OUR MISSION

We are more than a Department; we are the nexus that unites the province of British Columbia for quality and innovation in care, education, and discovery to optimize the health of women.
The academic year drawing to a close has been a period of new growth and reflection for the Department. We have added new faculty members across the Province, from Vancouver Island to the Lower Mainland, to the Southern Medical Program. Drs. Chris Ng, Shelley La Berge and Amber Burridge joined the faculty in the Southern Medical Program, Drs. Pamela Calderon, Stephanie Johnson, Kimberly Louie, Vanessa Nicolau-Toulouse, and John Tierney in Fraser Health Authority, Drs. Nicole Todd, Janet Lyons, and Nadia Branco, joined the faculty at BC Women’s Hospital, Drs. Flora Teng, and Andrea Massey at St. Paul’s Hospital, Drs. Marette Lee, and Gillian Hanley at Vancouver General Hospital, and Drs. Trevor Cohen, Fiona Liston and Sherri Hancock in the Island Medical Program.

People make the Department what it is - they our greatest asset and allow us to deliver our academic mandate. We are lucky to attract such wonderful talent.

We enlisted new leadership this year as well, including Dr. Ken Lim, who took on the role of Head of the Division of Maternal Fetal Medicine, and Dr. Francine Tessier, who took on the role of Program Director for the Fellowship in Maternal Fetal Medicine. We also welcome Professor KS Joseph into a newly created role, the Associate Head of Research. In this position, Dr. Joseph, an internationally acclaimed epidemiologist, will provide strategic leadership and integration of the research mission for the Department. This position of Associate Head was a recommendation of the 5-year External Review that was completed in the fall of 2014. We appreciate the Faculty of Medicine’s investment in our Department by commissioning the External Review and we are grateful for the time and expertise of the team that completed it. It was a positive review that supported the strategic direction of the Department. Based on their endorsement, the Department will continue to pursue the Strategic Plan developed in the spring of 2014.

The Department is heavily invested in education and investigation, and strives to maximize the value of research through developing translational research programs and active knowledge translation. Towards this goal, we partner with other departments, research institutes, and hospital authorities to deepen and strengthen our investigational foundation. OVCARE is an example of a multi-disciplinary team pursuing research across the spectrum of ovarian cancer. The OVCARE team brings together pathologists, oncologists, gynaecologic oncologists and gynaecologists. Initial work on the genomics of ovarian cancer cells led to a paradigm shift in the taxonomy of ovarian cancer, but also provided fertile ground for new methods of diagnosis and prevention that have now opened a new research line in health economics and care delivery.

This year’s annual report highlights several cross-cutting research programs and innovative education initiatives in the Department that will introduce you to the types of work we do.

We are working to foster collaborative research interactions by supporting multidisciplinary research initiatives and striving to make them competitive for funding opportunities. At the same time, we are endeavoring to accomplish knowledge translation by communicating our findings in an accurate and timely fashion to all stakeholders locally, provincially, nationally, and globally. Our partners are essential to our success, and this includes scientists and educators in other disciplines and locations, as well as the philanthropists that invest in our work. This year we add the third endowed position in the last 5 years and without this generosity and the confidence in our work that such a gift bestows, we would not have achieved what we have in the past year.

I want to thank not only our donors for their support but also the hard work and dedication of the faculty and staff to meet our vision of advancing excellence in women’s health.
Dr. Huntsman and his team at OVCARE are at the forefront of utilizing next-generation sequencing technologies to identify the genetic underpinnings of disease. OVCARE has been one of the first successful users of this technology - working in collaboration with Dr. Marco Marra at the Michael Smith Genome Sciences Centre. The OVCARE team has discovered the mutations which are the root cause of several ovarian cancer types including granulosa cell tumour of the ovary, clear cell and endometrioid ovarian cancer, Sertoli-Leydig cell tumour, and small cell carcinoma of the ovary, hypercalcemic type. The team has published three high impact studies in the New England Journal of Medicine (2009, 2010, 2012), and most recently published their discovery of SMARCA4 mutations in small cell carcinoma of the ovary, in Nature Genetics. This study was voted as one of the most significant discoveries in the field of oncology by the American Society of Clinical Oncology (ASCO) in 2014.

Through analysis of the full genomes of diseased and normal tissue, researchers are able to gain a unique perspective of the causes of disease and potential disease management strategies. While this approach is perhaps best suited for the study of cancer, the strategy is now being applied in other domains as well.

In 2013, OVCARE embarked on a new frontier: Endometrial Cancer – this initiative is being led by Drs. Jessica McAlpine and Aline Talhouk (statistician). In this disease, Drs. McAlpine and Talhouk have used pre-existing data from an international study named the Cancer Genome ATLAS (TCGA) in which several hundred endometrial carcinomas (cancers of the uterus) were subjected to detailed genomic analysis. Through analysis of the data, they have developed an extremely useful and easily deployed classifier for endometrial cancer which may enable gynaecologists and others to make better decisions for women faced with the disease. This has led to a recently accepted publication in the British Journal of Cancer (2015) and is the subject of multiple grants to support this work.
The OVCARE team is now deploying these technologies to understand how ovarian cancers develop and in particular, how endometriosis, which is a benign condition, can in some cases develop into cancer.

This has led to new collaborations within the Department of Obstetrics and Gynaecology, and in particular, a leadership role for Dr. Paul Yong (left), a Clinician Scientist in the Division of Gynaecologic Specialties, has built a unique research program, combining the expertise of subspecialist surgeons in endometriosis (Drs. Catherine Allaire and Christine Williams), with experts in genomics (Dr. Huntsman) and bioinformatics.

These efforts have led to his successful application for Canadian Foundation for Innovation funding (2014) – to identify the genetic causes of deeply infiltrating endometriosis.

