it.

ISO 37101 is intended to support the management of environmental, economic and social performance by means of an organisational framework established and resources provided by a body designated by a city or community. It sets out six sustainable development purposes and twelve areas, one of which is health and care in the community, described as follows: health and care play an important role in maintaining and improving the physical and mental health of people in cities and communities and contribute to their wellbeing and resilience. Selecting the elderly care sector for benchmarking analysis, on the basis of raising service capacity in the pilot area, supplies Chinese experience for the conversion of international standards into national standards and advances the process of sustainable development.

2. Selection of the Implementation Subject

2.1 Elderly Care Services Are a Factor in Raising the Level of Urban Sustainable Development

The seventieth session of the United Nations General Assembly unanimously adopted seventeen Sustainable Development Goals spanning three dimensions—social, economic and environmental—and covering health, education, environmental protection and other fields. Goal 3 of the 2030 Agenda for Sustainable Development states: "Ensure healthy lives and promote well-being for all at all ages." As urbanisation accelerates worldwide, urban social development faces such problems as residents' survival and development, the stability and security of urban and rural society, and the growing difficulty of social management; and urbanisation itself is a comprehensive and sustainable domain. Its constituent elements include natural, social, material and spiritual elements, and the condition or level of construction of a sustainable city depends not only on the condition or level of any single element but, more importantly, on the structural proportions among

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

the elements and the mechanisms that couple them [1]. Equalisation of public services is an important issue in urban development and the goal of urban public service development in China, and achieving equalisation and an overall rise in the level of urban public services requires that the relevant standardisation work be strengthened [2].

At present China still lacks standards relating to urban sustainable development. With international standards already under way, it is increasingly important to strengthen research on and the formulation of standards for urban sustainable development in the light of China's actual urbanisation, and to establish a standards system for urban sustainable development [3]. ISO 37101, a management system modelled on the PDCA method, is a cross-sectoral international standard that takes account of the circumstances of different countries; it is a scientific summary of advanced experience and ideas on urban sustainable development in various countries, and a meaningful attempt by an international standard to address the level of public management [4]. Selecting elderly care services as the pilot field can effectively support and guide the implementation of a management system for urban sustainable development and advance the localisation of international standards.

2.2 Demand for Elderly Care Faces a Considerable Shortfall

UNESCO defines an "ageing society" as one in which the population aged 60 or over exceeds 10 per cent of the total, or that aged 65 or over exceeds 7 per cent. Data from the 2018 Statistical Communiqué on National Economic and Social Development show that by the end of 2018 China's population aged 60 or over exceeded 240 million, or 17.9 per cent of the total, of which those aged 65 or over exceeded 166 million, or 11.9 per cent, moving the country toward a moderately ageing society.

The Outline of the Thirteenth Five-Year Plan for National Economic and Social Development proposes: "Establish a multi-tiered elderly care service system based on the home, supported by the community and supplemented by institutions. Plan as a whole and build public-interest elderly care facilities, and support the construction of facilities such as nursing homes for disabled older people and community day-care centres." As Chinese society ages more rapidly, the numbers of empty-nest older people, the very old and the disabled also continue to rise, and the needs of older people for life care, medical care and rehabilitation nursing grow daily [5]. Meanwhile the shrinking size of households, the weakening of family care capacity, the constraints of traditional attitudes and the shortage of institutional care beds further aggravate the imbalance between supply of and demand for elderly care services. ISO international standards can provide a basis and framework for the state to formulate standards that accord with actual development and meet real needs, and offer guidance for raising the quality of elderly care services and easing the supply–demand imbalance [6].

2.3 Initial Results of the Implementation Subject's Elderly Care Work

Data from the National Working Commission on Ageing show that by the end of 2017 there were about 45 million older people with disability or dementia in China, and that the figure is expected to reach a hundred million or more around 2050. Because dementia generally develops progressively and irreversibly, caring for those affected has become a heavy burden on individuals and families. The Zhejiang Provincial Da'ai Affairs Centre (hereinafter "the Centre") was established in 2012. It is a non-enterprise public-interest organisation providing services for older people, approved by the provincial Department of Civil Affairs, and a 5A-grade social organisation of Zhejiang Province. It works mainly in elderly care services, particularly care for older people with dementia and for long-term family carers, and in socialised services for older people, and has been awarded the title of Advanced Unit in Elderly Care Services for 2013 and Most Beautiful Elderly Care Institution of Xihu District for 2017, among other distinctions.

