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IND Readiness Diagnostic:

12 Questions Sponsors Should Answer Before Submitting

A Practical Self-Assessment for Sponsors Preparing for an Investigational New Drug (IND) Submission

The IND Is More Than a Filing Milestone

For many sponsors, the Investigational New Drug (IND) submission marks the moment a development program moves from scientific discovery into clinical reality. It is often viewed as a procedural regulatory requirement: assemble the data, prepare the modules, and submit the application.

In reality, an IND submission represents a strategic regulatory inflection point.

The quality of the submission and the strategic decisions behind it can influence:

- FDA review timelines
- Clinical hold risks
- Early regulatory alignment
- Investor confidence
- The long-term viability of the development program

A well-constructed IND submission demonstrates more than compliance. It demonstrates that a sponsor understands the regulatory expectations for safety, manufacturing control, and clinical development planning.

Conversely, incomplete preparation, unclear development strategy, or misaligned documentation can trigger FDA questions, review delays, or clinical holds.

Many of these risks originate months before the IND is submitted.

This diagnostic guide provides 12 key questions sponsors should answer before submitting an IND. These questions reflect the areas where FDA reviewers most commonly identify gaps during the early review process.

Sponsors who can confidently answer these questions are typically better positioned for:

- Efficient FDA review
- Productive early agency interactions
- Stronger development program execution

How to Use This Diagnostic

This guide is designed as a self-assessment tool for sponsors preparing for a Pre-IND meeting or IND submission.

For each question, consider whether your organization can answer:

- Yes – fully addressed
- Partially – work in progress
- No – gap identified

Areas marked as partially addressed or gaps represent potential IND readiness risks that should be resolved prior to submission.

Section 1: Regulatory Strategy

1. Is Your Regulatory Development Strategy Clearly Defined?

Before submitting an IND, sponsors should have a clearly articulated regulatory strategy that explains how the program will progress from first-in-human studies to eventual marketing authorization.

Key elements include:

- Target indication and patient population
- Development pathway and clinical milestones
- Opportunities for expedited programs (Fast Track, Breakthrough Therapy, RMAT, Orphan Drug)
- Alignment with FDA expectations for similar products

Without a defined regulatory strategy, development programs can encounter misalignment with FDA expectations early in clinical development.

2. Have You Identified Key Regulatory Risks in Your Program?

Every development program carries regulatory risk.

Successful sponsors proactively identify potential concerns before submitting an IND, such as:

Key elements include:

- Nonclinical safety concerns
- Complex manufacturing processes
- Novel mechanisms of action
- Uncertainty around clinical endpoints

Documenting these risks early allows sponsors to prepare mitigation strategies and engage FDA proactively when appropriate.

3. Is Your Pre-IND Meeting Strategy Fully Developed?

A Pre-IND meeting provides an opportunity to align with FDA before submitting an IND.

However, the value of the meeting depends heavily on preparation.

Sponsors should ensure that:

- The briefing package clearly articulates the development strategy
- Key questions are focused and actionable
- Cross-functional teams (clinical, CMC, regulatory, nonclinical) are aligned
- Responses from FDA can directly inform IND preparation

Poorly structured Pre-IND meetings often result in limited actionable feedback.

Section 2: Nonclinical Readiness

4. Are Your Nonclinical Studies Adequate to Support First-in-Human Dosing?

FDA reviewers carefully evaluate whether nonclinical data sufficiently support the proposed starting dose and clinical trial design.

Sponsors should confirm that:

- Safety pharmacology studies are complete
- Toxicology studies support the proposed duration of clinical exposure
- Dose justification is clearly documented
- Relevant species selection is scientifically justified

Incomplete or poorly justified nonclinical programs are among the most common causes of clinical hold decisions.

5. Is Your Starting Dose Justification Clearly Documented?

The IND must demonstrate that the proposed starting dose is safe for human testing.

This typically includes:

- No Observed Adverse Effect Level (NOAEL) analysis
- Safety factor justification
- Translational modeling where appropriate

Sponsors should ensure that the rationale for dose selection is clearly documented and scientifically supported.

Section 3: CMC Readiness

6. Is Your Manufacturing Process Sufficiently Defined?

FDA expects sponsors to demonstrate adequate control of manufacturing processes before initiating clinical trials.