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**Division of Gynaecologic Oncology**

The Division provides leadership in major gynaecologic cancers that is provincial for clinical care and international for investigation and education. Clinical services are offered in all Health Authorities, including a strong partnership with the BC Cancer Agency. In terms of clinical outcomes for major gynaecologic cancers, the Division is leading Canada and much of the world.

From a research perspective, we continue to be global leaders with our innovations in ovarian cancer prevention, novel approaches to therapy, and strong basic science research. In addition, the Division has developed a strong presence in epidemiology, and clinical research.

Education remains a focus of excellence with active participation in undergraduate, resident, fellowship, and graduate education.

The Division’s major challenge continues to be manpower. British Columbia already has the highest ratio of female population to Gynaecologic Oncologists in the country, but manpower was further stretched by the retirement of one of the Division’s architects, Dr. Thomas Ehlen. Plans are in place to replace his position in the coming year. Happily, this recruitment will be easier because of the generosity of the Chew Wei Family who have supported and facilitated the growth of the Division to its present state.

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**Gynaecologic Oncology Receives Funding for Chew Wei Endowed Chair in Gynaecologic Oncology**

The Division is pleased to announce the establishment of the Dr. Chew Wei MMBS [HK] FRCOG [ENG] Memorial Chair in Gynaecologic Oncology, thanks to a generous donation from Mrs. Margaret Chew and the Chew family in honor of the late Dr. Chew Wei. The Chair will support Dr. Dianne Miller (inset), Head of the Division of Gynaecologic Oncology, as she continues to advance the research, clinical, and educational goals of the Division. The Department and the Division wish to thank Mrs. Chew and the Chew Family for their generosity.

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**Fellowship in Gynaecologic Oncology**

**Dr. Janice Kwon, MD, FRCSC, Program Director**

Our sub-specialty training program continues to be a highly competitive program that receives numerous applications from across Canada and around the world. This reflects the program’s strengths; a large clinical volume consisting of the entire province of British Columbia and the Yukon, participation in the provincial Gynaecology tumour group, and multi-disciplinary collaboration. This collaboration that includes pathology, medical and radiation oncology, general surgery, plastic surgery, urology, BCCA Hereditary Cancer Program, palliative care, and specialized nursing enhances both clinical and investigational work. The majority of our fellows also pursue an additional year of academic training, including a Masters degree.

Our program received full accreditation from the Royal College this year. Our next review will be scheduled in the fall of 2019.

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**Genomic analysis of endometriosis associated with ovarian cancer revealed near identical mutations to that of the corresponding tumor.**
THE VAGINAL MICROBIOME: FRIEND OR FOE?

A microbiome refers to the ecological community of microorganisms that literally share our body space. These colonizing organisms could include commensal, symbiotic, and pathogenic microorganisms underlining the importance of microorganisms within the human body to health and disease.

The study of the vaginal microbiome is a growing and exciting field led by Dr. Deborah Money with support from the Michael Smith Foundation for Health Research, March of Dimes, CIHR and Genome BC. Dr. Money and her team have embarked on studies in a number of different areas to better understand the microbial profiles of women. They utilize the Cpn60 universal gene target with a high throughput DNA sequencing platform that permits species level resolution of bacteria, a key advantage in studying this particular microbiome. It is more precise and provides more information than the traditional Gram stain test for Bacterial Vaginosis (BV). They enrolled 310 women from a healthy normal population, and categorized their microbiotal profiles into 6 groups called Community State Types. Three of these groupings were what is expected in healthy vaginas. The cpn60 analysis allowed them to tease apart the Gardnerella vaginalis species into three groups, which is a new contribution to this field, setting Dr. Money and her team apart from those using the alternative, 16S target for analysis.

Armed with this superior target, they studied the microbiome of the vagina in multiple different stages of health and illness. They tracked the vaginal microbiome through the menstrual cycle and found that the microbiome shifts during the menstrual cycle and that healthy women can have a number of different profile groupings instead of a “core” set of bacterial species. They recently completed a study of 50 HIV-positive women from Oak Tree Clinic. From this study we were able to see how cpn60 method of analysis provided more information than Nugent score. They collected samples from women who experienced preterm premature rupture of membranes and found that the vaginal microbiota was generally unstable over the latency period, with dramatic shifts in composition over time, and an overall decrease in Lactobacillus abundance. Additionally, the presence of Mollicutes (Mycoplasma and Ureaplasma) in the vaginal microbiome was associated with lower gestational age at delivery.

On-going work includes vaginal microbiome assessments to other studies. Currently we are collecting microbiome samples from women experiencing recurrent BV; women experiencing a low-risk pregnancy; women who have given birth preterm; HIV-positive pregnant women in a study examining the differences between pre-term and term births; from HIV-positive women and girls who received HPV vaccinations. They are also collaborating with the Urogynaecologists in the Division to characterise women undergoing surgery for pelvic organ prolapse and stress urinary incontinence.
The Division of Gynaecologic Specialties was created in 2012 in recognition of the diversity of academic activities among faculty who do not fall into one of the traditional streams of the existing divisional structure. The goal in bringing these diverse academicians together into one division was to capitalize on opportunities for mutual collaboration, shared academic motivation, and to create a social presence within the Department. The Division exceeded expectations in meeting this goal. It has become the academic home for Department members with diverse interests that include gynaecologic infectious disease, chronic pelvic pain, vulvar disease, paediatric and adolescent gynaecology, family planning, sexual health, and female pelvic medicine and reconstructive surgery. More importantly, the faculty members in these diverse areas have found areas of mutual interest, and success in research funding has increased exponentially. The collaboration has also created fertile ground for new educational programs that work synergistically with the research mandates.

