Mixed Methods Research on Satisfaction with Basic Medical Insurance for Urban and Rural Residents in China

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Abstract

**Background:** There are few studies on satisfaction with integrated basic medical insurance for urban and rural residents (URRBMI), and satisfaction with URRBMI is not very high due to the complexity of its policies and differences among the insured. The aim of the present study was to explore the factors that influence satisfaction with URRBMI in China and to provide scientific suggestions for the government to effectively manage and improve the policy.

**Methods:** An explanatory sequential design in mixed method research was used. Quantitative study adopted a three-stage stratified cluster sampling method to randomly select the guardians of pupils who had participated in the URRBMI (n=1335). A quantitative study was conducted to calculate latent variables’ score and path coefficient between latent variables by SmartPLS3.0. With public trust, public satisfaction and perceived quality as the target variables, the important-performance analysis (IPA) was used to explore the important but insufficient performance factors, which were the key elements to improve satisfaction of URRBMI. A purposeful sampling strategy was used to get qualitative research subjects from quantitative research subjects according to satisfaction level. A qualitative study was conducted using semi-structured interviews and the thematic analysis method was used to summarize the interview data.

**Results:** Perceived quality to public satisfaction with a total effect of 0.737 ($t=41.270$, $P<0.001$), perceived quality to perceived value with a total effect of 0.676 ($t=31.964$, $P<0.001$), and public satisfaction to public trust with a total effect of 0.634 ($t=31.305$, $P<0.001$) were three strongest paths. IPA showed that public satisfaction and perceived quality were key factors for public trust and that perceived quality was of high importance and low performance for public satisfaction. The policy quality was a determining factor for perceived quality. Qualitative research showed that the most unsatisfactory aspect for the insured was the policy quality.

**Conclusions:** This study found that improving quality is key to improving public satisfaction and public trust of URRBMI. The government should improve the compensation level by broadening the channel of financing for URRBMI fund, rationally formulating reimbursement standards and broadening the scope of the drug catalogue and the medical treatment projects. The government should establish a stable financing growth mechanism and effective ways of health education so as to improve public satisfaction and public trust.

1 **Background**

In 2016, the State Council issued *The Outline for Healthy China 2030 Plan*, which states that the universal health care system will be matured via integration with the basic medical insurance system for urban and rural residents in 2030 [1]. Two of the three China's social health insurance schemes, urban resident-based basic medical insurance scheme (URBMI; launched in 2007) and rural new cooperative medical scheme (NCMS; launched in 2003), were merged to form the urban and rural resident-based basic
medical insurance scheme (URRBMI; launched in 2016) to improve efficiency and equity [2, 3]. URRBMI is a social welfare policy that aims to provide basic medical services or financial compensation for the urban and rural population (including students and children) without urban employee-based basic medical insurance scheme (UEBMI; launched in 1998). It is a combination of individual accounts and social pooling accounts. Most of the premium are subsidized by the local government, and the rest is paid by the insured.

The public services quality and basic medical insurance system reform still need to be optimized. The traditional indicators, such as the participation rate, cannot reflect the acceptability of the insured as medical insurance basically achieves full coverage. As a public service provided by the government, the satisfaction of the insured is an important indicator to measure the current policy implementation of URRBMI and the foundation for the government to improve the policy [4].

Researches on satisfaction with the basic medical insurance system includes two levels: theoretical research and practical research [5]. The former focuses on the significance of the satisfaction evaluation and the construction of an evaluation index [6, 7]. The latter is mainly aimed at specific administrative areas or research fields to explore satisfaction and the factors that influence it [8, 9]. At present, most research has focused on satisfaction with the NCMS and URBMI, and few studies have focused on the reasons behind the satisfaction with URRBMI [10-13]. Based on the complexity of the policies and differences among the insured, the satisfaction with medical insurance in practice is not high because of the unreliability and inconvenient utilization of policy, inequality of access and the moral hazard of service providers [4, 14]. Integrated basic medical insurance has changed the health resource structure and health security system. It is beneficial to optimize the service mechanisms and promote reform of the medical insurance system by analyzing the factors that influence satisfaction with URRBMI [15-17].

At present, most research on satisfaction with health insurance is quantitative research. Previous studies test hypotheses and make statistical inferences about causal relationships between influential factors and provide accurate satisfaction scores. However, quantitative research cannot measure non-quantifiable aspects and cannot deeply understand the complexity of the inherent elements of satisfaction. Therefore, it is impossible to understand the dynamic process of satisfaction formation [4, 14, 18]. Because satisfaction is a subjective feeling, qualitative research can be used to carry out in-depth explorations and analyses from the perspective of decision-makers to find hidden problems and to understand the formation and development of satisfaction. However, qualitative research is not suitable for investigating a large-scale population, theoretical assumptions cannot be directly inferred, and the results are only suitable for specific situations and conditions [19-21]. Mixed methods research (MMR) is a type of research that combines quantitative and qualitative research methods to expand the understanding of research questions and to confirm research hypotheses [22-24]. MMR overcomes the limitations of both quantitative research and qualitative research [25] and allows researchers to comprehensively capture the complexity of the measures as well as to yield sufficient credibility [26]. Moreover, MMR is essential for generating data for health policy formation in developing countries [27]. Therefore, MMR has received considerable attention in health services research [28, 29].
This study analyzes the factors that affect satisfaction with URRBMI and probes the important but underperforming aspects of URRBMI as well as the reasons for its underperformance through mixed methods research.

2 Methods

2.1 Research design

The aim of quantitative research was to identify the insured who were dissatisfied with URRBMI and dissatisfied factors from the view of insured, while the qualitative research explored the specific details of dissatisfied factors and dig into the nature of dissatisfaction from individual experience. An explanatory sequential mixed methods research design was used [30, 31]. The design is presented in Figure 1.

IPA was used to identify the important but underperforming factors that affect public satisfaction, public trust and perceived quality in URRBMI. Once we identified factors mentioned above, we conducted semi-structured interviews with familial decision-makers by telephone to identify the factors that caused low satisfaction and the problems with URRBMI to complemented this quantitative data. To provide information for improvement of policy, the research interpreted the findings from the survey and the qualitative interviews in light of each other, considering synergies across findings.

