# NCSBN Regulatory Guidelines and Evidence-Based Quality Indicators for Nursing Education Programs

Nancy Spector, PhD, RN, FAAN
Director Regulatory Innovations
National Council of State Boards of Nursing

Josephine Silvestre, MSN, RN
Senior Associate, Regulatory Innovations
National Council of State Boards of Nursing

Maryann Alexander, PhD, RN, FAAN
Chief Officer, Nursing Regulation
National Council of State Boards of Nursing

Brendan Martin, PhD
Associate Director, Research
National Council of State Boards of Nursing

Janice I Hooper, PhD, RN, FRE, CNE, FAAN, ANEF
Lead Nursing Consultant for Education
Texas Board of Nursing

Allison Squires, PhD, RN, FAAN
Distinguished Nurse Scholar of the National Academy of Medicine 2019-2020
Associate Professor, Rory Meyers College of Nursing, New York University

Melissa Ojemeni, PhD, RN
Leadership Fellow, Partners in Health, Boston, MA

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*Advancing nursing excellence*
*for public protection*

**Mission**

The *Journal of Nursing Regulation* provides a worldwide forum for sharing research, evidence-based practice, and innovative strategies and solutions related to nursing regulation, with the ultimate goal of safeguarding the public. The journal maintains and promotes National Council of State Boards of Nursing's (NCSBN's) values of integrity, accountability, quality, vision, and collaboration in meeting readers' knowledge needs.

**Manuscript Information**

The *Journal of Nursing Regulation* accepts timely articles that may advance the science of nursing regulation, promote the mission and vision of NCSBN, and enhance communication and collaboration among nurse

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## EXECUTIVE SUMMARY

Boards of nursing (BON) approval of nurse education programs is an integral part of their mission of public protection. In the United States, nursing education programs are required to be approved by the BON* in the state where the program is officially located. The purpose of program approval is to ensure the program comprehensively covers the knowledge and skills students need to be licensed as a nurse and to practice safely as new graduate nurses, thereby providing society a competent nurse workforce.

To obtain BON nursing education program approval, nursing programs must meet the nursing education standards established by their BON. Only students graduating from officially recognized and approved programs are permitted to take the the NCLEX, the official nursing licensure exam in the US and Canada. (Spector & Woods, 2013). To determine whether graduates are eligible to take the NCLEX, BONs rely on verification from the nursing education program that each student has successfully completed all program requirements, including successfully meeting clinical learning objectives.

BONs offer two types of nursing education program approval: initial approval of new programs before they open for enrollment and ongoing monitoring and continued approval of programs. For a new program, the approval process begins with an initial application and proposal to the BON. The BON conducts an extensive evaluation to ensure that the program has the proper facilities, resources, administration and faculty, curriculum, clinical agreements, policies, and procedures, among other requirements set forth in state regulations. The process for continued approval of established programs is based upon monitoring the programs' performance outcomes and compliance with BON rules over time (Spector et al., 2018).

BONs use different models for approving nursing programs, and nursing education rules and regulations are not always consistent across all jurisdictions. Most BONs hire graduate-prepared education consultants with experience in nursing education to make recom-

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* In Mississippi, the registered nurse programs are approved by the Mississippi Institutions of Higher Learning and the practical nursing programs are approved by the BON. In New York, the programs are approved by the New York Board of Regents. In Idaho, programs are approved as long as they are accredited by a national nursing accrediting agency recognized by the U.S. Department of Education, though the BON takes over if that accreditation is lost.

** Fifteen states require the national pass rate or a percentage thereof.

## Methods and Selected Findings

The study consists of a comprehensive literature review; a national Delphi study providing data on consensus of experts in nursing education, regulation, and practice; a study analysis of 5 years' worth of BON annual reports of nursing programs; and a study analysis of 5 years' worth of BON site visit documents.

### *Literature Review*

The literature review yielded 65 relevant published articles that were reviewed and graded using the Johns Hopkins Levels of Evidence and Quality Guide. Overall, the literature review revealed a number of quality indicators and warning signs that may serve as metrics for

## Conclusion

This study provides substantial evidence-based criteria for identifying quality indicators of successful nursing education programs as well as warning signs for high-risk programs. The quality indicators and warning signs can serve as the basis for legally defensible and evidence-based guidelines for nursing education approval.

It is hoped that these guidelines will enhance collaboration between educators and regulators. Together, they will be able to use the quality indicators to guide nursing programs to approval and to identify warning signs when the nursing program is beginning to fall below standards. This early intervention will assist nursing programs to act before BON sanctions or program closures, thus continuing to graduate safe and competent nurses, in adequate numbers, to care for patients.

## [illegible]

The following three criteria relative to nursing program approval formed the basis of the literature review:

- Use of NCLEX pass rates as a performance measure of prelicensure nursing programs.
- Additional metrics used to measure performance of higher education programs and the supporting evidence.
- Warning signs indicating a nursing program is falling below standards and at risk of losing BON approval.

Medline, PsychInfo, ERIC (Education Resources Information Center), and CINAHL (Cumulative Index of Nursing and Allied Health Literature) Complete were queried using the following keywords: (a) nursing education outcomes (and higher education outcomes); (b) pass rate standards were within the 95% confidence interval (CI), meaning that 28% of the programs that failed to meet their respective states' pass rates had a 95% CI that included and at times surpassed the passing threshold. He concluded that it was perhaps by chance these programs fell below the pass rate standard. For this reason, most BONs take action after 2 or more years of below-standard pass rates.

In a study of 489 public and 820 private nonprofit universities, researchers investigated retention rates from 2003 to 2013 (Eberle-Sudré et al., 2015) and found that universities with students of similar profiles had differing retention rates. The researchers concluded that what universities do above and beyond traditional teaching methods can influence retention rates. For example, San Diego State University employed several strategies to improve retention rates. They partnered with local junior high and high schools to connect students to college earlier, they pushed all students to carry a minimum of 15 credit hours, and they instituted proactive advising and degree planning, fostered communities for first year students, and used data to improve curricula. As a result, San Diego State University vastly improved retention of underrepresented students (Eberle-Sudre et al., 2015). These results add another perspective to DeAngelo et al.'s (2011) graduation rate findings previously discussed. Student profiles and characteristics, as well as strategies that supplement traditional teaching methods, influence retention and graduation rates.