The Division of Gynaecologic Specialties recently received a donation from a long time supporter of the Department’s Academic mission, Jane Bryans. This donation is being used to create an endowment for Female Pelvic Floor Disorders. Pelvic Floor Disorders affect more than a quarter of women and are a leading cause of gynaecologic surgery, yet qualified sub-specialists are needed, as our training programs such as the programs we offer. Mrs. Bryans’ generosity will help the Department to fill this gap.

First in Canada: Advanced Training Program in Family Planning

The Department is pleased to begin offering an Advanced Training Program in Family Planning that will accept its first learner in the summer of 2016. The Program in Family Planning will be a 2-year postgraduate subspecialist training in clinical practice, education, and research related to abortion and contraception. Trainees will work with a respected team that includes Dr. Brian Fitzsimmons (left), the Program Director, Dr. Regina Renner (right), the Co-Director, and Dr. Wendy Norman, CIHR Chair in Public Health. Trainees will gain experience in reproductive health issues and establish connection to a rapidly expanding network of family planning experts. This is the first such program in Canada.

Advanced Training Program in Endometriosis, Pelvic Pain and Laparoscopic Surgery

This unique one-year program is offered to practicing Canadian gynecologists who wish to develop an expertise in the assessment and treatment of patients with endometriosis and chronic pelvic pain and develop outstanding laparoscopic skills. The emphasis is on integrated care with a multidisciplinary evaluation and approach in addition to advanced surgical management of complex pelvic disease. The Program takes place in a multidisciplinary pelvic pain clinic with a broad based research program. The goal of the Program is to develop leaders in teaching and research related to chronic pelvic pain/endometriosis.

Advanced Training Program in Female Pelvic Medicine and Reconstructive Surgery (FPMRS)

Dr. Roxana Geoffrion MD, FRCSC
Program Director

This training program is a two-year program dedicated to cultivating academic leaders in the field. Trainees receive multi-disciplinary clinical training in the diagnosis and management of pelvic floor issues in women that includes advanced minimally invasive and vaginal surgical techniques in pelvic reconstruction. As academic performance is given equal importance to clinical skill development, trainees also receive instruction in teaching, research design, implementation and dissemination of findings. Trainees are encouraged to pursue concurrent postgraduate studies to earn a Masters degree.
Almost three decades ago, the outcomes movement promised a revolution in medical care. According to Arnold Relman, then Editor of the New England Journal of Medicine, the computerization of health information, including the millions of interactions between physicians and patients, was poised to provide unprecedented insights that would transform medical care (Relman A. N Engl J Med 1988). More recently, the promise of Big Data was revived when Google Flu Trends accurately described population levels of influenza activity based on Google search queries (Ginsberg et al. Nature 2009). Unfortunately, by 2013 it became clear that Google Flu Trends was persistently overestimating flu activity; Big Data hype had led to Big Data hubris (Lazer et al. Science 2014). Alas, biases that are the nemesis of non-experimental epidemiologic research have the potential to surprise even the most wary transgressor.

The well-recognized pitfalls of non-experimental research notwithstanding, analysis from population and hospital-based computerized databases do have the potential to transform health and health care services, and our Department is a leader in using this technology to improve women’s health. A few examples of our research published this past year include:

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This selected list of publications in leading international journals is impressive. Nevertheless, as an academic Department we will strive to do more to exploit the full potential for original research using databases. Residents and Fellows with limited time horizons should be encouraged and supported in such endeavours, as they do not require primary data collection. Publication of resident research in national and international journals should be a criterion for evaluating Departmental success in research education. There are obstacles, however, to overcome, most notably, timely access to databases and database linkages in British Columbia. The current process is abysmally slow, allegedly because of concerns regarding data privacy and confidentiality. This is ironic since the said databases represent the collation of medical records largely generated by Obstetricians and Gynaecologists across British Columbia, who are mostly members of the Department. A responsible process has to be devised that protects data privacy, without sequestering data and impeding research for improving clinical care and public health. Otherwise we in British Columbia will find ourselves in the tragicomedy, Waiting for Godot, while the rest of the world moves onwards and upwards.
Drs. Magee & von Dadelszen assume Leadership Roles at St. Georges University

It is sad news that Drs. Laura Magee and Peter von Dadelszen have left Vancouver to assume new leadership roles at St. George’s, University of London in the UK. Dr. Magee will join St. George’s as a Professor of Maternal Medicine, to establish an academic regional obstetrical medicine program. Dr. von Dadelszen is appointed Professor and Academic Head of Obstetrics and Gynaecology. It is a positive reflection on our department that such a prestigious institution should seek their leadership from among our ranks.

Drs. Magee and von Dadelszen have led innovative research with a commitment to translating their work into clinical changes that improve the lives of mothers and babies far beyond BC. The scope of their work has been met with appreciation and awards on an international level.

Happily, they will maintain appointments within our department and will continue their research programs here in Vancouver.

Division of Maternal Fetal Medicine

The Division provides tertiary and quaternary care for the women of British Columbia who have the most complex pregnancies. Our mandate includes patient care, research and knowledge generation, and education to medical students, obstetrician-gynaecologists in training, sub-specialty fellows, physician colleagues and other healthcare providers. The clinical service is delivered in the Lower Mainland, Fraser Health and the Island Health Authority, as well as 24/7 consultations and tele-health to care providers around the province. From an educational standpoint, the Division members are active in undergraduate, residency, fellowship and graduate education. The research mandate, which includes basic research, clinical research, and perinatal epidemiology, is the best funded in the Department.

New Division Head, MFM

Dr. Ken Lim was appointed Head of the Division this year.

Dr. Lim has been a member of the Division since 1997. He has served BC Women’s Hospital as Medical Director for the Diagnostic and Ambulatory Program since 2008. He has a significant research portfolio focused on diagnosis, obstetrical ultrasound and fetal physiology. He has also earned the Canadian Certified Physician Executive (CCPE) designation.