2.2 The sampling method

The survey was based on the school. It was conducive to the implementation of the research survey and also helpful to obtain the participation rate. It could effectively avoid the limitations that the elderly who received the medical insurance service but did not understand the specific policy, and the situation that the floating young was not at home in rural. Therefore, for quantitative research, a three-stage stratified cluster sampling method was used to randomly select research subjects from the most important decision-makers participating in URRBMI in Changsha City. The first stage was to randomly select two districts/counties from nine districts/counties of Changsha City, and the second stage was to randomly select two urban schools and two rural schools for each selected district/county, and finally, for each selected school, all students from six randomly selected classes from different grades were chosen. In all, there were 11 latent variables in this study, and the sample should be 10 times the maximum number of latent variables [32], which means the minimum sample size should be 110 using partial least squares (PLS). The sample size of 1335 of this research was large enough.

A purposeful sampling strategy was used to obtain qualitative research subjects from quantitative research subjects according to the satisfaction level of high, medium and low. Parents who fill in "willing to interview" in the questionnaire were the potential objects for telephone interview. In qualitative research, the principle of sample size was information saturation. The interview stopped when the content repeated and no new topics were presented, indicating the information was saturated.

2.3 Data collection
Quantitative research was carried out in January 2018. The subjects included in this research were the main decision-makers who in charge of the purchase and use of the pupil’s URRBMI in each students’ family. They were responsible for the URRBMI participation of primary school students’, as well as selection of health services, and the purchase of medicines when needed.

Qualitative data were collected by telephone interviews over a three-month period from June to August 2018. The interviewees were interviewed according to a semi-structured interview outline. Oral consent was obtained from each participant upon receiving a full explanation of the purpose and procedure of the study by the researcher. The interviewer illustrated the confidentiality principle of the interview contents and the purpose of the interview information, and informed the interviewees that the interview would be recorded. Informed consent would be obtained orally. The interviewer interviewed the interviewees according to the semi-structured interview outline, and recorded the whole telephone conversation with the consent of the interviewees. The whole interview will be recorded for about 20-30 minutes without repeated interviews.

2.4 Data analysis

2.4.1 Descriptive statistics of the respondents

The sociodemographic variables and measurement variables are described as means (SD) for continuous variables that were normally distributed and medians (QR) for variables with a non-normal distribution. Categorical variables are presented as frequencies (proportions). A two-tailed test was considered statistically significant.

2.4.2 Path analysis between latent variables

On the basis of the American customer satisfaction index (ACSI) model, Cheng revised the satisfaction index model for URRBMI (SIM_URRBMI)[33] (Fig. 2). The SIM_URRBMI model is shown below. The model consisted of 11 latent variables, including public expectations (PE), perceived quality (PQ) (which consisted of five first-order latent variables, including overall quality, information quality, service quality, policy quality and institution quality), perceived value (PV), public satisfaction (PS), public complaints (PC), and public trust (PT). Public expectation, perceived quality, and perceived value were the explanatory variables of public satisfaction. Perceived quality was the insured's evaluation of recent consumption experience about URRBMI, and was expected to have a direct and positive effect on public satisfaction. Perceived value, or the perceived level of quality relative to the price paid, which controls for differences in income and budget constraints across respondents. Public expectation represents both the prior experience with URRBMI and a forecast of the insurance service’s ability to deliver insurance service quality in the future. Public complaints and public trust were the outcome variables of public satisfaction. The former refers to formally or informally complaints about URRBMI from the insured, the latter was repurchased likelihood that continues to purchase URRBMI in the future.
Compared with the five-point scale and seven-point scale, the ten-point scale reduced the influence of skewness distribution data, which was usually the satisfaction data with skewed distribution. Therefore, all variables adopted 10-point scale (1-10), except for the binary classification (0,1) for the public complaint. SmartPLS3.0 was used to calculate the scores for latent variables. The SIM_URRMBI model was constructed by partial least squares structural equation model (PLS-SEM) [34]. The SmartPLS3.0 software was used to process the raw data and calculate the score of latent variables and the path coefficients between latent variables with PLS-SEM.

2.4.3 Importance-performance analysis

In 1977, Martilla and James proposed importance-performance analysis in marketing research [35]. IPA is a method of guiding scientific management decision-making by exploring the strengths and weaknesses of service quality in a certain field. It presents the perception of the importance and performance of policy or service in the form of a four-quadrant matrix.

It can help government to identify the strengths and weaknesses of URRBMI in order to enhance public satisfaction and public trust. SIM_URRBMI model was revised on the basis of ACSI model, it embedded in a system of cause-and-effect relationships[33]. The chain of causality began with the antecedents affecting public satisfaction, namely public expectation, perceived quality and perceived value, and ended with its consequences - public complaint and public trust. Public satisfaction was the core variable, located at the center of the casual chain. Based on this framework, we conducted IPA with public satisfaction, public trust and perceived quality as target latent variables based on the path coefficients and latent variable scores [36]. The path coefficient of each latent variable in PLS-SEM analysis on the target latent variable was used as the total effect to judge its importance[37-39], and the score of each latent variable in SIM_URRBMI was used as the performance of each latent variable[36, 40].

The direction of the observed variables of public complaint was changed by reversing the scale, and the scores of all items were converted to a hundred-mark system using formula (1), where represents the \( i^{th} \) data point of the \( j^{th} \) latent variable [40, 41]. (see Equation 1 in the Supplementary Files.)

The interpretation of the IPA results is graphically presented on a grid divided into four quadrants. Figure 3 presents the IPA grid. The X-axis reports the public's perceived importance (the total effect to the target latent variables in the SIM_URRBMI model) of selected attributes, and the Y-axis shows the performance (the score of each evaluated latent variable) in relation to these attributes. The two-dimensional plane is divided into four quadrants based on the average of importance and performance of corresponding variables [42, 43]. The four identifiable quadrants were: Keep Up the Good Work, Possible Overkill, Low Priority for Managers and Concentrate Here [43].

2.4.4 Qualitative data analysis

Using Microsoft Word and Microsoft Excel, at least two investigators coded each transcript together, reconciling discrepancies by discussion until consensus was reached. The audio recordings of the
interviews were transcribed verbatim in Chinese first. Analysis of the interview data following the transcription was inductively performed using thematic analysis of explanatory phenomenology research [25, 44]. The method was divided into six steps: 1) familiarization with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report. Collection and analysis of the data were continued until the information was saturated.