In summary, in accordance with the six sustainable development purposes and twelve areas of ISO 37101, and with the requirement to "improve the elderly care service system" in the Outline of the Thirteenth Five-Year Plan, the subject for standards validation was determined to be the Zhejiang Provincial Da'ai Elderly Affairs Centre, with the sustainable development purposes of "social cohesion" and "wellbeing". In accordance with the requirements for implementing a management system, following the PDCA method, a working group was formed and the leadership and responsible departments were specified, so as to raise the applicability of the technical content of the standards, improve the standardisation implementation mechanism for key technologies important to urban sustainability, and strengthen the radiating and demonstrative effect of the standards.

The improvement stage of the project (November–December 2018) involved benchmarking analysis of the standard texts against the pilot area and continuous improvement work; (5) the summary stage (December 2018), forming the validation work report, producing constructive opinions on the revision of ISO 37101 and similar standards, and promoting improvement in the services of the pilot subject.

3. Standards Implementation and Validation

3.1 The Implementation Process

In light of the business scope and actual development of the implementation subject, drawing on experience already gained in service standardisation pilot projects, and in accordance with the requirements of the two sustainability management

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

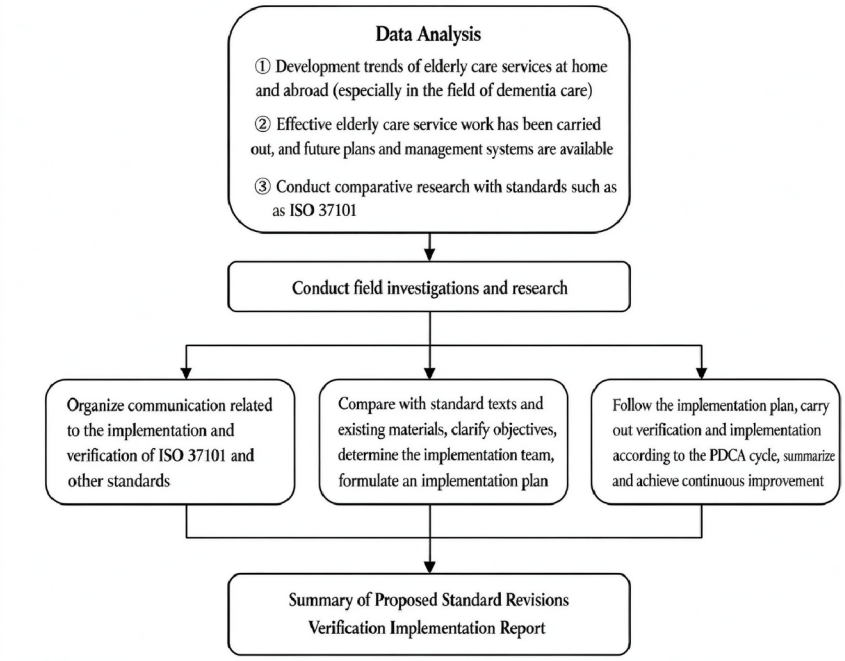


Figure 1 Technical roadmap for standards implementation in the pilot field

purposes of "social cohesion" and "wellbeing" in ISO 37101, a technical roadmap was drawn up according to the tasks of the pilot validation stage (see Figure 1). Following the roadmap, the following validation work was carried out. (1) Project initiation stage (August 2018): a project implementation working group was formed and its responsibilities specified. (2) Project implementation stage (August–November 2018): ISO 37101 was popularised and discussed; on 19 October visits were made to the "Golden Autumn Home" Gudang Sub-district Senior Service Centre and the "Da'ai Renjia" Gudang Sub-district service point, and on 31 October to the non-pharmacological intervention service project for older people with dementia at the Hangzhou Third Social Welfare Institute, for field investigation; documents such as the Measures for Quality Control of the Services of the "Da'ai Renjia" Project and the Emergency Response Plan for Safety and Unexpected Incidents at Gudang Sub-district's "Da'ai Renjia" were collected; records such as the "Gudang Da'ai Renjia monthly activity notice" and the "Xihu District Civil Affairs Bureau care project for older people with dementia" (Gudang) unit senior observation sheets were examined; and the performance of older people taking part in activities was recorded in accordance with the standards. (3) Standards self-check stage (November–December 2018): the initial trial results were collated and analysed, and, in conjunction with document review and field research, checks and self-evaluation were carried out; (4)