Fellowship in Maternal Fetal Medicine

Dr. Francine Tessier, MDCM, FRCSC
Fellowship Director

The Fellowship Program is a two-year Royal College Accredited subspecialty program offering training in high-risk obstetrics, prenatal diagnosis and therapy, and the management of complex maternal medical conditions.

Fellows receive robust clinical experience in fetal diagnostics including amniocentesis, serum screening and non-invasive prenatal testing at BCWH. They also spend time at St. Paul’s Hospital where they are exposed to intensive care, and management of maternal cardiac and renal diseases. Fellows research productivity is high. Last year the Program received full accreditation by the RCPSC.

Dr. Francine Tessier

The Department of Obstetrics & Gynaecology is pleased to introduce Dr. Francine Tessier as the new Program Director of the Fellowship in Maternal Fetal Medicine. She has been an active member of the Division since 1994 and brings her expertise in education and simulation to this new role.
HORMONAL DETERMINANTS
OF WOMEN’S REPRODUCTIVE HEALTH & DISEASE

Nestled within the Department’s Graduate Program in Reproductive and Developmental Sciences, and crossing many of the Divisions, Dr. Peter Leung, PhD, FCAHS, FRSC, leads a research program with the goal of advancing knowledge about the hormonal determinants of women’s reproductive health. This crosscutting program develops knowledge to improve the treatment of reproductive disorders, pregnancy complications and gynecologic cancers. Leveraging resources and multidisciplinary expertise unique to the Department, Dr. Leung’s research addresses key hypotheses in three inter-related themes:

**Ovarian Follicle:** To identify hormonal factors in the ovarian follicle with diagnostic and therapeutic relevance to female infertility.

This theme capitalizes on emerging areas of research into ovarian causes of infertility. In collaboration with members of the Division of Reproductive Endocrinology & Infertility, Dr. Leung’s studies in human granulosa cells have identified new regulatory roles and mechanisms for transforming growth factor-β superfamily members TGF-β1, activins, antimullerian hormone, growth differentiation factor 9, bone morphogenetic protein 4/7 and 15) and epidermal growth factor family ligands. All of these compounds play essential roles in ovarian function. By characterizing the regulation of granulosa cell function by local hormonal factors, including some never before studied in the human ovary, (GDF8, RFamide-related peptide), this research team will improve diagnostic modalities and develop innovative approaches to patient-oriented fertility regulation.

**Implantation & Placentation:** To delineate the crucial roles of local hormonal factors in placental development.

Working from the hypothesis that local hormonal factors are important mediators of placental trophoblast differentiation and decidua formation, this theme explores the dysregulation of these factors in infertility, pregnancy loss, and placental disorders. Working with partners in the Divisions of Maternal Fetal Medicine and Gynaecologic Specialties, this research has demonstrated key roles for gonadotropin-releasing hormone isoforms and TGF-β superfamily members. These compounds have critical roles at the maternal fetal interface in regulating adhesive and proteolytic mechanisms necessary for trophoblast invasion and endometrial decidualization. The long-term goals are to develop diagnostic and therapeutic approaches to treat infertility and recurrent pregnancy loss, and to improve Assisted Reproduction Technologies pregnancy rates, while decreasing pregnancy complications.

**Local hormonal factors in the ovarian follicle**

![Diagram of Ovary showing folliculogenesis, regulated by local hormonal factors in the ovarian follicle.](image)

**Local hormonal factors in implantation & placentation**

![Diagram of Endometrium and Placental Development showing the role of local hormonal factors in implantation and placentation.](image)
**Division of Reproductive Endocrinology & Infertility**

The Division has a strong academic mandate supported by broad based clinical programs. The core clinical programs include Recurrent Pregnancy Loss, Infertility, including Assisted Reproductive Technologies, Reproductive Endocrinology and Pelvic Pain & Endometriosis. Division members act as strong educators within the Department, with active participation in the education of medical students, residents, fellows, and visiting trainees. Clinical education occurs in academic and private centres, providing trainees with broad based exposure.

The Division is engaged in research that includes translational research, particularly in genetic and molecular aspects of reproduction as well as clinical research. The latter includes trials in pelvic pain and endometriosis, as well as the newly established Early Pregnancy Research Group. The Division’s faculty members are very active in the Reproductive & Developmental Sciences Graduate Program, providing teaching and mentorship.

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**Ovarian & Endometrial Cancers:** To determine the roles of hormonal factors in ovarian and endometrial cancers.

This theme explores the hypothesis that local hormonal systems influence the growth, progression and metastasis of epithelial ovarian and endometrial cancers. This means that local hormones can serve as important biomarkers or therapeutic targets for these diseases. In collaboration with members of the Division of Gynaecologic Oncology and OVCARE, Dr. Leung’s research has demonstrated important effects of GnRH on epithelial ovarian and endometrial cancer cell invasiveness and survival. In addition, he has characterized the pro-invasive effects and underlying molecular mechanisms of EGF family members in epithelial ovarian cancer cells. The long-term goals are to define the therapeutic, diagnostic, and prognostic relevance of hormonal systems in ovarian and endometrial cancer, and to devise individualized treatment strategies targeting these systems.

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**Fellowship Gynaecologic Reproductive Endocrinology & Infertility (GREI)**

**Dr. Jon Havelock, MD, FRCSC**  
**Fellowship Director**

The Program is a Royal College of Physicians and Surgeons of Canada (RCPSC) accredited two-year subspecialty program. GREI is concerned with the prevention, diagnosis and treatment of those disorders of the reproductive endocrine system that interfere with reproductive health at any age, and endocrine and other conditions that interfere with the human procreative process. One subspecialty resident is selected every 1-2 years. Fellows receive clinical education at multiple sites, both private and hospital based where faculty members are based. They also benefit from the strong research capacity of the Division.