3 Results

3.1 Demographic characteristics of the respondents

A total of 2006 questionnaires were distributed in 8 primary schools and 1807 were recovered (recovery rate was 90.08%). Among these, 1649 questionnaires were valid (effective rate was 93.75%). There were 1335 participants with URRBMI for their children. Table 1 presents the socio-demographic information of the pupils and main decision-makers in the quantitative and qualitative research. For quantitative research, the mean age of the pupils was 9.27, and the proportion of males (48.68%) and females (51.32%) was similar. The mean age of the main decision-makers was 37.07, and most of them were parents of pupils (97.07%), predominantly mothers (62.76%). For qualitative research, the mean age of the pupils was 9.74, and the proportion of males (47.83%) and females (52.17%) was similar. The mean age of the main decision-makers was 38.95, and most of them were parents of pupils (86.96%), predominantly mothers (65.22%).

Table 1. Socio-demographic information of the pupils and main decision-makers
| Variables                        | Quantitative research \( n = 1335 \) | Qualitative research \( n = 23 \) |
|--------------------------------|---------------------------------------|----------------------------------|
| **Pupils**                     |                                       |                                  |
| Age, Mean ± SD                 | 9.27±1.74                             | 9.74±1.84                        |
| Sex, n(%)                      |                                       |                                  |
| male                           | 646 (48.68%)                          | 11\(\times\)47.83%              |
| female                         | 681 (51.32%)                          | 12\(\times\)52.17%              |
| Health status, n(%)            |                                       |                                  |
| Very good                      | 728 (54.99%)                          | 14\(\times\)60.87%              |
| Good                           | 529 (39.95%)                          | 8\(\times\)34.78%               |
| General                        | 67 (5.06%)                            | 1\(\times\)4.35%                |
| **Main decision-maker**        |                                       |                                  |
| Age, Mean ± SD                 | 37.07±5.88                            | 38.95±7.69                       |
| Relationship with pupils, n(%) |                                       |                                  |
| Father                         | 457 (34.31%)                          | 5\(\times\)21.74%               |
| Mother                         | 836 (62.76%)                          | 15\(\times\)65.22%              |
| Others                         | 39 (2.93%)                            | 3\(\times\)13.04%               |
| Sex, n(%)                      |                                       |                                  |
| male                           | 474 (35.59%)                          | 7\(\times\)30.43%               |
| female                         | 858 (64.41%)                          | 16\(\times\)69.57%              |
| Marital status, n(%)           |                                       |                                  |
| Married                        | 1275 (96.37%)                         | 22\(\times\)95.66%              |
| Divorced                       | 40 (3.03%)                            | 1\(\times\)4.34%                |
| Never Married                  | 4 (0.30%)                             |                                  |
| Others                         | 4 (0.30%)                             |                                  |
| Education, n(%)                |                                       |                                  |
| Junior high school and below   | 372 (28.38%)                          | 6\(\times\)26.09%               |
| High or technical secondary    | 583 (44.47%)                          | 13\(\times\)56.52%              |
| Junior college                 | 187 (14.26%)                          | 3\(\times\)13.04%               |
| Bachelor                       | 153 (11.67%)                          | 1\(\times\)4.35%                |
| Master or above                | 16 (1.22%)                            |                                  |

### 3.2 Quantitative research phase

#### 3.2.1 Path analysis between latent variables

2 shows that all paths were positive except four paths for public complaints. Perceived quality to public satisfaction with a total effect of 0.737, perceived quality to perceived value with a total effect of 0.676, and public satisfaction to public trust with a total effect of 0.634 were three strongest paths.
Table 2. Results of total effect analysis of SIM_URRBMI

| Total path | Coefficient | SE  | t    |
|------------|-------------|-----|------|
| PE→PQ<sup>a</sup> | 0.568       | 0.022 | 25.377* |
| PE→PV      | 0.588       | 0.025 | 23.122* |
| PE→PS      | 0.584       | 0.024 | 23.953* |
| PE→PC<sup>b</sup> | -0.142      | 0.013 | 10.963* |
| PE→PT<sup>b</sup> | 0.371       | 0.023 | 16.142* |
| PV→PS<sup>a</sup> | 0.467       | 0.032 | 14.698* |
| PV→PC<sup>b</sup> | -0.113      | 0.013 | 9.010*  |
| PV→PT<sup>b</sup> | 0.297       | 0.023 | 13.161* |
| PS→PC<sup>a</sup> | -0.243      | 0.020 | 11.847* |
| PS→PT      | 0.634       | 0.020 | 31.305* |
| PQ→PV<sup>a</sup> | 0.676       | 0.021 | 31.964* |
| PQ→PS      | 0.737       | 0.018 | 41.270* |
| PQ→PC<sup>b</sup> | -0.179      | 0.016 | 10.870* |
| PQ→PT<sup>b</sup> | 0.467       | 0.018 | 25.732* |
| PQ_overa | l→PQ<sup>a</sup> | 0.069  | 0.002 | 36.692* |
| PQ_infor | mation→PQ<sup>a</sup> | 0.110  | 0.003 | 31.786* |
| PQ_servic | e→PQ<sup>a</sup> | 0.135  | 0.003 | 47.898* |
| PQ_policy →PQ<sup>a</sup> | 0.472       | 0.006 | 76.267* |
| PQ_instit | ution→PQ a | 0.354  | 0.005 | 64.894* |

Notes. <sup>a</sup> indicates that only the direct path was set, <sup>b</sup> indicates that only the indirect path was set, * indicates P < 0.001.

### 3.2.2 Importance-performance analysis

The scores of all observed variables in the SIM_URRBMI model are shown in Supplementary Table2. Based on score and path coefficient of latent variable, the importance and performance of each variable were shown in table 3.