Odom-Maryon et al. (2018) also found multiple factors not directly related to teaching that influenced graduate nurse outcomes and not enough theory in the 1970s. Today, the argument related to the education-practice gap seems to be the opposite. This suggests the discourse should change from quantity of hours to quality of the direct care clinical experiences.

A number of studies in the United States (Beauvais et al., 2017; Berkow et al., 2008; Candela & Bowles, 2008; Hayden et al., 2014; Kavanagh & Szweda, 2017; Rusch et al., 2019; Spector et al., 2015), and other countries (Cantlay et al., 2017; El Haddad et al., 2017; Hsu & Hsieh, 2013; Missen et al., 2016) have addressed preparation for practice by obtaining the input of practicing professionals and nursing graduates. The need for quality clinical hours, either with supervised clinical experiences with actual patients or with simulation, is a major research finding (Alexander et al., 2015; Beauvais et al., 2017; Candela & Bowles, 2008; El Haddad et al., 2017; Hayden et al, 2014; Kavanagh & Szweda, 2017). However, what are quality clinical hours, and how can BONs be sure that clinical experiences are providing the needed knowledge to prepare students for entry to practice? The following are cited in the literature as elements integral to a quality clinical experience:

▪

### Systematic Program Evaluation

The need for a program evaluation system has been cited as a crucial element for assessing a program by regulators, accreditors, and educators (Hooper & Ayars, 2017; Oermann, 2017; Spector et al., 2018). Oermann (2017, p. 1) defines program evaluation as a systematic process for collecting data for making decisions about the nursing program and assessing its value. This process is also foundational to the national nursing accreditors as they evaluate programs for accreditation (Accreditation Commission for Education in Nursing, 2017; Commission on Collegiate Nursing Education, 2018; National League for Nursing, 2016). No actual studies have been conducted or data collected as to the most important elements of a program evaluation.

### Institution Type

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* It should be noted that while almost 89% of BSN nursing programs are accredited, only about 53% of associate degree programs and 11% of practical nursing programs are accredited (Silvestre, 2020).

- High administrator turnover
- High rate of complaints
- Weak admissions policies
- Old-fashioned skills lab with high student ratios
- Poor clinical placements.

## Conclusion

There is an overall lack of evidence regarding the existence of validated metrics that could be used to evaluate a nursing education program, although the number of articles suggest there is a growing body of evidence that is defining what constitutes a quality education in nursing. We did not critique the quality of the research studies within the text of this report since our goal was to determine the state of the science so we could answer our research questions. However, we did rate the level and quality of the research and reports using Johns Hopkins evidence levels and quality ratings, which can be found in Appendix B1 and B2.

While many studies examined different components of nursing education, there is not one quality indicator or one warning sign that indicates a program's quality. Rather, this literature review points to several factors that in combination may serve as metrics for evaluating a program. These vary from components a program may have little to no control over, such as the type of institutional ownership, to the selected clinical experiences the school is able to obtain and afford to students. The evidence is insufficient to lead us to any conclusion. More research is needed in this area. To this end, NCSBN embarked upon a three-part national study to further examine the three topics studied within this review. Those data, along with the work herein, may provide evidence into the development of a guidance document for program approval.

[illegible]

NCSBN conducted a groundbreaking, national, mixed-methods study to identify evidence-based quality indicators and warning signs of nursing program performance. This comprehensive study comprises three national studies using different methodologies: (1) a national Delphi study, (2) a quantitative 5-year annual report study, and (3) a qualitative 5-year site visit study.

## A National Delphi Study to Determine Quality Indicators and Warning Signs of Nursing Education Program Performance

The objective of this Delphi study was to provide data on consensus from experts in nursing education, regulation, and practice regarding nursing education quality indicators, warning signs when programs are beginning to fall below standards, and performance of nursing education programs. Specifically, we aimed to answer the following research questions:

- What are characteristics/quality indicators of nursing education programs that graduate safe and competent nurses?
- What are warning signs that indicate a nursing program is falling below the standard of graduating safe and competent nurses?
- What outcome measures could BONs use to determine whether nursing programs are graduating safe and competent nurses?

Institutional review board approval was obtained from the Western Institutional Review Board.

## Methods

The Delphi method assumes group opinion is more valid than individual opinion (Keeney et al., 2011). In this method, generally there are two to four rounds of surveys, with the goal being that the group comes to consensus on issues. Round one is a qualitative round where the participants are asked to provide their views on issues. It is imperative that the questions are clear and understandable by the participants. To this end, it is recommended to pilot the questions with a small group of experts first (Benton et al., 2013; Keeney et al., 2011). In round two, the participants rate the factors identified in round one. If there are areas of disagreement, rounds three and four will allow participants to change their minds based on the findings of the group.

stivldard t/qualientnnst6tineesivadvantuldul92 nursing regulation was obtained by using the education consultant distribution list from the NCSBN membership email address list. Inclusion criteria for educators were as follows:

- Taught master's entry, BSN, ADN, diploma, or LPN/LVN for at least 2 years
- If an LPN/LVN educator, must have at least a BSN
- If an RN educator, must have at least a master's degree.

Clinical educators were required to have worked with new graduate LPN/LVNs or RNs for at least 2 years. Education consultants were required to have been hired by the BON to regulate nursing programs. In addition, all participants were required to be willing to complete three rounds of surveys about nursing education programs that graduate students who are competent and safe to practice.

By including regulators, educators, and those who supervise new graduates in practice, we were able to include diverse perspectives in this Delphi study. Additionally, with practice readiness being addressed in the literature related to performance outcomes, we wanted the practice perspective. Thus clinical nurse educators who work with new graduates in hospitals were included.

The demographics of the Delphi study participants are presented in Table 2. The demographics were balanced across the sample, except for the highest level of education attained. Whereas 51% of educators and 50% of the regulators had doctorates, only 19% of the clinical nurse educators who work in hospitals did.