Sponsors should be prepared to document:

- Drug substance manufacturing methods
- Process controls and reproducibility
- Analytical methods and specifications
- Batch consistency

Early manufacturing uncertainty can create regulatory questions during IND review.

7. Is Your CMC Documentation IND-Ready?

Even in early development, the CMC section must provide sufficient detail to assure FDA that the investigational product can be consistently manufactured and controlled.

Key considerations include:

- Raw material controls
- Impurity profiles
- Stability data
- Container closure systems

CMC deficiencies are one of the most common sources of IND information requests during review.

Section 4: Clinical Study Planning

8. Is Your First-in-Human Protocol Designed to Address Safety and Development Goals?

The proposed clinical protocol should demonstrate that patient safety has been prioritized while still generating meaningful development data.

FDA will evaluate:

- Inclusion and exclusion criteria
- Dose escalation strategy
- Safety monitoring plans
- Stopping rules

Protocols that are overly aggressive or poorly justified may raise safety concerns.

9. Are Your Clinical Endpoints Aligned with Long-Term Development Goals?

Early clinical trials should generate information that supports future development decisions.

Sponsors should consider:

- Biomarkers or pharmacodynamic measures
- Early indicators of efficacy
- Data that will support later regulatory discussions

Aligning early trials with long-term development strategy improves efficiency.

Section 5: Submission Readiness

10. Is Your IND Organized for Efficient FDA Review?

Even when the science is sound, poorly organized submissions can slow FDA review.

Sponsors should ensure:

- Clear structure and logical flow
- Consistent cross-references between modules
- Well-written summaries for reviewers

An IND submission should enable FDA reviewers to quickly understand the program.

11. Have You Conducted a Cross-Functional Readiness Review?

Successful IND submissions typically involve extensive coordination across multiple disciplines.

Before submission, sponsors should conduct an internal review involving:

- Regulatory strategy
- Clinical development
- CMC teams
- Nonclinical experts

This process often identifies issues that may otherwise surface only during FDA review.

12. Are You Prepared to Respond to FDA Questions Quickly?

Following submission, FDA may issue information requests or clarification questions during the review period.

Sponsors should be prepared with:

- Internal subject matter experts available to respond
- Rapid access to source data and documentation
- Clear regulatory leadership managing responses

Timely responses help maintain review timelines and build credibility with regulators.

Common IND Readiness Gaps

Across many development programs, several recurring challenges appear during IND preparation:

- Incomplete regulatory strategy alignment
- Insufficiently defined manufacturing processes
- Nonclinical packages that do not fully support proposed clinical dosing
- Clinical protocols that do not adequately address safety concerns

Identifying these issues early allows sponsors to address them before submission.

The Value of an IND Readiness Assessment

An independent readiness assessment can help sponsors identify potential regulatory gaps before submission.

These assessments typically include:

- Regulatory strategy evaluation
- Nonclinical and clinical program review
- CMC documentation assessment
- Submission structure and quality review

The goal is not simply to prepare a submission, but to ensure that the entire development program is positioned for regulatory success.

How ProPharma Supports IND Submissions

ProPharma supports sponsors across the full lifecycle of regulatory submissions, including:

Pre-IND Strategy Development

- Regulatory pathway analysis
- Pre-IND meeting preparation and briefing packages
- FDA engagement strategy

IND Preparation and Submission

- Regulatory authoring and submission assembly
- Nonclinical and CMC gap assessments
- Clinical protocol design

FDA Interaction Support

- Agency response strategy
- Clinical hold remediation
- Ongoing regulatory guidance throughout development

Our global team of regulatory experts, including former FDA reviewers, works with sponsors to develop submission strategies that withstand regulatory scrutiny and support efficient clinical development.

Take the Next Step

If your organization is preparing for a Pre-IND meeting or IND submission, an early readiness assessment can help identify potential gaps before they become regulatory delays.

Connect with ProPharma's regulatory experts to discuss your IND strategy and submission readiness.

Preparing for an IND Submission?

Schedule an IND readiness consultation with our regulatory experts.

Contact us to learn how our experienced team can help ensure successful outcomes throughout the product lifecycle

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