Table 3 Important-Performance Analysis results
| Target variables | Latent variables   | Importance | Performance |
|------------------|-------------------|------------|-------------|
| Public trust     | Public expectation| 0.371      | 66.608      |
|                  | Perceived quality | 0.467      | 56.361      |
|                  | Perceived value   | 0.297      | 58.932      |
|                  | Public satisfaction| 0.634      | 57.753      |
| Public satisfaction| Public expectation| 0.584      | 66.608      |
|                  | Perceived quality | 0.737      | 56.361      |
|                  | Perceived value   | 0.467      | 58.932      |
|                  | Overall quality   | 0.069      | 67.885      |
|                  | Information quality| 0.110      | 49.147      |
|                  | Service quality   | 0.135      | 60.476      |
|                  | Policy quality    | 0.472      | 50.256      |
|                  | Quality of institutions | 0.354 | 62.708 |

Public trust was the final variable in the model, and the improvement of public satisfaction was conducive to the improvement of public trust, so as to ensure the stability of the insured. As shown in table 3 and figure 4-(a), the important but underperforming latent variables to public trust were public satisfaction and perceived quality, and the performance of the two variables was only 57.753 points and 56.361 points, respectively. A one-point increase in the performance of public satisfaction and perceived quality increased public trust performance scores by 0.634 and 0.467, respectively. The latent variable with high performance and low importance was public expectations.

Public satisfaction was located in the center of the model, which was the most key factor affecting public trust. It was also influenced by perceived quality, perceived value, and public expectation in the model. In table 3 and figure 4-(b), the important but underperforming latent variable to public satisfaction was perceived quality, and the performance score for perceived quality was relatively low (56.361). In a ceteris paribus situation, the importance of public satisfaction increased by 0.737, with a one-point increase in the performance score for perceived quality.

According to the IPA results of public trust and public satisfaction, the most important variable affecting public trust was public satisfaction, and improving the perceived quality of the insured was the most important and effective measure to increase public satisfaction. Therefore, we conducted IPA with perceived quality as one of the target latent variable. As shown in table 3 and figure 4-(c), policy quality was the most important factor for perceived quality, and the performance score for policy quality was relatively low (50.256). In a ceteris paribus situation, a one-point increase in the performance score for policy quality increased the performance of perceived quality by 0.472. Service quality and overall quality were high-performing but relatively unimportant aspects for perceived quality and were located in the Possible Overkill area. Institutional quality was located in the Keep up the Good Work area, with high importance and performance. Information quality was relatively unimportant, but its performance was low and it was located in the Low Priority for Managers area, indicating it is a potential aspects quality need to be improved.

### 3.3 Qualitative research phase

A total of 23 interviewees were enrolled in the qualitative research phase. Three themes were extracted from the content of the interviews, and figure 5 shows the themes derived from our analysis. To promote
understanding, we included quotations in appendices (Supplementary Table 3). It will allow readers sufficient evidence for evaluating the themes and subthemes we articulated.

**Theme 1 The Insured’s expectations for URRBMI.**

Psychologically, the insured believed the saying of enrollment could avoid dangers or diseases to ensure the safety. On the other hand, the URRBMI provides fair basic medical security for the insured by compensating part of the medical expenses when they encounter illness or accidents. The insured’s expectation for URRBMI was that basic medical insurance would help them share their medical expenses caused by the treatment of diseases to reduce personal medical expenses and the economic burden.

**Theme 2 The Insured’s perceived quality of URRBMI.**

The insured’s views on the quality of URRBMI mainly involved five aspects: 1) institutions quality, 2) service quality, 3) policy quality, 4) information quality, and 5) overall quality.

**Subtheme 1 Institutions quality**

The services of medical insurance institutions mainly include the procedures for enrollment and reimbursement. Many insureds were intensely satisfied with the reimbursement procedures because the health insurance institutions provided inpatients with some convenient ways and inpatients could be discharged from all hospitals. The insured were satisfied with the procedures for enrollment and reimbursement expect for the follow-up work, such as the issuance of vouchers.

**Subtheme 2 Service quality**

There were many ways to pay the premium, such as banks, networks, and full-time staff. Therefore, the insured thought the payment method was convenient and efficient. Although bank payments are more convenient than traditional methods, there are also some problems, such as the long wait time. Compared with bank payments, online payment was more frequently used.

**Subtheme 3 Policy quality reimbursement**

The intention of URRBMI is to provide the insured with economic security through appropriate reimbursement policies. However, some insured had whined about the current reimbursement policy, including the reimbursement scope, reimbursement rate, deductible and reimbursement cap line, among other issues.

The main sources of grievance were the reimbursement scope and the reimbursable drug list. The current reimbursement scope did not sufficiently reduce the economic burden of the disease. Some insureds indicated that reimbursable drugs were not enough, especially drugs for catastrophic diseases. The viewpoint that drugs for catastrophic diseases should be included in the reimbursement scope with an appropriate reimbursement rate was repeatedly mentioned. Some insured didn’t identify the reimbursement rate because the actual reimbursement rate was low and the medical expenses were not
adequately reimbursed, which resulted in a financial burden to the insured. Some individuals expressed dissatisfaction with the deductible and reimbursement cap line and held the view that the deductible was too high and the reimbursement cap line should be legitimately set according to the type of disease.

*Subtheme 4 Policy quality* 

**non-hospitalization medical expenses**

In the view of the insured, non-hospitalization medical expenses refer to the medical expenses cannot be reimbursed by URRBMI, which include the costs incurred in most of the outpatient clinics, drugstores and part of the emergency. Some chronic patients required long-term medication, and their daily medical expenses increased their financial pressure because the medical expenses arising from non-hospitalization treatment could not be reimbursed. In addition, they had not been hospitalized after enrolling in the insurance, but the daily medical treatment resulted in large medical expenses.

*Subtheme 5 Information quality* 

**The gap between propagandistic and actual medical benefits**

The insured thought there were different benefits between the advertised medical insurance policy and reimbursement experience. As the insured thought they could not receive all the benefits described in the health insurance policy, they considered the policy was not well implemented.

*Subtheme 6 Information quality* 

**medical insurance propaganda**

Medical insurance advertising is the foremost way for the insured to obtain medical insurance information, including the frequency, time, content and method of advertising. The insured indicated that they strongly desired to obtain insurance information, but they did not receive enough information due to deficiencies in the intensity, content and method of advertising. The main advertised information was regarding the payment time and premiums, while the information about the benefits was not enough to meet the insured’s demands, which made the insured think that the content of the medical insurance information make no sense. The biggest problem for advertising was the timing because it failed to publicize the insurance policy when the insured had the greatest demand. Daily advertising did not capture the insured’s attention. The greatest demand for health insurance policy is when the insured receive medical services in medical institutions. Therefore, they would be willing to receive this information that time. Moreover, some of the insured disagreed with traditional advertising methods, such as leaflets and brochures, because the traditional ways were limited to disseminating insurance information that could not meet the insured’s demands for insurance policy information. Compared with the traditional methods, they expected meaningful advertising. For example, young and middle-aged people would receive daily advertising through internet, and inpatients would like to obtain in hospital reimbursement policy through the WeChat platform or paper handbook.