AB 2

**Demographics of Survey Participants in the Delphi Study**

| Participant Type | *n* | %[a] |
|---|---|---|
| eat s ta ts | 50 | |
| ***Types of Programs Regulated*** | | |
| / | 1 | 2 |
| / a B | 1 | 2 |
| A a B tr | 3 | 6 |
| B a B tr | 1 | 2 |
| A , B , B tr | 1 | 2 |
| A , a, B tr | 1 | 2 |
| A , a, B , B tr | 1 | 2 |
| / , A , B tr | 4 | 8 |
| / , A , B , B tr | 6 | 12 |
| / , A , a | 1 | 2 |
| / , A , a, B | 8 | 16 |
| / , A , a, B tr | 4 | 8 |
| / , A , a, B , B tr | 18 | 36 |

| Participant Type | *n* | %[a] |
|---|---|---|
| ea r eat rs | 71 | |
| ***Sex*** | | |
| a | 68 | 96 |
| a | 3 | 4 |

| Participant Type | *n* | %[a] |
|---|---|---|
| ea r eat rs | 71 | |
| r tt sa | 0 | 0 |
| ***Age Range*** | | |
| 18 24 | 0 | 0 |
| 25 34 | 6 | 8 |
| 35 44 | 12 | 17 |
| 45 54 | 19 | 27 |
| 55 65 | 32 | 45 |
| > 65 | 2 | 3 |
| ***Highest Level of Education Attained*** | | |
| a | 0 | 0 |
| A | 0 | 0 |
| B | 5 | 7 |
| / | 53 | 75 |
| | 9 | 13 |
| | 4 | 6 |
| ***Years of Experience Working With New Graduate Nurses*** | | |
| 0 2 | 3 | 4 |
| 3 5 | 16 | 23 |
| 6 10 | 12 | 17 |
| > 10 | 40 | 56 |

*Note.* A = ass eat r rs ; B = ae r se rs ; = ast r se ; = ast r se rs ; = et r rs raet ; = raet ea r ; = eat a r .

[a] r ta s a t t ta 100 t r .

eat rs t sst a 2 ars' r e a s t t t s r .

### Procedure

Ten experts in regulation, education, and clinical education (in hospitals) piloted the surveys for clarity, and revisions were made based on their feedback. For example, we originally used the phrase "regulatory quality indicators," and although the educators and education consultants understood the term, the clinical educators did not. Therefore, we changed it to "characteristics of nursing programs that

### Statistical Analysis

Statistical analysis was conducted using SPSS version 22.0. Simple descriptive statistics were estimated for each item and agreement was estimated by looking at the percentage of respondents who agreed that an item was either important or very important (a Likert rating

**Agreement With Regulatory Quality Indicators Among Participants in the Second Round of**

### Achieving Consensus

We reached consensus on two rounds with this Delphi study. The piloting of the questions was very important for ensuring the questions were understood uniformly across our sample. We piloted the survey to all three groups in our sample and made many revisions based on the feedback.

Some of the educators and education consultants may have resorted to metrics they commonly use related to either the accreditation or regulatory standards. We particularly saw that with the outcomes that were identified. This likely was not a major factor because the clinical nurse educators, who work with new graduates in practice, are not tied to the national accreditation standards or to state requirements. Therefore, they were more apt to come up with innovative factors that have not been used when assessing programs. Some ideas, not previously cited, did come from the practice educators, and those were then selected as important or very important by the educators and regulators.

### Limitations

While these quality indicators, warning signs, and outcomes were identified by experts, it should be noted the metrics are the opinions of experts in the field, which is the lowest level of evidence. Additionally, while our response rate across the two rounds was good (61% overall), a 70% response rate is recommended by some researchers (Keeney et al., 2011). Currently, however, no specific guidelines exist for acceptable response rates for Delphi studies (Keeney et al., 2011), and reported response rates range from 8% to 100% in Delphi studies. The larger the number of participants, the lower the expected response rate (Keeney et al., 2011). Our response rate, therefore, was acceptable given our large sample, and it probably benefitted by our sending out reminders every 2 days.

## Conclusions

NCSBN conducted this Delphi study to learn about expert consensus of quality indicators, warning signs, and performance outcomes. The diverse group of educators, regulators, and clinical educators who work with new graduates agreed on 18 quality indicators, 11 warning signs, and eight outcome measures. While this study lends more support to those metrics that have already been studied, some newer ones have also been identified (such as collecting evidence on the relationship the nursing program has with the facilities they use for clinical experiences or the graduates' preparedness to work in an interprofessional environment).

Some highlights of this study are that we used three separate methods of qualitative analysis (content analysis done by hand as well as verifying the findings with NVivo and R [Latent Dirichlet Allocation] software), thereby providing a comprehensive and reliable list of quality indicators, warning signs, and performance outcomes. Additionally, by including regulators (education consultants), educators, and those who work with new graduates in practice, our experts provided diverse perspectives and therefore enhanced the breadth of findings.

wao,r0md [(wao3ssing 5 72 488.48D and)-1aduaapra-5aprknouaaprwledgnt)TJ 0 -1.21 Tf -0.008 Tc 0.03211w 10.08 0 0 10.5 72 483328D and

provide important context when interpreting the results presented in the accompanying descriptive table. Thus, each median estimate and proportion is reported only out of the total number of program entries for which the information could be verified.

AB 5

## Program Characteristics and Student Demographics as Provided in Annual Report Documents

| Program Characteristics | Valid *N* [a] | *n* (%) |
|---|---|---|
| t t A , | 805 | |
| 17 25 | | 497 (61.7) |
| > 26 | | 308 (38.3) |
| t t a | 1,856 | |
| - t / a eas a | | (12.7) |
| > 40% t / a eas a | | 1,621 (87.3) |
| F r ra A r a tat s | 10,172 | |
| | | 1,004 (9.9) |
| s | | 9,168 (90.1) |
| r ra r et r r t a s | 3,507 | |
| Baeea a r at | | 367 (10.5) |
| | | 1,658 (47.3) |
| | | 197 (5.6) |
| | | 710 (20.3) |
| t r ra at | | 575 (16.4) |
| Fae t a eat s | 1,531 | |
| Baeea a r at r r | | 416 (27.2) |
| r r | | 1,115 (72.8) |
| % F - Fae t ( a , ) | 4,923 | 50 (34 75) |
| t t-t ea Fae t at ( a , a ) | 1,458 | 9 (1 22) |
| 8 | | 682 (46.8) |
| > 9 | | 776 (53.2) |

### Faculty Characteristics Related to Full Approval

Programs with a majority of graduate-educated faculty were marginally more likely (odds ratio [OR] = 1.82, 95% CI = 0.89–3.73, $p = .10$) to receive full approval compared to programs with a majority of faculty with a bachelor's or lower degree. Similarly, programs with a larger proportion of full-time faculty were marginally more likely to receive full approval ($p = .08$) (Table 6).