3.2 The Validation Process

Initial benchmarking against ISO 37101 and related standards showed that several things still needed improvement in the pilot subject's validation work. (1) Improving implementation against the sustainability purposes. Take "mobility" as an example: the Centre's service radius at present covers certain sub-districts of Xihu District, and as ageing intensifies and the number of older people with dementia grows, cross-district purchase of elderly care services may increase in future, so forward-looking consideration is needed to further standardise service provision and meet the objective needs of urban development. (2) Expanding the scope of exchange and cooperation. The pilot subject's main source of cooperation is participation in government procurement projects for professional technical services for older people with dementia, and its resources and funding are limited; exchanges are mainly domestic (China's Taiwan region in particular)—the Centre has on several occasions organised staff to undertake internships at day-care institutions in Taiwan, or invited Taiwanese experts and scholars to lecture in Hangzhou—and in future it might learn from countries with higher levels of ageing such as Japan and Germany. (3) Broadening the scope of participation performance evaluation. The Centre has formulated the enterprise standard Q/ZDA 0033-2015 Specification for Satisfaction Control and Management, and for "training in basic knowledge for the prevention of dementia in older people" there are activity records in the service (activity) feedback forms and the service user feedback forms, but the community service feedback forms lack corroborating material; the scope of participation performance evaluation therefore needs to be broadened in order to improve services.

Through this initial validation the Centre gained the following.

(1) Continuous improvement of the evaluation mechanism. For the Centre's staff, self-assessment and assessment by others (representatives of the group caring for older people with dementia) are used, covering service attitude and service capacity; for project progress, the reasonableness of the schedule is assessed, an assessment report is issued, existing problems and

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

shortcomings are identified, and optimisation proposals and the work plan and specific measures for the following year are put forward.

(2) Regular assessment. At present only initial validation and implementation of ISO 37101 has been carried out. The next step will be to conduct regular assessment in conjunction with the Centre's long-term plan (for example once a quarter or once every six months), specifying the assessment period, content and implementing party, and drawing on experience already gained in service standardisation pilots.

4. Validation Conclusions

4.1 ISO 37101:2016 *Sustainable development in communities — Management system for sustainable development — Requirements with guidance for use*

ISO 37101 recognises that "although the challenges of sustainable development are global, addressing this strategy at community level is largely local in nature, and the context and content of each area may therefore differ", and it focuses more on "how to do it" at the level of local government. The validation process gives rise to the following conclusions.

(1) Issues that should be considered in the standard text, summarised from the standpoints of applicability and operability. For example, in "4.6.1 Overview" a series of questions is listed that must be answered—"Is the issue material or of concern to interested parties?", "Can the issue make a major contribution to the sustainable development of the city or community?"—and these may be classed as matters of applicability, while "Is it technically feasible?", "Is it environmentally, socially and economically feasible?" may be classed as matters of operability.

(2) Explanation of the six sustainable development purposes and twelve areas. In practice it is not possible for every sustainable development area to realise all six purposes, and this may be clarified, for example: "The city or community selects its main purposes in accordance with regional characteristics and verifies them against the corresponding issues."

(3) Unified integration of specific approaches against the different requirements of the PDCA process. For example, under "5.1 Leadership and commitment", the ways in which top management demonstrates its leadership and commitment should be consolidated rather than simply listed.

(4) Supplementing the data requirements for certain content. For example, under "9.1 Monitoring, measurement, analysis and evaluation" it is recommended that the content that organisations must specify and the data they must collect be further consolidated and standardised.

(5) Revising the content of the standard against the Chinese requirements. For example, translation of the text should take Chinese linguistic usage into account as far as possible, and it is recommended that the five parts "7.1 Resources", "7.2 Competence", "7.3 Awareness", "7.4 Communication" and "7.5 Documented information" be reordered.

4.2 ISO 37104:2019 *Sustainable cities and communities — Transforming our cities — Guidance for practical local implementation of ISO 37101*

The user group of ISO 37104 is the top management of a city or community, and the standard is intended to provide tools and examples of good practice that promote implementation of ISO 37101 at the local level. The validation process gives rise to the following conclusions.

(1) The framework of the action plan should be set out in detail, drawing on existing tools and experience.

(2) Assessment at different stages of sustainable development should be improved. The standard text divides sustainability assessment by process into ex-ante, in-process and ex-post assessment, and by content into potential, risk, opportunity and performance assessment, but it lacks a scoring or evaluation frame of reference.

(3) The training needs of auditors should be developed in greater depth. This content can be combined organically with ISO/IEC 17021-8, and targeted training given to auditors on the basis of the competence requirements for auditing and certification of management systems for sustainable development in communities.

(4) The baseline assessment procedure and the data requirements for target monitoring should be further improved. Baseline assessment means the evaluation an organisation makes of the current state of urban development; the standard text gives a preliminary list of the data to be collected, including governance, education and innovation data. Target monitoring provides information on the results of direct or indirect activities, and the standard text holds that data should be collected in four main sectors: meteorological data, project outputs, financial data and socio-economic data. It is recommended that these be presented in tabular form, which is clearer and more intuitive.