*Subtheme 7 Information quality* 

**low cognition of insurance policy**

The cognitive understanding of the insured about the health insurance policy was low, especially the specific reimbursement policy. The three main reasons for the low understanding were that the insured had poor awareness about the medical insurance, the majority of family members and insureds were
healthy and demand for utilizing the medical insurance was low, and the medical insurance information was lacking.

Subtheme 8 Overall quality

The insured had a better overall perception with URRBMI. In particular, the insured had a high evaluation with the convenience ways to pay premiums and the rapid and simple reimbursement process. However, the insured still had some poor perception with the URRBMI, such as low overall reimbursement ratio, narrow coverage of reimbursement scope, less publicity of medical insurance, simple publicity content and publicity time.

Theme 3 Insured’s perceived value for URRBMI

The premium is a sum of money that the individuals pay regularly to URRBMI for the insurance policy. Although there were differences in the satisfaction of urban and rural insureds with the premium, they were both complain about the continuous increase in the premium.

Subtheme 1 The differences perception of value between urban and rural insureds

There were inconsistencies in the acceptance of premiums between urban and rural insureds. Most of the urban insured stated the current premiums were acceptable and would not cause financial pressure for their families. However, many rural insured took the opposite view since the whole family participated in URRBMI and the annual premiums was not a small amount. The consistency was dissatisfaction with the annual increase in premiums.

Subtheme 2 Perception with the continuous increase in premiums

Although the urban insured accepted the current premium, but some of them complained about the continuous increase in premiums.

4 Discussion

4.1 Advantages of mixed method research

Merging the two kinds of data allowed us to identify areas of concordance and discordance between the qualitative and quantitative results. The advantages of quantitative research are that the path coefficients indicate causal relationships between latent variables in the SIM_URRBMI model, and hypothesis testing can be conducted with statistical inference about the causal relationship. The advantages of qualitative research were as follows. First, it increased the rigor of the conclusions, as findings could be checked for consistency. The paths of perceived quality to public satisfaction were positive, and the qualitative results also indicated that the improvement in the quality of URRBMI could meet the demands of the insured and thus increase public satisfaction. Second, it increased the comprehensiveness of the overall findings by showing how qualitative data provided explanations for statistical data. The quantitative results showed
that perceived quality was of high importance and low performance, and the qualitative research explained the reasons from the experiences of the insured. Third, the qualitative results provided new ideas for heterogeneity research. The influence of the premium on public satisfaction was not consistent between the urban and rural insured. In the future, subjects can be grouped according to different characteristics to explore whether different groups have different path effects.

4.2 Public trust

Public trust refers to that the public has a positive attitude towards the service of URRBMI and is willing to promote it. The public with a trust attitude not only satisfied, but also have a continuous preference for URRBMI, and they have higher loyalty and support to the related government department. Although the coverage rate of URRBMI is relatively stable, the participation of URRBMI was voluntary, and the premium was paid annually rather than prepaid. Therefore, there will be some discontinuation of insurance, due to some factors such as the increase of the premium, the floating of rural population, and the promotion of various commercial insurance. By improving public trust, the likelihood that the insured will continue to participate and the likelihood that the uninsured can be attracted will be increased.

The IPA results for public trust revealed that public satisfaction and perceived quality were the key factors that affected the insured’s willingness to continue to participate in URRBMI. Dou's results also indicated that rural residents' trust in NRCMS is the primary factor affecting enrollment [45]. When the reimbursement demands of the insured were met, the expectation of economic security was realized and the insured trusted in URRBMI. Then, they will continue to participate in the insurance program.

4.3 Public satisfaction

Public satisfaction is the feeling of pleasure or disappointment that is felt after receiving medical insurance services compared with the expectations for URRBMI. Kevin's study showed that satisfaction with URRBMI is quality-driven and that an improvement in overall quality will better enhance public satisfaction. Kevin's was also in line with Fornell's findings that customer satisfaction was more quality-driven than value-driven or price-driven [34]. The IPA results for public satisfaction revealed that perceived quality was the most important but underperforming predictive latent variable, which was consistent with the results of a study by Kevin [46]. Perceived value was an aspect of low importance and low performance. Possibly because URRBMI is a social welfare policy, the premium was much lower than that of other commercial health insurance policies.

4.4 Perceived value

The lower score of the perceived value indicated that the insured were less satisfied with the insurance premium. From 2015 to 2018, the premium for URRBMI in Changsha increased from 90 yuan to 180 yuan [47, 48]. The premium increased year by year, but the reimbursement benefits did not improve, which caused complaints. After unification of the two medical insurance systems, the premium for rural and urban participants was same. However, the current premium was much higher than that of NRCMS in the
past. Unlike families in urban areas, usually all members of a family are insured in URRBMI in rural areas, while their economic sources mainly depend on income from young and middle-aged men. In addition, their income is not steady, especially long-term income, which fluctuates greatly. Thus, the high premiums cause a financial burden. These issues were the reasons that there were inconsistent opinions about the premium between the urban and rural insured.

4.5 Perceived quality

Perceived quality was the most critical predictive latent variable for public trust and public satisfaction. It suggested that improving quality should always be a high priority in the future. The IPA analysis of perceived quality showed that policy quality was located in the Concentrate Here area, indicating that policy quality merits more effort by the government. Interviewees’ dissatisfaction with the health policy was mainly manifested in the limitations of the reimbursement scope and reimbursable drugs and the low reimbursement rate, which was consistent with the results of previous studies [49]. The insured expected URRBMI to share the financial burden of the disease, but all of these limitations resulted in a lower actual reimbursement rate. Moreover, the reimbursement deductible was also higher and the reimbursement ratio was lower, which resulted in a lower actual reimbursement rate in high-level medical institutions. However, most of the insured thought that the diagnosis and treatment level of high-level medical institutions were higher, so they care about the low reimbursement rate of high-level hospitals. The low actual reimbursement rate was due to the gap in the policy reimbursement rate among different level of medical institutions and the out-of-pocket items. Therefore, the limitations scope of the reimbursement and reimbursement drugs were main reasons for the lower actual reimbursement rate.