After adjusting for degree type, programs with a majority graduate educated faculty were found to be 2.80 times more likely (95% CI = 1.22–6.39, $p = .003$) to receive full approval compared to programs with a majority of bachelor's or lower educated faculty (Table 6).

TABLE 6

## Univariable Binary Logistic Regression Results Examining Faculty Characteristics Related to Program Full Approval Status

| Faculty Characteristics | *n* | *OR (95% CI)* | *p* |
|---|---|---|---|
| [illegible] | 3,353 | | .39 |
| Baccalaureate | | 1.63 (0.89 2.99) | .11 |
| [illegible] *(Ref)* | | - | |
| | | 1.17 (0.53 2.51) | .70 |
| | | 1.19 (0.78 1.83) | .42 |
| [illegible] | | 0.88 (0.56 1.37) | .56 |
| Faculty [illegible] | 1,421 | | |
| Baccalaureate [illegible] *(Ref)* | | - | |
| [illegible] | | 1.82 (0.89 3.73) | .10 |
| % Full-time Faculty | 4,353 | | .08 |
| 34 *(Ref)* | | - | |
| 35 50 | | 1.46 (1.06 2.01) | .02 |
| 51 75 | | 1.46 (1.03 2.06) | .03 |
| > 76 | | 1.34 (0.93 1.92) | .11 |
| [illegible] Faculty [illegible] | 879 | | |
| 8 *(Ref)* | | - | |
| > 9 | | 1.51 (0.76 2.99) | .24 |

*Note.* [illegible]

### Program Characteristics Related to Full Approval

Programs that are accredited by a national nursing accreditation body were 2.03 times (95% CI = 1.44–2.87) more likely to receive full approval compared to non-accredited programs ($p < .001$) (Table 7).

Online programs were also 55% (OR = 0.45, 95% CI = 0.27–0.73, $p = .001$) and 51% (OR = 0.49, 95% CI = 0.27–0.73, $p = .001$) less likely to receive full approval compared to in-person and hybrid programs, respectively.

Longer standing and larger enrollment/capacity programs were both more likely to receive full approval (p < .001) compared to new programs (both p <

AB 7

## Univariable Binary Logistic Regression Results Examining Program Characteristics Related to Program Full Approval Status

| Program Characteristics | *n* | OR (95% CI) | *p* |
|---|---|---|---|
| Ar tat | 5,913 | | |
| t aer t (Ref) | | - | |
| Aer t | | 2.03 (1.44 2.87) | < .001 |
| ar a t | 2,156 | | .01 |
| - rs (Ref) | | - | |
| r | | 0.92 (0.62 1.35) | .66 |
| | | 0.45 (0.27 0.73) | .001 |
| r | 4,928 | | .13 |
| / | | 0.69 (0.46 1.04) | .08 |
| A | | 0.67 (0.44 1.01) | .06 |
| B (Ref) | | - | |
| r ra A , | 9,224 | | < .001 |
| 7 (Ref) | | - | |
| 8 23 | | 1.66 (1.30 2.12) | < .001 |
| 24 32 | | 2.92 (2.24 3.79) | < .001 |
| > 33 | | 2.79 (2.05 3.79) | < .001 |
| r t a aet | 3,371 | | .01 |
| 1 32 | | 0.39 (0.22 0.68) | < .001 |
| 33 66 | | 0.66 (0.38 1.14) | .14 |
| 67 123 | | 0.58 (0.34 0.99) | .04 |
| > 123 (Ref) | | - | |
| st at ra at at | 1,466 | | .62 |
| 50% (Ref) | | - | |
| 51% 70% | | 0.84 (0.48 1.46) | .54 |
| 71% 85% | | 1.06 (0.58 1.93) | .86 |
| > 85%+ | | 1.23 (0.67 2.28) | .51 |
| ass at | 8,035 | | |
| 79% (Ref) | | - | |
| > 80% | | 5.34 (4.36 6.54) | < .001 |
| r r ra t s | 1,172 | | |
| 1 (Ref) | | - | |
| > 2 | | 1.70 (1.04 2.77) | .03 |
| r ra | 8,028 | | < .001 |
| r at r t | | 0.73 (0.55 0.96) | .03 |
| r at r- r t | | 0.29 (0.22 0.38) | < .001 |
| e (Ref) | | - | |
| r r ra et rs | 2,879 | 0.86 (0.69 1.07) | .17 |

*Note.* = s rat ; = e t r a ; = rat ea r ; = eat a r ; = s r A = ass e at rs ; B = ae r se rs .

### Relationship Between NCLEX Pass Rates and Faculty Characteristics

The relationship between ≥ 80% NCLEX pass rates and faculty characteristics is illustrated in Table 8. This was a post hoc analysis carried out to uncover all possible faculty characteristics related to program outcomes.

Programs whose director had a PhD were marginally more likely to have NCLEX pass rates ≥ 80% (*p* = .08). In addition, there was a trend toward programs with a greater proportion of full-time faculty having NCLEX pass rates ≥ 80% compared to programs with a smaller proportion full-time faculty (*p* = .11).

**Univariable Binary Logistic Regression Results Examining Program Characteristics Related to NCLEX Pass Rates** *(continued)* finding when examining approval status, but not NCLEX pass rates (*p* = .20). For both full approval and NCLEX pass rates, the percent of full-time faculty (> 35%) was a marginal finding (*p* = .08; *p* = .11).

## A Qualitative Analysis of 5 years of BONs Site Visit Documents

A qualitative study of 5 years' worth of BONs' site visit documents was conducted to better understand the qualifiable descriptors of why programs become at risk for failing or do fail. Specifically, we aimed to answer the following research question:

> What are the warning signs when programs become at risk for failing or do fail?

## Methods

This qualitative descriptive design blended directed-content analysis techniques to generate the findings for this report. Qualitative descriptive designs are the most basic of all approaches to data analysis and seek to identify and describe a phenomenon that is not well understood (Sandelowski, 2000, 2009). Considering that what leads to program failures in nursing is not well defined, a descriptive approach was the best methodological match. NCSBN and AIR researchers collected the data while external experts in qualitative research analyzed the data.