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**Graduate Program - Reproductive & Developmental Sciences (RDS)**

**Dr. Dan Rurak, BSc(Honours), MSc, DPhil**  
**Program Director**

The Graduate Program was established in 1984 and holds the distinction as the only graduate program that is offered by an Obstetrics and Gynaecology department in Canada. The goal of the Program is to provide students with a broad knowledge of mammalian reproductive and developmental biology, as well as in-depth expertise in at least one area of research, including reproductive and molecular endocrinology, immunology of reproduction, fertilization and early embryonic development, perinatal metabolism and fetal neonatal physiology. Today, the Program has 24 faculty members, including members from the Departments of Medical Genetics and Pathology, the School of Public and Population Health and the Faculty of Nursing. The faculty mentors a cohort of 40 MSc and PhD students each year.

We have a high percentage of female students, and a high proportion of international students, reflecting a long-standing collaboration with Zhejiang University in Hangzhou China, and more recent collaboration with Jiao Tong University in Shanghai China.
When I was in residency, my program director, Dr. Peter McComb used to have a saying about choosing a potential resident for the program, “Will you go camping with this person for the weekend?”

Doctors save lives, but they can sometimes be insufferable know-it-alls who bully nurses and do not listen to patients. Medical schools have traditionally done little to screen out such flawed applicants.


This year Dr. Jag Ubhi (upper right), Residency Director, implemented a novel approach to recruiting residents with the goal of improving the program’s ability to reliably select desired professional qualities in residents.

What we used to do. In the past, the residency program used a traditional approach to recruitment, beginning with an assessment of candidates’ curriculum vitae. Those meeting credential expectations moved on to a structured interview by a 3-person panel that included 2 faculty members and 1 resident. Logistics required 3 simultaneous interview panels in 3 different sites. Candidates were scored out of 50 and the Residency Training Committee would then review all scores and battle it out to select the new crop of residents. Unfortunately, some of us are doves and some are hawks, leading to an unstandardized process with poor intergroup reliability.

What we do now. Taking a page from high performing sports teams, we now use multiple biopsies of a candidate to create a composite of the potential resident’s attributes. Just as the Vancouver Canucks can increase the reliability of talent assessment by having more than one scout, and multiple opportunities for each scout to assess a player’s ability, we have added multiple assessments of discreet qualities by multiple reviewers. Potential candidates are put through an OSCE examination with 6 stations and 6 evaluators. Rather than focusing on medical knowledge, the OSCE addresses desired competencies such as critical thinking, communication skills, empathy, ethical principles, and team work. There is interest in surgical aptitude as well.

Sample Station: “You are called stat to the ward for a patient on gynecologic oncology who has a respiratory arrest. When you get to the ward the nurse tells you that she accidentally gave the patient an overdose of fentanyl. You go to assess the patient emergently when the nurse informs you that there is a DNR (Do Not Resuscitate) order on the chart. What do you do next? Please justify your actions.”

For most stations there is no right or wrong answer, so the candidate is marked on the discussion of the issues at hand. The candidates are stratified relative to each other, and the ranked list reflects the tabulated marks without a free-for-all discussion.

Results. The new method is standardized, reproducible, and reliable. Most importantly, it allows us to pursue the non-medical expert qualities of a physician. Dr. Ubhi, the innovator behind the new system notes, “At the end of this process Dr. McComb’s question becomes much easier to answer – “Will you go camping with this person for the weekend” – I can confidently answer yes!”
Enhancing Education Through Simulation

Simulation is attractive in surgical education as it allows learners to perform repetitive tasks in a reduced stress environment that avoids the use of patients for skills training. The initial intent of simulation is to use formative feedback to promote rapid skill development. In the future, simulation will also be used as part of a competency-based educational curriculum.

Our Department has embraced simulation in multiple educational venues. A member of the Division of General Obstetrics and Gynaecology, Dr. Neeraj Mehra (left), who is also the Director of Simulation at BC Women's Hospital, has led these efforts. Specific programs include:

**Hysteroscopy Course For Junior Residents:** The objective is to facilitate residents’ skill development in hysteroscopy, including cultivating an understanding of the equipment used and the motor skills necessary for operative hysteroscopy. The full day course includes short didactic lectures, equipment assembly stations, tissue models and virtual reality simulation models of hysteroscopic procedures. This session is held once a year for PGY2.

**Obstetrical Skills Simulation Program at BCWH:** The objective is to expedite skill development in obstetrics. Simulation models/skills range from basic motor skills, such as pudendal nerve block, forceps delivery including rotational forceps and, dis-impaction of the fetal head at C-Section, to the development of essential but rarely used skills, like breech vaginal delivery and shoulder dystocia. This half-day session is held every 6 weeks for residents rotating through BCWH.

**High Fidelity Multidisciplinary Simulation:** Recently, residents, faculty, and staff have become involved in high-fidelity multi-disciplinary scenarios at BCWH. The first simulations started in 2015 and focused on post-partum emergencies. Further simulations are in development.

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**MD Undergraduate Program**

*Dr. Sarah Finlayson, MD, FRCSC
Program Director*

Undergraduate exposure to Obstetrics and Gynaecology begins in 2nd year with a Reproduction Block involving lectures, laboratory seminars and case-based learning tutorials. In the 3rd year, medical students have a six-week clerkship covering outpatient and inpatient women’s health care. In the fourth year, they have the opportunity to participate in electives within general and sub-specialty Obstetrics and Gynaecology.

This year, the department accommodated 224 clerkships and to meet this increase, we rely on our distributed hospital sites across the province, including two new distributed sites, St. Paul’s and Burnaby Hospital. Administrative enhancements, like a new scheduling system also allows us to maximize capacity and clinical exposure. We developed a new format for the OSCE and committed to participating in National Board of Medical Exam workshops to create a bank of questions for the exams starting in the next academic year. Our department has also actively participated in the Curriculum renewal for the Medical Undergraduate Program.