However, URRBMI was designed to provide the insured with basic medical demands. The dissatisfaction was partly due to the imperfect system, and partly related to the high expectations of the insured for URRBMI. Some insureds misinterpreted the purpose that URRBMI was designed to provide the insured with basic medical demands. Therefore, they had unreasonable expectations (It is expected that some serious or rare diseases, even some operation roll call costs, will be compensated.) that were not in line with URRBMI's current reality. On the one hand, this situation reflected that there were deficiencies and drawbacks in policy advertising, which failed to make the insured understand the medical insurance policy correctly. Furthermore, it also provided reference for the development and improvement of personalized service of URRBMI in the future.

The institutional quality was located in the Keep up the Good Work area, which was mainly reflected in the convenient and efficient procedures for enrollment and reimbursement that need to be maintained in the future. The service quality also had a high performance, but the importance was relatively low. Network payment made it easy to pay premiums, which was the most convenient method for young and middle-aged people who had access to smart phones. However, for older people, there were full-time staff members available who could be responsible for making the insurance payments through the bank. A variety of insurance payment methods were available to meet different demands. In 2017, Changsha city realized direct reimbursement of hospitalization expenses in different places, and patients only need to
pay out-of-pocket expenses when they were discharged from the hospital outside Changsha. The policy shortened the reimbursement process and alleviated the financial burden caused by advanced payment of medical expenses by the insured in the past [50]. Information quality was located in the Low Priority for Managers area, indicating that it was not convenient for the insured to obtain medical insurance information and that advertising for the medical insurance was not in place. In addition, the biggest advertising problem for URRBMI was that the timing of policy publicity was not appropriate and the relevant departments were out of communication when needed. Interviewees were willing to learn about insurance policies only when they needed to use medical insurance for reimbursement. This is consistent with Susan's finding [51]. There were a few opportunities to obtain an insurance policy when they were admitted to a hospital. However, current publicity on participation is not receiving the attention of the insured. This situation showed that the relevant departments, such as communities and hospitals, are out of touch. This lack of communication led to a failure to provide adequate policy advocacy services at a time when the insured's health care demands were greatest. Therefore, it is critical to promote health insurance to patients who are hospitalized. In addition, there were some shortcomings in health insurance advertising, such as a few way of publicity, deficient intensity and limited content, which affected the insured's understanding of the insurance policy and their perception of the information quality.

4.6 The influence of policy cognition

The area of discordance is that the insured’s awareness about the medical insurance policy also affects public satisfaction, which is not mentioned in the quantitative research. Mohammed's research showed that the greater the awareness of medical insurance policies, the higher the satisfaction of the insured [16]. Many insureds lacked knowledge about health insurance because they believed the insurance policy was unified and the physical condition of the insured and their families was healthy, which made the insured think that it was not important to learn about and understand the insurance policy. The advertising for the insurance policy failed to provide the insured with relevant policy information and effective access. Reasonable awareness is conducive to improving the enthusiasm of the insured to participate in and utilize URRBMI, as well as the satisfaction and trust in URRBMI.

4.7 Policy recommendations

Therefore, the government can take the following steps. First, the government should establish a steady growth mechanism for fundraising. The integration of urban and rural areas of medical insurance was in a transitional period, and the development of urban economy and rural economy was unbalanced. The setting of the premium should take into account the influence of per capita income, economic growth rate, economic structure differences and other factors during the transition phase. The steady growth in the premium will be helpful for rural residents to adapt to the new basic medical insurance system, which will be conducive to maintaining and improving their satisfaction. Second, the government should enhance the payment options for medical insurance funds and rationally formulate reimbursement standards to improve the compensation level. A reasonable reimbursement rate would increase with the increase in the reasonable reimbursement section. A reasonable deductible could guide the insured to
choose medical institutions in a suitable manner. There should be appropriate cap line for ultra-high medical expenses, such that medical insurance can play a preferential role as catastrophic disease insurance. Third, it should improve the scope of the drug catalogue and medical treatment projects. With the development of social economy, the government should bring more drugs, especially necessary drugs for catastrophic diseases, into the reimbursement scope and relax the scope restrictions on outpatient clinics. Fourth, the government should strengthen medical insurance advertising. The advertising methods for URRBMI should be pertinent. For example, for older people, publicity can be promoted through traditional advertising methods, such as brochures. For migrant workers or wage earners, advertising can be carried out in a timely manner using network resources, such as WeChat. It is necessary to establish an effective channel for medical insurance inquiries to provide convenient inquiries for the insured who have medical insurance demands. In addition, the insured pay the strongest attention to insurance policy information when they have medical reimbursement demands. Therefore, the relevant institutions can publicize the insurance policy when the insured pay the premium and are hospitalized. There should be an emphasis on special outpatient service that reimburse the cost of outpatient treatment for some chronic non-communicable diseases and catastrophic diseases. Therefore, the government could guide the insured to use URRBMI correctly and effectively through medical insurance advertising.

To sum up, government should take equal access and benefit of the masses as the starting point and foothold, and adhere to tripartite system reform (joint reformation for medical care, medical insurance, and medicine). The government should constantly improve the medical insurance payment system, control the growth rate of medical expenses and guarantee the allocation of basic drugs, so as to achieve more effective results in facilitating the public to go to the hospital, reducing the burden of medical treatment and medication. As a result, government will comprehensively improve the satisfaction of URRBMI and meet peoples' increasingly growing demands of health.

5 Limitations

URRBMI was a voluntary insurance scheme for rural residents and urban residents who did not insure the basic medical insurance for urban employees (UEBMI), most of them are the elderly and children. In rural areas, insureds participate in URRBMI in the form of family collectives. It was not the same in urban areas since most of family members had insured in URRBMI. Therefore, community-based survey was not feasible enough to be carried out. The subjects of this study were the family main decision-makers for the primary school students who have been insured in URRBMI, they cannot represent all the insured. In addition, there may be differences with actual satisfaction because some of the subjects had no reimbursement experience. However, the main decision-makers were responsible for the health and life of children and the elderly in the family. And they also tended to be the ones who know the best about health care policies and services. In addition, although the questionnaire asked about the experience of primary school students participating in insurance, but the main decision-makers would be integrated into the family members of all URRBMI participants' feelings. At the same time, the qualitative study also further asked about the experience of family participation.
This study has some other limitations. First, there was interviewer bias even though interviews are the most common and important method for qualitative data collection. Second, due to the lower education level of a few interviewees, there may have been misunderstandings about URRBMI, which led to a failure to correctly express their views and attitudes. Third, the basic medical insurance took the district and county as the overall planning unit, and the basic medical insurance policy was slightly different between different regions. The generalization of the research results was limited to Changsha because the samples were selected from Changsha. However, the ideas and results of this study provided reference for the basic medical insurance satisfaction research in other areas.