### Document Sample Inclusion and Exclusion Criteria

The analytical sample provided to the team included 2,853 eligible documents from 40 states (Table 10). For each state, first the number of documents per state was counted. Next, the researchers checked whether files were "readable" (in a compatible file format) according to the MaxQDA software. Documents were then reviewed and sorted according to the inclusion and exclusion criteria, adhering to the principles of best practices of systematic reviews. Documents were included for analysis if they were classified as "site" or "survey" visits. Exclusion criteria were as follows:

- Self-study reports/plans
- Letters (e.g., letters of intent, approval letters, etc.)
- Addenda
- Current board status at full approval
- State level summaries of any kind
- Action plans and responses
- Duplicate files
- Accreditation documents
- Spreadsheets
- Signature pages
- State BON annual reports.

AB 10

### Total Site Visit Documents by State

| State/Board | Total Received | Incompatible File Format | Excluded[a] | Total Reviewed |
|---|---|---|---|---|
| A | 3 | 0 | 3 | 0 |
| A | 207 | 34 | 101 | 72 |
| A Z | 35 | 4 | 20 | 11 |
| A- | 409 | 23 | 44 | 342 |
| A- | 53 | 2 | 7 | 44 |
|  | 16 | 0 | 6 | 10 |
|  | 40 | 0 | 40 | 0 |
| A | 4 | 0 | 2 | 2 |
| A | 7 | 0 | 0 | 7 |
|  | 8 | 3 | 8 | 0 |
|  | 13 | 2 | 0 | 11 |
|  | 66 | 10 | 52 | 4 |
|  | 8 | 0 | 8 | 0 |
| A- | 225 | 13 | 197 | 15 |
| A | 92 | 0 | 92 | 0 |
|  | 63 | 9 | 18 | 36 |
|  | 4 | 3 | 0 | 1 |
|  | 4 | 0 | 4 | 0 |

## Total Site Visit Documents by State *(continued)*

| State/Board | Total Received | Incompatible File Format | Excluded[a] | Total Reviewed |
|---|---|---|---|---|
| | 21 | 0 | 21 | 0 |
| | 1 | 0 | 1 | 0 |
| | 18 | 3 | 0 | 15 |
| | 15 | 2 | 0 | 13 |
| | 14 | 0 | 10 | 4 |
| | 22 | 3 | 3 | 16 |
| | 299 | 0 | 0 | 299 |
| | 39 | 0 | 0 | 39 |
| | 32 | 0 | 4 | 28 |
| | 4 | 0 | 4 | 0 |
| | 2 | 0 | 0 | 2 |
| | 52 | 18 | 0 | 34 |
| | 1299.43 ( ) | -0.07 737.106 (14) 0 e 0 | -0.09 e 0.008 A06 0 | (18) 0 e 0 8 e 0.008 6 -55.582 - |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

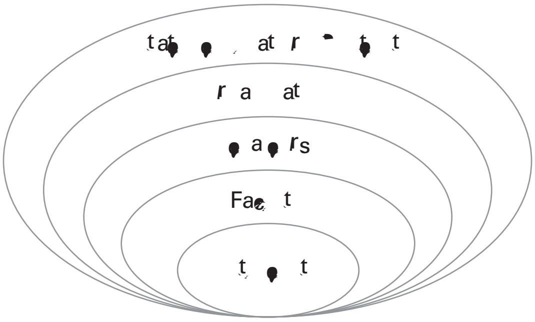
[redacted]

[redacted]

[redacted]

Figure 3

A Socioecological Perspective on Factors Contributing to At-Risk Status of Nursing Education Programs



The findings are presented by the three overarching themes that emerged from the analysis followed by the categorical presentation of findings associated with the theoretical framework.

## Emerging Themes

### Theme 1: Site Visit Triggers

Site visit triggers are defined as the issue or issues that triggered a review of the program via a site or survey visit. The main signal for a “site visit trigger” was NCLEX pass rates ≤ 80% for 4 or more quarters. The length of time it took to trigger a site visit related to NCLEX performance concerns varied by state regulations. Other site visit triggers were associated with student complaints about the program, clinical site complaints about the program or students, and/or public formal complaints about a program or its graduates.

  - English
    - First language
    - Other languages
  - Presence of children younger than 18 years in the home
  - Need to work while attending the program
- Program admission

#### [illegible]

Teaching and learning resources were a critical subtheme for faculty. Even qualified faculty would have trouble doing their jobs if teaching and learning resources were not available or poorly managed. Teaching and learning resources were also tied directly to the leader's ability to procure them resources for faculty and the organization's management.

Key teaching and learning resources that appear tied to a program's risk for failure fell into three categories: (a) teaching resources, (b) physical instructional resources, and (c) quality of materials. Using NCLEX test preparation materials and online supplemental instructional resources with classroom and clinical instruction appeared linked to satisfactory NCLEX pass rates. The brand of these materials did not matter. A survey of programs may produce insights as to which brands are most effective, but it also may be linked to student demographic data.

#### [illegible]

Physical resources include the quality of materials in the simulation laboratory, the quality of other physical instructional resources for teaching and learning, and whether full- or part-time faculty had private office space for student meetings or their own work. Office space for adjunct faculty did not appear significant, but the ability to reserve a conference room to meet with students was important for them. Programs that lacked simulation laboratory accreditation appeared at higher risk for failure. Broken mannequins or equipment, out-of-date materials, and a lack of equipment for medication administration were common issues cited.

The quality of materials is defined as whether teaching materials were prepared and managed according to the course outcomes in the syllabi and were consistent in their design with internal policies. It was not uncommon for site visitors to find that the content of a class did not match the approved course description or outcomes. The more classes with issues, the more likely the program was to have prolonged performance issues on NCLEX. However, it was not always possible to follow up on NCLEX performance at a school level after a probationary citation because of variations in state transparency around problem program reporting.

#### *Leadership of the Nursing Program*

Nursing program leadership had three dimensions that appeared to affect the risk of a program failing or falling under review. The first was when the director of the nursing program, through organizational consolidation, was placed in charge of other allied health and/or vocational programs. These added responsibilities often came without the addition of an assistant director who could manage the day- to-day operations of the nursing program. The additional responsibilities detracted from program quality, a factor that was also reflected in student feedback. It is another "symptom" of potentially problematic program management practices.