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**Residency Program**

*Dr. Jag Ubhi, MD, FRCSC
Program Director*

Our Residency program is committed to train highly skilled obstetricians and gynecologists to meet the health care needs of the women of BC and Canada, including fostering interest in sub-specialty training. We were fully accredited by the Royal College in 2014 and continue to evolve and to adopt new pedagogical techniques that focus on defining and teaching to desired exit competencies. This year we added new simulation programs and anatomy workshops including a cadaver lab and obstetrical anal sphincter injury lab. The program has recognized clinical strengths in high-risk obstetrics, family planning, and minimally invasive surgery.

All faculty members are committed to an environment with strong, supportive teaching. Residents are provided tools to become outstanding clinical teachers. The Program has strength in international health advocacy with commitment from both faculty and residents. Research is also an exit competency, and residents are expected to complete a research project and manuscript for presentation and publication. To prepare them for this, all residents receive training in research design and mentorship from the Resident Research Advisory Group. Since last review in July 2009, 32/32 residents have successfully passed the Royal College exam.
The General Division continues to focus its activities on education, faculty development and patient quality and safety.

Surgical mentorship is ongoing in Vancouver and extending to province wide. Our minimally invasive hysterectomy rate (vaginal and laparoscopic approaches) is now exceeding 60%.

The development of a “real-time” simulation model and protocol on Massive Post Partum Hemorrhage by Dr Neeraj Mehra takes us to a different level in improving patient care. The model was developed and implemented at BC Women’s hospital. Dr Mehra has offered to help develop this model at our distributed sites.

The pregnancy of unknown location (PUL) protocol developed at the Early Pregnancy Assessment clinic by Dr Stephanie Rhone and Dr Stephanie Fisher has been adapted by Dr Nicole Racette to improve the care of patients at the Vancouver General Hospital. The project was part of the Physician Leadership Program offered in collaboration with the Faculty of Medicine, Ministry of Health and the Sauder School of Business at UBC. Outcome measures will be available and presented in one year time.

We are fortunate to have recruited Dr Flora Teng, Dr Nicole Todd, Dr Nadia Branco and Dr Sheona Mitchell.

Dr. Nicole Todd Joins the Pediatric & Adolescent Gynaecology

Dr. Nicole Todd completed a residency in Obstetrics and Gynaecology Residency at University of British Columbia in 2013. She completed a fellowship in Paediatric and Adolescent Gynaecology (PAG), and a Healthcare Education Scholars Diploma at the University of Ottawa.

She joined the PAG team of Drs Debra Millar and Ellen Giesbrecht in the fall of 2014. We introduced this new partnership with a presentation on Cosmetic Vulvar Surgery in Young Women at the UBC Obstetrics and Gynaecology Clinic Review. The UBC PAG team now offers centralized triage to improve access to subspecialty care.

Her research interests include improving genital self-image in young women, patient-lead decision making tools for menstrual suppression and oncofertility, and low-fidelity simulation. In an effort to provide patient centred care, Dr. Todd participates in several multi-disciplinary clinics including Adolescent Obstetrics and Adult Combined Hematology and Gynecology. She is generating further partnerships with Reproductive Endocrinology and Paediatric Oncology to develop an Oncofertility program for fertility preservation in paediatric patients undergoing cancer treatment. Dr. Todd has adapted a standard paediatric and adolescent gynaecology curriculum to fit within the UBC obstetrics and gynaecology residency program, including instituting regular PAG rounds and journal club. Her goals for the upcoming year include generating a PAG curriculum for off-service Paediatric Fellows, opening transition clinics for both young women requiring vaginal dilator therapy, and menstrual suppression in young women with disabilities. Future partnerships with our department include Paediatric Hematology, Paediatric Endocrinology and vulvar disease.

Dr. Nadia Branco Joins General Division

Dr. Nadia Branco obtained her medical degree from the University of Alberta and completed the Obstetrics & Gynaecology residency program at the University of British Columbia in 2013. She joined the general OB/GYN faculty at UBC in October 2014. Dr. Branco provides family planning services through the C.A.R.E. program at BC Women's Hospital. She has a strong interest in medical student and resident education and is involved in resident simulation training, and is involved with the orientation, planning and exam administration of medical students during their clinical clerkship rotation.

2015 Nelly Auersperg Award Winner - Dr. Flora Teng

Dr. Flora Fang-Hwa Teng completed a residency in Obstetrics and Gynaecology at the University of British Columbia in 2014. She brings with her a Master of Public Health from Yale University and a passion for research. In her first year of practice, she earned the Nelly Auersperg Award. This grant will enable her to develop a new woman-centred, effectiveness-based, Canadian contraceptive application. In her general Ob/Gyn practice at St. Paul’s, she has joined Dr. Valerie Rychel and Dr. Jennifer Oakes in providing care to high risk cardiac obstetric patients. She is also participating in a new endeavor with the St. Paul’s Department of Gastroenterology to create a multi-disciplinary clinic and research program for women with inflammatory bowel disease and pregnancy. Dr. Teng continues to be a passionate educator in the UBC Ob/Gyn Residency program and hopes to actively engage residents in her research interests.
Research Funding

The Department shows a decrease in overall research funding for the period of 2014-15. That is due to decreases in MFM. Overall all other Divisions have an increase in their research funding from 2014-15.

Dr. KS Joseph Accepts Role of Associate Head of Research

The purpose of this position is to enhance the leadership and support of research activities within the Department. The Associate Head of Research will work with the Department Head to promote and facilitate research and will liaise with faculty and academic administrators on matters of significance to the research mission of the Department.