### 6 Conclusion

This study found that improving quality is key to improving public satisfaction and public trust of URRBMI. The government should improve the compensation level by broadening the channel of financing for URRBMI fund, rationally formulating reimbursement standards and broadening the scope of the drug catalogue and the medical treatment projects. The government should establish a stable financing growth mechanism and effective ways of health education so as to improve public satisfaction and public trust.

### 7 List Of Abbreviations

| Abbreviation  | Full name                                                   |
|---------------|-------------------------------------------------------------|
| ACSI          | American Customer Satisfaction Index                        |
| IPA           | Importance-performance Analysis                             |
| PLS           | Partial Least Squares                                        |
| PLS-SEM       | Partial Least Squares Structural Equation Model              |
| SIM_URRBMI    | Satisfaction Index Model for Basic Insurance for Urban and Rural Residents |
| URBMI         | Urban Resident Basic Medical Insurance                      |
| URRBMI        | Basic Medical Insurance for Urban and Rural Residents        |
| PE            | Public Expectation                                           |
| PQ            | Perceived Quality                                            |
| PV            | Perceived Value                                              |
| PS            | Public Satisfaction                                          |
| PC            | Public Complaint                                             |
| PT            | Public Trust                                                 |
| NCMS          | New Cooperative Medical Scheme                               |

### 8 Declarations

Ethics approval and consent to participate:
This study was approved by the Ethics Committee of Xiangya School of Public Health, Central South University. And the consent we obtained from study participants was written.

**Consent for publication:** Not applicable.

**Availability of data and materials:** The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

**Competing interests:** The authors declare that they have no competing interests.

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**Authors' contributions:** XL and FY were involved in the whole process of the work. WC, WS, ML, MH and XM contributed significantly to the design and facilitation phase of the work. YW, JC and XY made substantial contributions to the acquisition. QL and JS drafted the work or substantively revised it. And all authors have read and approved the manuscript.

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**References**

1. The central people's government of the People's Republic of China. Opinions of the state council on integrating the basic medical insurance system for urban and rural residents. In: China TcpsgotPsRo, editor. Beijing: The central people's government of the People's Republic of China; 2016.
2. Pan X-F, Xu J, Meng Q. Integrating social health insurance systems in China. Lancet. 2016;387(10025):1274-5.
3. Wang X, Zheng A, He X, Jiang H. Integration of rural and urban healthcare insurance schemes in China: an empirical research. Bmc Health Services Research. 2014;14.
4. Munro N, Duckett J. Explaining public satisfaction with health-care systems: findings from a nationwide survey in China. HEALTH EXPECTATIONS. 2016;19(3):654-66.
5. Wang Y. The research on the satisfaction degree of basic medical insurance for urban and rural residents in Luancheng district, Shijiangzhuang city (in Chinese): Guangxi University for Nationalities; 2018.
6. Zhao L, Li S. The orientation of medical insurance evaluation at present stage (in Chinese). Chinese Health Service Management. 2006;22(4):214-5.
7. Yan N, Hu R. Universal Medical Insurance: Institutional Reflection Based on the Integration of Urban and Rural Residents (in Chinese). Social Security Studies. 2017(3):40-7.

8. Zhang M, Wang H. Application of Structural Equation Model in the Analysis of Satisfaction with Basic Social Medical Insurance in Shanxi Province (in Chinese). Chinese Journal of Health Statistics. 2015;32(5):777-80.

9. Chen Z, Li J, Xu L, Li W. Analyzing the factors to influence the rural residents' participating in insurance after the integration of basic medical insurance system sampled with Gaoqing County of Shandong Province (in Chinese). Chinese Health Service Management. 2015;32(7):507-9.

10. Li W. Research regarding Impacts on the Satisfaction to Basic Medical Insurance: in the Case of Insured Workers in Beijing (in Chinese): Capital University of Economics and Business; 2017.

11. Wu X. An Evaluation Research of Satisfaction Level of Licheng Insurance Participants with Resident Medical Insurance Policy (in Chinese): Huaqiao University; 2014.

12. Yan F, Guo G, Pan J, Xu N, Gu Y, Sun Y. Investigation on satisfaction of overall urban and rural residents after participating basic medical insurance (in Chinese). Soft Science of Health. 2018;32(01):39-41.

13. He X, Jiang E, He G. Survey the satisfaction of urban residents and new rural cooperative medical system participants to medical insurance system in Sinkiang (in Chinese). Soft Science of Health. 2017;31(07):38-42.

14. Gu D, Yang X, Li X, Liang C, Zhong J, Feng N. Innovating New Rural Cooperative Medical Scheme (NCMS) for Better Patient Satisfaction in Rural China. International Journal of Environmental Research and Public Health. 2018;15(9).

15. Jing L, Chen R, Jing L, Qiao Y, Lou J, Xu J, et al. Development and enrollee satisfaction with basic medical insurance in China: A systematic review and stratified cluster sampling survey. International Journal of Health Planning and Management. 2017;32(3):285-98.

16. Mohammed S, Sambo MN, Dong H. Understanding client satisfaction with a health insurance scheme in Nigeria: factors and enrollees experiences. Health Research Policy Systems. 2011;9(1):1-8.

17. Duan J. Research on Satisfaction of Medical Insurance in Rural Immigrant Community in Guazhou County (in Chinese): Gansu Agricultural University; 2016.

18. Mulvihill BA, Obuseh FA, Caldwell C. Healthcare providers' satisfaction with a state children's health insurance program (SCHIP). Maternal and Child Health Journal. 2008;12(2):260-5.

19. Haas JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, Brennan TA. Is the professional satisfaction of general internists associated with patient satisfaction? Journal of General Internal Medicine. 2000;15(2):122-8.

20. Baker R. Pragmatic model of patient satisfaction in general practice: Progress towards a theory. Quality in Health Care. 1997;6(4):201-4.