The second leadership dimension appears to be tied to the degree qualifications of a director. Doctoral-level education appeared to mitigate against a lack of academic administrative experience, though the exact effect of why this level of education appeared to be protective against program failure is not yet clear and would merit further exploration. It may be that individuals with doctorates have more diversity of work experience in general and that the training provided additional skills that facilitated program management. It was clear that directors in charge of programs that did not have a college or university affiliation and whose leaders were only prepared at the master's level were at greater risk for failure. Because demographic data about these individuals were not available, it was difficult to determine why this finding occurred in the reports; however, it was consistently observed.

The final nursing program leadership issue that arose frequently was when a nurse was not in charge of the program. This could be either due to the position being vacant for a long period or higher administration not thinking a nurse needed to oversee the program despite the regulatory context dictating otherwise. Both factors were more common in for- profit programs than other types.

#### *Educational Organizations*

Educational organizations had other specific issues that emerged as distinct categories in the analysis—namely, organizational changes and resources, which could influence program success or failure.

Organizational changes are changes in schools with other degree-granting programs where administration decided to make changes based on economic efficiencies. Sometimes, these changes masked broader financial problems for the parent institution overall. Also, changes could add or decrease responsibilities for nursing faculty. From the reports, it appears that 1 to 3 years after these changes, programs are at risk for changes in NCLEX performance, which increase the risk of probation. The longer performance issues persist after these changes, the more likely the program would transition from probation to failing. These trends likely reflected the nursing program leadership's ability to navigate existing faculty through the changes or how they managed higher faculty turnover rates that are often associated with organizational change of any kind.

Resources provided by organizations to facilitate nursing education were another factor that was often missing. While often monetary in nature, resources include (but are not limited to) student affairs support, administrative support, libraries, and information technology.

It is important to note that we observed that for-profit schools appeared to trigger more site visits than nonprofit or state schools. This was especially true for LPN/LVN programs.

### *State Regulatory Context*

It was clear the regulatory context of the program approval of nursing education had a positive effect in terms of holding the programs accountable for standards. This was particularly true related to the minimum requirements for faculty. It held whether or not the program was accredited by a national accrediting agency.

Probationary and failure consequences varied in the length of time schools had to address their deficiencies. Unsurprisingly, shorter periods usually meant increased chance of failure. A shorter period also meant that schools had to rely on obtaining resources to hire consultants to help them address deficiencies.

Without a standardized chart to compare regulatory contexts for nursing education, our ability to compare between states to determine the associations with geographic, socioeconomic, and other factors was limited.

## Limitations

Despite the volume of documents that served as the initial sample size, there were a number of problems with file management that may have precluded a larger sample size or fully complete analysis of all site or survey visits. These include:

## SUMMARY

This comprehensive literature review and three-part national study provides substantial evidence-based criteria for identifying quality indicators of successful and high-risk nursing education programs to effectively recommend guidelines for nursing education approval. These criteria include quality indicators and warning signs related to: (a) organizational requirements and processes, (b) program leadership, (c) faculty quality and requirements, and (d) curriculum and clinical program components.

### Organizational Requirements, Policies, and Processes

Administrative processes, such as a lack of policies and procedures, were found in both the site visit study and the literature review as being problematic for nursing programs. The literature review, Delphi study, and site visit study all emphasized the importance of collecting data to establish policies and procedures and to evaluate the nursing program based on the data collected. A major theme identified in the site visit study was that programs that fail to collect data to set admission, progression, and student performance standards received doweme is tdn

### Faculty Quality and Requirements

The quality of faculty is at the core of a successful nursing program. Having consistent, full-time faculty (at least 35% full-time faculty, as opposed to adjunct or part-time faculty) in a nursing program predicts full approval and higher NCLEX pass rates according to the annual report study. The literature review also found that the full-time faculty percentage was linked to higher NCLEX pass rates, and the Delphi study reported consistent, full-time faculty as an essential element in a nursing program. The site visit study found high faculty turnover and the inability to recruit qualified faculty were linked to poor NCLEX performance.

Both the annual report and site visit studies demonstrated that a lack of a graduate degree for faculty was linked to less than full approval status. Additionally, as seen in the site visit study, faculty with little training in basic pedagogies was a persistent theme in failing programs. Faculty in programs that were failing often had no training in teaching, having transitioned directly from clinical practice to education. Likewise, they had heavy workloads and limited new faculty mentorship opportunities. The site visit study cited the lack of substantive and ongoing faculty development opportunities as an important element of failing nursing programs. The literature review and Delphi study also cited faculty development as important factors in successful nursing programs.

The literature review, Delphi study, and site visit study all identified current clinical experiences as a critical element of successful nursing programs. The site visit study found that schools where faculty had not provided direct patient care in the past 5 years appeared to have outdated teaching experiences and were not teaching the latest technological advances. There are many ways a program could provide their students with faculty who are clinically competent. They might, for example, develop partnerships with practice, such as dedicated education units, in which the faculty lead the clinical experiences but experienced nurses work directly with their students.

The site visit study also found that in programs that lost approval, faculty did not have the resources needed to teach. For example, faculty lacked the ability to reserve a conference room to meet with students or equipment in their learning and simulation laboratories was missing or broken. Likewise, the quality of the syllabi was often questionable in underperforming programs; for example, it was typical that the content of the classes did not match the course descriptions or outcomes.

### Curriculum and Clinical Experiences

The annual report study found hybrid education was a predictor of 80% or higher NCLEX pass rates and that online education predicted the program was less likely to be approved.

Quality and safety concepts, such as the QSEN competencies, were identified in the literature review and Delphi study as important elements of nursing curricula. However, more research on whether integrating QSEN into the curriculum is associated with better outcomes is needed.

According to the site visit study, many failing schools had no overarching philosophy and curricular framework that tied the curriculum together. This resulted in curricula that were task-oriented, masking themselves as being “competency-based.” The literature review and Delphi study highlighted that clinical judgment is critical to thread throughout the curricula but provided little detail on specifically how to do that, though that literature is growing.