K.S. Joseph MD, PhD is a Professor in the Departments of Obstetrics and Gynaecology and the School of Population and Public Health, University of British Columbia and the Children’s and Women’s Hospital and Health Centre of British Columbia. His work is supported by the Child & Family Research Institute and by a Chair in Maternal, Fetal and Infant Health Services Research awarded by the Canadian Institutes of Health Research. His research interests include pregnancy complications, birth, fetal growth, infant mortality, serious neonatal morbidity and severe maternal morbidity.

Departmental Funding

The Department’s running costs overall were approximately $10.8 million for 2014-15. The general operating budget takes up 40% of our overall finances. The majority of that is used to pay faculty and staff. The general operating budget was reduced by 6% between 2013-14 and 2014-15. However, we have compensated through growth in our endowments, research and special purpose/educational budgets.

Research Breakdown for 2014/2015

- General Obstetrics & Gynaecology
- Gynaecology Oncology
- Gynaecology Specialities
- Maternal Fetal Medicine
- Reproductive Endocrinology & Infertility

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Departmental Funding - Revenue & Carry-forward Comparison 2013/2014 & 2014/2015

2014/15 Department Funds
The Department of Obstetrics and Gynaecology on Vancouver Island has 27 faculty members, including the spectrum of our specialty; 17 generalist obstetrician-gynecologists 2 gynecologic oncologists, 2 maternal-fetal medicine subspecialists, 2 reproductive endocrinology & infertility subspecialists, as well as a urogynaecologists, pediatric gynaecologist, and subspecialist in family planning. Together, they provide full gynaecology services and collaborate with midwives and family doctors to provide maternity care for 6,500 births per year. Each year they also provide education for the 32 medical students in the Island Medical Program. They also provide resident education that includes obstetrics rotation for 60 family medicine residents, and electives for residents in obstetrics and gynaecology. Service to the community is also a major focus. Several members are involved in Provincial, National and International initiatives including roles with the College and SOGC.

Dr. Ng’s recruitment coincides with the retirement of one of Kelowna’s most involved faculty members, Dr. Roberto Leon. Dr. Leon has been providing obstetrical and gynaecologic care to the women of the Okanagan for many years, as well as serving as the Associate Head for the Department of Obstetrics and Gynaecology for the Southern Medical Program, and Director of Perinatal Services for the Interior Health Authority. He will be missed in all of these roles, and a search is presently underway to find his replacement as Associate Head for the Southern Medical program.
Fraser Health Authority
Vancouver Fraser Medical Program

Dr. Peter Beresford, MD, FRCSC
Regional Head, Fraser Health Authority

Fraser Health serves 1.6 million people and is the fastest growing health region in British Columbia. It is a diverse multi-cultural population, including 38,000 First Nations people, in 32 bands. There are 8 acute care hospitals that provide obstetrical and gynaecologic services, including 6 community hospitals and 2 Level III hospitals, Royal Columbian (RCH) and Surrey Memorial (SMH). All of the Community Hospitals accommodate resident learners on electives, and there are well-established educational programs for undergraduate students and residents at RCH.

The RCH site is a favourite site for learners, and their evaluations are a testament to the value of these programs. In fact, the Residency Director for the UBC Postgraduate Program, Dr. Jag Ubhi, is based at RCH, and is universally recognized as an incredibly effective administrator and educator. To date, educational programs have not been sited at SMH, although there is a new collaboration to start a program for enhanced Obstetrics for Family Physicians as a joint project between the UBC Departments of Family Medicine and Obstetrics and Gynaecology. Given the large volume at SMH, as well as strong programs in maternal fetal medicine and female pelvic medicine and reconstructive surgery, there is significant potential for undergraduate, resident, and fellow education at this site.

Northern Health Authority and the Northern Medical Program

Dr. Bill Kingston, MD, FRCSC
Regional Head, Northern Health Authority

The distributed site of UHNBC/UNBC continues to enthusiastically provide education for medical students in Obstetrics and Gynaecology and for specialty OB/GYN residents from UBC. Historically, this has been a favourite site for learners and the interactions have served the Northern Health Authority well through assisting recruitment. Four of the faculty members in the Northern Medical Program pursued part of their postgraduate education at UHNBC, which no doubt influenced decisions to relocate to Prince George. Most recently Dr. Aaron Kennedy joined the Department last fall, and happily, the days of manpower shortage are over for the Department of Obstetrics and Gynaecology.

We are also proud to be contributing to the research mission of the UBC Department through the investigational work of Dr. Sheona Mitchell (right) who joined the Department in 2014 with an academic appointment. She is collaborating with researchers in the lower mainland and at UNBC in her research into enhancing care in low resources settings. Our enthusiastic involvement in both undergraduate and postgraduate education and contributions to the research mission will continue and hopefully will enhance the delivery of healthcare to women throughout Northern British Columbia.
**Dr. Elisabet Joa, MD, FRCSC, Site Head**

We welcomed two new faculty to the team, Dr. Andrea Massey and Dr. Flora Teng. They immediately embraced their academic commitments with Dr. Massey supervising our new undergraduate program and Dr. Teng moving our research forward and receiving the Nelly Auersperg Award. Dr. Matt Garrey retired. He provided many years of service, caring for his patients and being an outstanding educator who won several awards. We wish him all the best in his retirement and he will be missed.

We increased our research work becoming a site for the FACT trial (study looking at the potential benefits of higher dose folic acid in patients at risk for gestational hypertension and preeclampsia). Dr. Rychel and Nikki Koenig are leading this.

Funding was secured from the SPH foundation to continue our work on the Code Pink multidisciplinary simulations.

Planning began for a brand new CME event to be co-sponsored by PHC and BCWH focusing on the care of women with medical disorders in pregnancy. This dovetails well with work also being done on a memorandum of understanding (MOU) being developed between the two sites to allow us to provide seamless care between the sites.

