Ovarian Cancers:
Evolving Paradigms in Research and Care

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Death to incidence ratio of ovarian cancer is more than 3 times that of breast cancer, 8 times that of endometrial cancer, and almost 13 times that of cervical cancer.
Compared to other female cancers, ovarian cancer is more likely to be diagnosed at an advanced stage.
Ovarian Carcinomas

- High-grade serous carcinoma: 70% - 74%
- Carcinosarcoma: 2% - 6%
- Endometrioid carcinoma: 3% - 5%
- Clear cell carcinoma: 7% - 24%
- Low-grade serous carcinoma: 1% - 7%
- Mucinous carcinoma: 0.6% - 7.1%
- Other*: 11% - 26%
Statement of Task

An ad hoc committee under the auspices of the Institute of Medicine will review the state of the science in ovarian cancer and formulate recommendations for action to advance the field. The committee will:

• Summarize and examine the state of the science in ovarian cancer research,
• Identify key gaps in the evidence base and the challenges to addressing those gaps,
Statement of Task (continued)

• Consider opportunities for advancing ovarian cancer research, and
• Examine avenues for translation and dissemination of new findings and communication of new information to patients and others.

The committee will make recommendations for public- and private-sector efforts that could facilitate progress in reducing the incidence of and morbidity and mortality from ovarian cancer.
Research Gaps

- Research by ovarian cancer subtype
- Genetic and non-genetic risk factors
- Screening and early detection tools
- Delivery of standard of care
- Precision medicine approaches
- Attention to supportive care needs
Overarching Concepts

1. Prioritize study of high-grade serous carcinoma

2. More subtype-specific research needed to define subtype characteristics

3. Collaboration is essential
   a. Pooling and sharing of data and biospecimen resources
   b. Use of consortia

4. Dissemination and implementation are final steps for knowledge translation
Stakeholders

• U.S. Congress
• Federal Agencies
• Private Foundations
• Industry
• Academic Institutions
• Professional Societies
• Advocacy Groups
• Others
Areas of Recommended Research

- Biology of ovarian cancers
- Risk assessment, screening, and early detection
- Diagnosis and treatment
- Supportive care along the survivorship trajectory
- Dissemination and implementation of knowledge and interventions
Recommendation 1

- Design research agendas in the context of the different subtypes
- Top priority: cellular origins and pathogenesis
- Tumor characteristics
- Development of better model systems
Recommendation 2

- Reach consensus on diagnostic criteria, nomenclature, and classification schemes that reflect the morphological and molecular heterogeneity of ovarian cancers
- Promote universal adoption of standardized taxonomy
Recommendation 3

• Strategies to increase genetic counseling and testing
• Cascade testing
• Testing for germline mutations beyond *BRCA1* and *BRCA2* and mismatch repair genes associated with Lynch Syndrome.
Recommendation 4

- Underlying mechanisms of new and established risk factors (genetic and nongenetic)
- Develop and validate a dynamic risk assessment tool
- Spectrum of risk factors including genetics, hormonal and other biological markers, behavioral and social factors, and environmental exposures.
Recommendation 5

• Quantify risk-benefit balance of nonsurgical and surgical prevention strategies for specific subtypes and at-risk populations
Recommendation 6

• Quantify risk-benefit balance of nonsurgical and surgical prevention strategies for specific subtypes and at-risk populations
Recommendation 7

- Reduce disparities in health care delivery and outcomes
- Consistent implementation of current standards of care
- Link to quality outcome metrics
Recommendation 8

- Comprehensive clinical, histopathologic, and molecular characterizations to better inform precision medicine approaches
- Mechanisms of recurrent and drug-resistant disease and develop more informative classification system
- Predictors of response to therapy and near-term indicators of efficacy
- Optimal type and timing of surgery
Recommendation 9

- More effective pharmacologic and nonpharmacologic therapies and combinations of therapies
- Immunologic and molecularly driven treatment approaches specific to subtype
- Markers of therapeutic resistance and exceptional response
- Interdisciplinary teams to design and conduct statistically efficient and information-rich clinical studies
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Innovative Research Designs

Intervention Development

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Diagnosis & Treatment

Secondary Prevention & Monitoring for Recurrence

Long-Term Survivorship

Management of Recurrent Disease

End-of-Life Care

Methods to Reduce Practice-Related Disparities

Supportive Care Research & Practice

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Recommendation 10

- Supportive care needs along survivorship trajectory
- Factors that put women at high risk for poor physical and psychosocial outcomes
- Barriers to systematic assessment of physical and psychosocial effects of diagnosis and treatment
- Supportive care and self-management interventions
- Parameters for transitioning to end-of-life care
Recommendation 11

• Methods for rapid dissemination and implementation of evidence-based information and practices
• Impediments to adopting evidence-based practices
• Multiple dissemination modalities
• Newer pathways of dissemination and implementation