The literature review, Delphi study, and site visit study all found quality clinical experiences and simulation to be critical for successful nursing programs. Clinical experiences with actual patients in a variety of clinical settings were found to be important. BONs should evaluate the relationship the program has with its clinical partners, looking for collaboration between the nursing program and practice sites. Programs that lost BON approval often had a limited number of clinical sites, and their parent organizations did not allocate enough resources (such as clinical faculty) toward clinical learning experiences according to the site visit study. Likewise, in weaker programs, supplemental instructional resources (such as videos and online modules) were lacking. The literature review found the following to be important areas to include in clinical experiences: (a) clinical reasoning, (b) delegation, (c) electronic data management, (d) emergency procedures, (e) interprofessional communication, (f) knowledge of pharmacology, (g) leadership, (h) time management, and (i) understanding pathophysiology.

As documented in the literature review, Delphi study, and site visit study, quality simulation is an important element of a successful nursing program and is an important curricular component for BONs to evaluate. The site visit study found the quality of the materials in the simulation laboratory was poor with broken or out-of-date materials in failing programs. Often there was a lack of equipment for teaching medication administration, a critical curricular element. Simulation laboratory accreditation should be mandated for all programs substituting simulation for direct care clinical experiences.

National nursing accreditation of the nursing program is associated with higher NCLEX pass rates, as seen in the literature review, Delphi study, and annual report study, although we are not sure why. It may be that the more seasoned and successful programs seek national nursing accreditation. More research should be conducted to clarify the reasons. While most BSN programs are nationally accredited, only about 53% of ADN programs and 11% of LPN/LVN programs are accredited (Silvestre, 2020). Currently, about half the BONs require programs to be nationally nursing accredited.

## Conclusion

In their missions of public protection, the BONs have called for nursing education quality indicators and warning signs as they approve nursing programs. This literature review and three-part mixed-methods study have provided robust and specific data for developing evidence-based and legally-defensible approval guidelines. From this evidence, a site visit template (Appendix D) was developed for BONs to use when making site visits, and an annual report template (Appendix E) was developed for collecting core data on an annual basis. The annual report template will enable the collection of core, consistent data across the BONs, thus allowing for continuing data analysis and making the guidelines a living document that will change based on new data. Part III presents the approval guidelines.

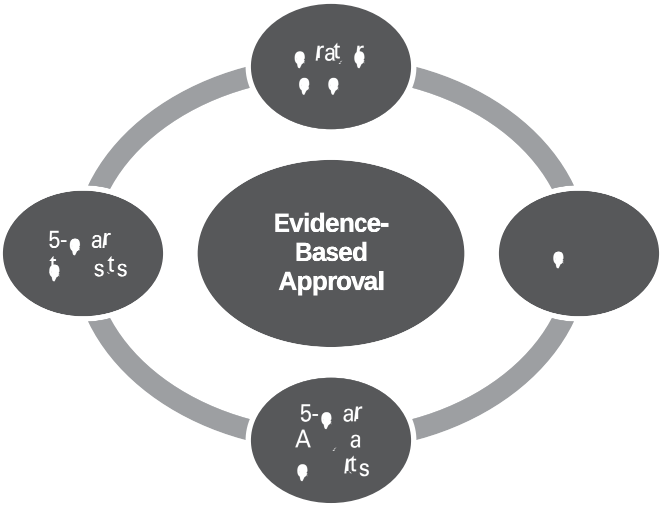
# [illegible]

## Introduction

Considering the literature and study evidence presented, NCSBN invited a group of research, education, regulatory, and legal experts (Table 11) to analyze the data together and make recommendations for evidence-based, legally defensible guidelines for nursing regulatory bodies (NRBs) and nursing education programs (Figure 4). It is hoped that these guidelines will increase collaboration between regulators and educators, allow for transparency in the approval process, help NRBs avoid antitrust issues, and provide criteria that allow NRBs to intervene prior to programs falling below standards.

Figure 4

**Evidence-Based Model for Nursing Education Program Approval**



The guidelines allow NRBs to use the evidence-based quality indicators to provide guidance on where the nursing program needs to act. NRBs will also be able to identify warning signs and high-risk programs, from either site visits (Appendix D) or annual reports (Appendix E), and to take action *before* a program falls below standards. This will enable the BONs to be proactive rather than reactive. The evidence for the quality indicators and warning signs can be found in Table 12. The site visit template (Appendix D) was developed from the evidence and can be used by NRBs during site visits. Additionally, the annual report core data template (Appendix E) was devised from the quantitative data and can be used by BONs to collect critical nursing education data.

8. Formal mentoring of new full-time and part-time faculty takes place by established peers.
9. Formal orientation of adjunct clinical faculty occurs.
10. Clinical faculty have up-to-date clinical skills and have had experience in direct patient care in the past 5 years.
11. Simulation faculty are certified.

#### Students

1. The nursing program should ensure the following are in place to assist students:
    a. English as a second language assistance is provided.
    b. Assistance is available for students with learning disabilities.
    c. All students have books and resources necessary throughout the program and strategies are in place to help students who can't afford books and resources.
    d. Remediation strategies are in place at the beginning of each course and students are aware of how to seek help. This should include processes to remediate errors and near misses in the clinical setting.

#### Curriculum and Clinical Experiences

1. At least 50% or more of clinical experience in each clinical course is direct care with patients.
2. Variety of clinical settings with diverse patients.
3. Opportunities for quality and safety education integrated into the curriculum, including delegating effectively, emergency procedures, interprofessional communication, and time management.
4. Systematic evaluation plan of the curriculum is in place.

#### Teaching and Learning Resources

1. The simulation laboratory is accredited.
2. Students have access to a library, technology, and other resources.
3. Programs are able to assess students with learning disabilities and tailor the curriculum to meet their needs.

## Warning Signs

NRBs should intervene early when programs experience the following warning signs. The evidence indicates these programs could be identified either from site visits or annual reports (Table 12). The warning signs include:

1. Complaints to BONs or other NRBs from students, faculty, clinical sites, or the public.
2. Turnover of program directors (more than three directors in a 5-year period).
3. Frequent faculty turnover/cuts in numbers of faculty.
4. Trend of decreasing NCLEX pass rates.