4.3 ISO/IEC TS 17021-8:2018 *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 8: Competence requirements for auditing and certification of management systems for sustainable development in communities*

ISO/IEC 17021-8:2018 sets out, within the "conformity assessment" framework, the competence requirements for auditing and certification of management systems for sustainable development in communities. These include general competence requirements, competence requirements for auditors of management systems for sustainable development in communities, competence requirements for personnel performing application reviews, and competence requirements for reviewing and making certification decisions. The standard combines conformity assessment with community sustainable development

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

management, and supplements the existing requirements of ISO/IEC 17021-1 for personnel involved in the certification process for sustainable development management systems in communities. The validation process gives rise to the following conclusions.

(1) Terminology should be defined in a standard way. In "5 Competence requirements for auditors of management systems for sustainable development in communities", the only requirement laid on auditors is that "the audit team should have knowledge of the terms, definitions and processes relating to sustainable development in communities"; auditors and certification personnel need to be clearly distinguished—for example, which bodies' personnel may serve, what competence or skills they must have, and how personnel are assessed and periodically evaluated.

(2) Management requirements should be made explicit. The requirements for auditors and certification bodies are based on the management system for sustainable development in communities and are set out mainly in "6 Competence requirements for personnel performing application reviews" and "7 Competence requirements for reviewing and making certification decisions", but the management requirements are largely macro-level and qualitative, and lack micro-level and specific analysis.

(3) Performance assessment indicators should be specified (including proactive and reactive, and qualitative and quantitative, indicators). The audit team should have knowledge of performance evaluation methods in order to determine whether the organisation is achieving the intended results of its sustainable development management system.

5. Recommendations

5.1 Improve the Content of the Standards and Follow Up Continuously to Raise Their Applicability

In the course of validation, shortcomings were found in the applicability of the standards. In ISO 37101, for example, the twelve areas overlap between the fields of implementation and the corresponding functional departments, and once the standards are actually piloted there may be problems of unclear division of authority and responsibility and of undefined duties. In the course of converting international standards into national standards, the relevant conclusions should be fed back to the project team, their adoption tracked, and the general requirements, drafting approach and Chinese usage taken into account so as to improve the applicability of the conversion.

5.2 Advance Piloting of the International Standards on Urban Sustainable Development and Supply Practical Benchmarking Experience

Drawing on advanced international experience, building and improving a social support system on the principles of urban sustainable development not only ensures that communities obtain basic and appropriate services but also better realises individual value and creates social benefit. Validation work helps the implementation subject achieve a high degree of "four-fold unity" of systems, norms, standards and quality requirements, disseminates practical experience, broadens the range of beneficiaries, further raises service levels, and realises coordinated economic, social and environmental development.

5.3 Strengthen the Evaluation System for Urban Sustainable Development and Improve Its Management System

At present urban internationalisation and sustainable development lack a unified evaluation regime: evaluation systems are many and varied, and indicator systems each emphasise different aspects. Urban sustainable development covers many fields, with a wide scope and many departments involved, so in formulating an evaluation system the valid data and work of each department must be taken into account. ISO 37101 sets out a management system for sustainable development in communities and plays a leading role in developing international standards on urban sustainable development, helping to bring about continuous improvement of the evaluation system.

5.4 Carry Out In-Depth Research on International Standards and Recommend Chinese Experience to the World

Hangzhou has already piloted ISO 37101, and adopting advanced foreign experience helps promote coordinated development across the board. The international pilot model offers a way of thinking and a method for carrying out standards validation. On that basis, in conjunction with the current state of standardisation work in the city or in the selected pilot area, fields, industries, enterprises and institutions concerned should be organised to take part in validation, effect evaluation should be carried out during validation, attention should be paid to the effect of implementation, and Hangzhou's useful experience should be distilled and summarised, so as to supply a Hangzhou sample and Chinese experience for the localisation of international standards.

References

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

[1] LIU C Q, YANG F. Standardisation as a driver of urban sustainable development [J]. Standard Science, 2013(10): 10–13.
[2] Service Industry Standards Department, Standardization Administration of China, et al. *Collected Cases of Implementation of International Standards on Urban Sustainable Development* [M]. Beijing: China Standards Press, 2018.5.
[3] YANG F, LIU J H, LIU C Q. Research on urban sustainable development in the context of new-type urbanisation [J]. Standard Science, 2013(6): 10–13.
[4] ZHANG S Q. Analysing urban internationalisation strategy through international standards on urban sustainable development [J]. China Quality and Standards Review, 2017(3): 63–65.
[5] WEI M, CHEN H T, LIU M. Literature review of standards systems for community and home-based elderly care services and its implications [J]. Standard Science, 2018(10): 95–99.
[6] HOU F, CAO L L, ZHANG Y C. The current state of standardisation and certification in foreign elderly care service industries and its implications [J]. Standard Science, 2014(12): 89–92.

Copyright: © 2026 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.