**BC Women’s Hospital, Provincial Health Service Authority**

**Dr. Nicole Racette, MD, FRCSC, CCPE, Interim Site Head**

BC Women’s Hospital continues to undergo site re-development with an anticipated move-in of October 2016. Thanks to the input of many members of our Department, this transition should be a smooth one.

In the last year Dr. Ellen Giesbrecht was appointed Senior Medical Director for the Acute Programs, Dr. Stephanie Rhone became Senior Medical Director of the Ambulatory Programs, and Dr. Nicole Racette agreed to be acting Head of Obstetrics during the ongoing search for a new Head. Both Drs Giesbrecht and Racette are now Certified Physician Executives. We welcome Dr. Ken Lim to his new role as Head of Maternal Fetal Medicine (page 08), and Dr. Barry Sanders as the new Medical Director of Surgical Services, as well as new members Drs. Nicole Todd and Nadia Branco (page 13).

Many of our programs now focus the delivery of care to a patient-centered approach with Early Pregnancy Assessment Clinic, Chronic Pelvic Pain, and now having high acuity beds for patients with complex medical history being just a few examples. Dr. Neeraj Mehra (page 12) has also introduced live simulation training programs to better deal with massive post partum hemorrhage cases.

**Vancouver General Hospital, University Hospital**

**Dr. Mark Heywood, MD, FRCSC, Site Head**

We were very pleased to welcome the return to BC and Vancouver Acute, Dr Nicole Todd after completing her subspecialty Pediatric Gynecology training in Montreal. She is becoming and active and enthusiastic member of the team.

After 25 years on staff Dr. Tom Ehlen has retired from clinical practice from the Division of Gynecologic Oncology. He and Dr. Dianne Miller moved to create the active Division that we have today. One which is very busy in clinical and bench research, and has become one of the centers in Canada sought out for post fellowship subspecialty training. Tom was also an administrative leader within the Department and Vancouver Acute, being site head and Operating Room leader for many years. Dr. Marette Lee has increased her clinical commitment and taken over the leadership role vacated by Dr Ehlen in the BC Colposcopy Program. We miss Tom’s tireless energy and wish him all the very best for his new endeavors away from clinical medicine.

After more than 30 years Dr. Barry Sanders, a leader and educator of minimally invasive and hysteroscopic surgery is retiring from major surgical involvement at Vancouver Acute. His clinical skill and acumen are, however, going to stay a while yet as Barry will continue working at BC Women’s Hospital in both Obstetrics and General Gynecology.

Research remains very active, within various areas and divisions of the department, reported within each division itself. Congratulations to Dr Paul Yong, who was awarded the VCHRI Mentored Clinical scientist award this year. Dr. Leslie Sadownik has been awarded funding from a VGH foundation donor for the development of a BC Centre for Vulvar Health to be opened within the Department at Diamond Health Care Center.

The D.A. Boyes Society meeting remains strong. 2014 saw the Ruby Anniversary of the Society. The BC Cancer Agency is now also hosting it’s Annual Gynecologic Oncology Tumour Group Retreat I association with the meeting.
Dr Lori Brotto Awarded Excellence in Clinical/Applied Research

Congratulations to Dr Lori Brotto on receiving the Distinguished Achievement Award for Excellence in Clinical or Applied Research. This award, from The Faculty of Medicine, recognizes outstanding clinical or applied research and scholarly contributions.

Dr Nancy Kent Awarded Clinical Faculty Award for Career Excellence in Clinical Teaching

The Department would like to congratulate Dr Nancy Kent on being awarded the Clinical Faculty Awards for Career Excellence in Clinical Teaching. This award recognizes senior Clinical Faculty members who have demonstrated sustained excellence in teaching over the course of their careers.

Dr Dorothy Shaw Receives the Distinguished Service Award from ACOG

The College Distinguished Service Award goes to outstanding individuals who have made significant contributions to the College or the discipline of obstetrics and gynecology in government, in research, in teaching, or in direct patient care. Dr. Shaw received this in large part because of her global leadership in sexual and reproductive rights, health policy and advocacy, which has involved work with governments in several countries around the world including Canada and the US.

Dr Jan Christilaw Recognized at 2015 YWCA Women of Distinction Awards

In selecting Dr. Christilaw in the Health and Wellness category, the judges wrote that she “has an unwaivering commitment to delivering, promoting and advocating for healthy lives and communities. She has made a significant and sustained difference in Metro Vancouver while empowering her community to change or better their lives through improved health and wellness practices. Jan Christilaw exemplifies these qualities as a powerhouse for advancing women’s health in BC and a global leader in maternal care. Women and families everywhere benefit from her influence, excellence and generosity.”

Dr Dianne Miller Receives 2015 Virginia Greene Leadership Award

Dr Dianne Miller, Division Head for Gynecologic Oncology, received the 2015 Virginia Greene Leadership Award for leadership in the field of ovarian cancer. This prestigious award, from Ovarian Cancer Canada, recognizes outstanding contribution to the advancement of awareness, knowledge transfer, support, and research in ovarian cancer.

Dr Peter Leung Awarded CHIR Foundation Scheme Grant

Dr. Peter Leung’s application to the CIHR Foundation Scheme: First Live Pilot Competition was approved for funding on July 15, 2015. This research program on “Hormonal determinants of women’s reproductive health and disease” will receive funding from CIHR over the next seven years.

We are delighted to announce that the AAGL bestows Honorary Membership to Emeritus Professor Victor Gomel. This special honor is bestowed every 3-5 years to an AAGL member who has demonstrated vision and leadership in our field. Dr. Gomel has been a member of the AAGL since 1973 and served on the Board twice before being elected in 1996 as the Secretary Treasurer which eventually led to his Presidency in 1999.

Dr. Gomel has been responsible for raising the level of care for women not only in Canada, but throughout the world. He has exemplified the AAGL’s mission of advancing minimally invasive gynaecology worldwide.