#### High-Risk Programs That May Need Additional Oversight

If a program has been in operation for 7 years or fewer, it may need additional oversight because the NRB does not have a history with that program. This recommendation is supported by the literature review, the annual report study, and the site visit study. Additional oversight may include more frequent progress reports related to the number of students, faculty qualifications, stability of the program director, and NCLEX pass rates, in addition to the regularly collected annual reports. If there is concern, the BON may make a focused visit to the program to further assess and possibly make recommendations.

## Supportive Evidence for the Approval Guidelines

Evidence supporting how each warning sign and quality indicator is linked to the evidence is presented in Table 12.

TABLE 12

### Evidence Supporting Guidelines for Quality Indicators and Warning Signs

| Quality Indicators | Evidence |
|---|---|
| ***Administrative Requirements*** | |
| 1. [illegible] | [illegible] |
| 2. [illegible] | [illegible] |
| ***Program Director*** | |
| 1. [illegible] | [illegible] |
| 2. [illegible] | [illegible] |
| ***Faculty*** | |
| 1. [illegible] 35% [illegible] | [illegible] |
| 2. [illegible] | [illegible] |
| 3. [illegible] | [illegible] |
| 4. [illegible] | [illegible] |
| 5. [illegible] | [illegible] |
| 6. [illegible] | [illegible] |
| 7. [illegible] | [illegible] |
| 8. [illegible] | [illegible] |
| 9. [illegible] 5 [illegible] | [illegible] |
| 10. [illegible] | [illegible] |
| ***Students*** | |
| [illegible] | [illegible] |

*(continued)*

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A A

A B1

## The Johns Hopkins Evidence Levels and Quality Ratings

| Level and Quality Rating | Description |
|---|---|
| [illegible] | [illegible] |
| [illegible] | [illegible] |
| [illegible] | [illegible] |
| ***Quality Rating*** | ***For Level I-III Evidence – Quantitative Studies*** |
| A | [illegible] |
| B | [illegible] |
| [illegible] | [illegible] |
| ***Quality Rating*** | ***For Level I-III Evidence – Qualitative Studies*** |
| A/B | [illegible]<br>*Transparency* [illegible]<br>*Diligence* [illegible]<br>[illegible]<br>*Self-reflection and scrutiny* [illegible]<br>*Participant-driven inquiry* [illegible]<br>*Insightful interpretation* [illegible] |
| [illegible] | [illegible] |
| [illegible] | [illegible] |
| ***Quality Rating*** | ***For Level IV Evidence*** |
| A | [illegible] 5 [illegible] |
| B | [illegible] 5 [illegible] |
| [illegible] | [illegible] 5 [illegible] |
| [illegible] | [illegible] |
| ***Quality Rating*** | ***For Level V Evidence – Organizational Experience (QI, program, or financial evaluation)*** |
| A | [illegible] |
| B | [illegible] |
| [illegible] | [illegible] |
| ***Quality Rating*** | |
| | |
| | |
| | |

| Citation | Type of Publication | Purpose | Key Findings | Evidence Level[a] |
|---|---|---|---|---|
| [illegible] (2017) | [illegible] | [illegible] 183 [illegible] | [illegible] 94% [illegible] | B |
| [illegible] & [illegible] (2008) | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] (2018) | [illegible] | [illegible] | [illegible] | A |
| [illegible] (2018) | [illegible] | [illegible] | [illegible] (1) [illegible] (2) [illegible] (3) [illegible] (4) [illegible] | A* |
| [illegible] & [illegible] (2011) | [illegible] | [illegible] | [illegible] | A |
| [illegible] (2007) | [illegible] | [illegible] a1249. [illegible] 0 [illegible] 0 8.075 0 0 83.7 96 405 5721.826 (-) -0.008 [illegible] -0.0 | | |

| Citation | Type of Publication | Purpose | Key Findings | Evidence Level[a] |
|---|---|---|---|---|
| r & A ars<br>(2017) | r-r<br>art | s ar s r a -<br>88 rs at . 0 | a7-r | |
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| Citation | Type of Publication | Purpose | Key Findings | Evidence Level[a] |
|---|---|---|---|---|
| [illegible] (2014) | [illegible] | [illegible] | [illegible] (1) [illegible] (2) [illegible] (3) [illegible] (4) [illegible] (5) [illegible] | A/B |
| [illegible] (2016) | [illegible] | [illegible] (*n* = 201) [illegible] | [illegible] | B |
| A [illegible] (2018) | [illegible] | [illegible] | [illegible] (1) [illegible] (2) [illegible] (3) [illegible] (4) [illegible] (5) [illegible] (6) [illegible] (7) [illegible] | A |
| A [illegible] (2016) | A A [illegible] | [illegible] | [illegible] | A |
| A [illegible] (2016, [illegible] 57 80) | [illegible] | [illegible] | [illegible] | A |
| [illegible] (2016) | [illegible] | [illegible] | [illegible] | A |

| Citation | Type of Publication | Purpose | Key Findings | Evidence Level[a] |
|---|---|---|---|---|
| [illegible] (2017) | B | [illegible] | [illegible] | A |
| [illegible] (2017) | [illegible] | [illegible] | [illegible] | A |
| [illegible] & [illegible] (2007) | [illegible] | [illegible] | [illegible] | A |
| [illegible] (2019) | [illegible] | | | |
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B

| Citation | Type of Publication | Purpose | Key Findings | Evidences |
|---|---|---|---|---|
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A [illegible]

## Site Visit Template

**Use of the Site Visit Template:**

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

***Program***

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]

6. [illegible] (B[illegible] ar-[illegible])

   a. [illegible] status.

   . [illegible]

   . [illegible] 18 [illegible] ars [illegible].

   . [illegible]

   . [illegible] ( A), A /A[illegible]

A [illegible]

## Annual Report Core Data Template

### Prelicensure Annual Report Core Data

#### *Introduction*

[illegible]

[illegible]

[illegible]

#### *Directions*

[illegible] 30 [illegible] 2 [illegible]

#### *Contact Information*

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] (10- [illegible] 99999999)

#### *Program*

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible] (4- [illegible])
7. [illegible] 8 [illegible] 9
8. (7) [illegible]
9. [illegible] 11 [illegible] 10 [illegible] 10
10. [illegible]

[illegible]

13. [illegible]

14. [illegible]

15. [illegible]

16. [illegible]

17. [illegible]

18. [illegible]