21. Stein MB, Roy-Byrne PP, Craske MG, Campbell-Sills L, Lang AJ, Golinelli D, et al. Quality of and patient satisfaction with primary health care for anxiety disorders. Journal of Clinical Psychiatry. 2011;72(7):970-6.
22. Johnson RB, Onwuegbuziy A, Turner L. Toward a Definition of Mixed Methods Research. Journal of Mixed Methods Research. 2007;1(2):112-33.

23. Onwuegbuzie A, Johnson R. The validity issue in mixed research. Research in the Schools. 2006(48):48-63.

24. Mayoh J, Onwuegbuzie AJ. Toward a Conceptualization of Mixed Methods Phenomenological Research. Journal of Mixed Methods Research. 2015;9(1):91-107.

25. Johnson R, Onwuegbuzie A. Mixed methods research: a research paradigm whose time has come. Educational Researcher. 2004;33(7):14-26.

26. Brenner S, Muula AS, Robyn PJ, Baernighausen T, Sarker M, Mathanga DP, et al. Design of an impact evaluation using a mixed methods model - an explanatory assessment of the effects of results-based financing mechanisms on maternal healthcare services in Malawi. Bmc Health Services Research. 2014;14:180.

27. Hargreaves JR, Morison L, Gear JSS, Kim JC, Makhubele MB, Porter JDH, et al. Assessing household wealth in health studies in developing countries: a comparison of participatory wealth ranking and survey techniques from rural South Africa. Emerging themes in epidemiology. 2007;4:4.

28. Curry LA, Nembhard IM, Bradley EH. Qualitative and mixed methods provide unique contributions to outcomes research. Circulation. 2009;119(10):1442-52.

29. Alatinga KA, Williams JJ. Mixed Methods Research for Health Policy Development in Africa: The Case of Identifying Very Poor Households for Health Insurance Premium Exemptions in Ghana. Journal of Mixed Methods Research. 2019;13(1):69-84.

30. Dowding D. Best Practices for Mixed Methods Research in the Health Sciences. Qualitative Social Work. 2013;12(4):541-5.

31. Creswell JW, Clark VPL. Designing and conducting mixed methods research. Australian New Zealand Journal of Public Health 2007;31(4):388-.

32. Hair JF, Hult GTM, Ringle CM, Sarstedt M. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM): Sage; 2014.

33. Cheng W, Cheng J, Liu X, Wu Y, Sun W, Yan X, et al. Construction and application of a revised satisfaction index model for Chinese urban and rural residents basic medical insurance. PLoS One2020.

34. Fornell C, Johnson M, Anderson EW, Cha J, Bryant BE. The American Customer Satisfaction Index: Nature, Purpose, and Findings. Journal of Marketing. 1996;60(4):7-18.

35. Martilla JA, James JC. Importance-Performance Analysis. Journal of Marketing. 1977;41(1):77-9.

36. Tenenhaus M, Vinzi VE, Chatelin Y-M, Lauro C. PLS path modeling. Computational Statistics Data Analysis. 2005;48(1):159-205.

37. Van Ryzin GG, Immerwahr S. Importance-performance analysis of citizen satisfaction surveys. Public Administration. 2007;85(1):215-26.
38. Chu RKS, Choi T. An importance-performance analysis of hotel selection factors in the Hong Kong hotel industry: a comparison of business and leisure travellers. Tourism Management. 2000;21(4):363-77.

39. Oh H. Revisiting importance-performance analysis. Tourism Management. 2001;22(6):617-27.

40. Anderson EW, Fornell C. Foundations of the American Customer Satisfaction Index. Total Quality Management. 2000;11(7):S869-S82.

41. Hock C, Ringle CM, Sarstedt M. Management of Multi-Purpose Stadiums: Importance and Performance Measurement of Service Interfaces. International Journal of Services Technology and Management. 2010;14(2):188-207.

42. Tzeng G-H, Chang H-F. Applying Importance-Performance Analysis as a Service Quality Measure in Food Service Industry. Journal of technology management & innovation. 2011;6(3):106-15.

43. Liu I-C. Evaluation of Taiwan's National Health Insurance policy: an importance-satisfaction analysis. INTERNATIONAL JOURNAL OF HEALTH PLANNING AND MANAGEMENT. 2014;29(2):e145-58.

44. Braun V, Clarke V. Using Thematic Analysis in Psychology. Qualitative Research in Psychology. 2006;3(2):77-101.

45. Dou X. Analysis of influencing factors and countermeasures for implementation of new rural cooperative medical insurance in taizhou city(in Chinese). Marketing Management Review. 2016(07):188-9.

46. Dow K, Serenko A, Turel O, Wong J. Antecedents and Consequences of User Satisfaction with E-Mail Systems. International Journal of e-Collaboration(IJec). 2006;2(2):46-64.

47. The Changsha Medical Security Bureau. Notice on the participation and payment of basic medical insurance for urban and rural residents in 2015. In: Bureau TCMS, editor. Changsha: The Changsha Medical Security Bureau; 2015.

48. The Changsha Medical Security Bureau. Notice on the participation and payment of basic medical insurance for urban and rural residents in 2018. In: Bureau TCMS, editor. Changsha: The Changsha Medical Security Bureau; 2018.

49. Jia Z. On the Satisfaction and Influencing Factors of Rural Elderly with Basic Medical Insurance System for Urban and Rural Residents—Based on the Data of 9 Towns and 7 Townships in Nanchang County(in Chinese). Journal of Hunan Institute of Engineering(Social Science Edition). 2018;28(04):39-43.

50. The Changsha Medical Security Bureau. Notice on Instructions for direct settlement of medical expenses for hospitalization in different places of basic medical insurance for urban and rural residents in 2015. In: Bureau TCMS, editor. Changsha: The Changsha Medical Security Bureau; 2015.

51. Goold SD, Tipirneni R, Kieffer E, Haggins A, Salman C, Solway E, et al. Primary Care Clinicians’ Views About the Impact of Medicaid Expansion in Michigan: A Mixed Methods Study. Journal of General Internal Medicine. 2018;33(8):1307-16.

Figures
Figure 1

Sequence interpretation design framework

Figure 2

Satisfaction Index Model for Basic Insurance for Urban and Rural Residents
Figure 3

Importance-Performance Analysis grid
Figure 4

Importance-performance analysis results
Figure 5

Qualitative research theme map

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