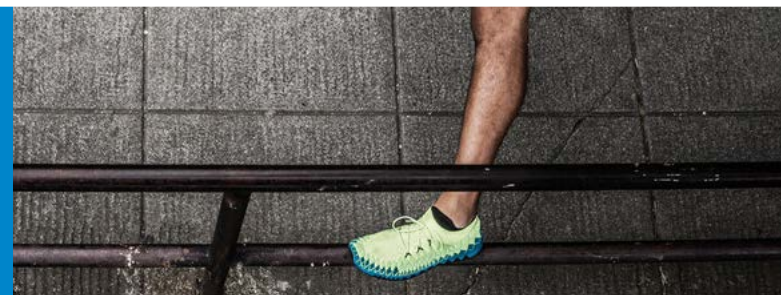
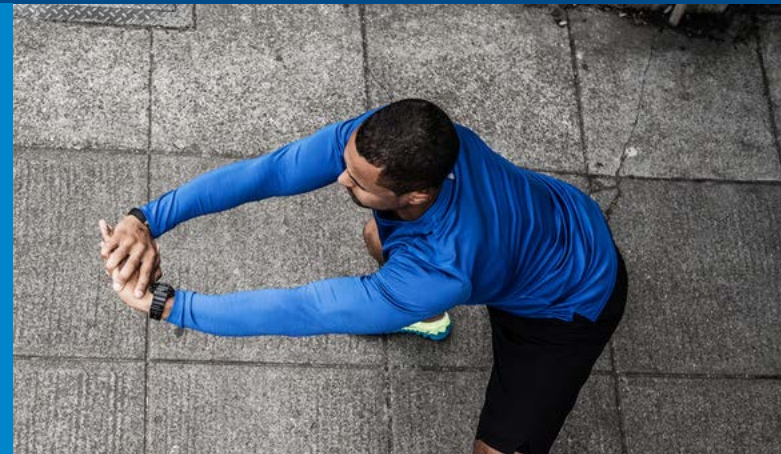


FURTHER, TOGETHER

NISS Third Virtual Industry Career Fair
February 19, 2020

TED LYSTIG, PH.D., FASA

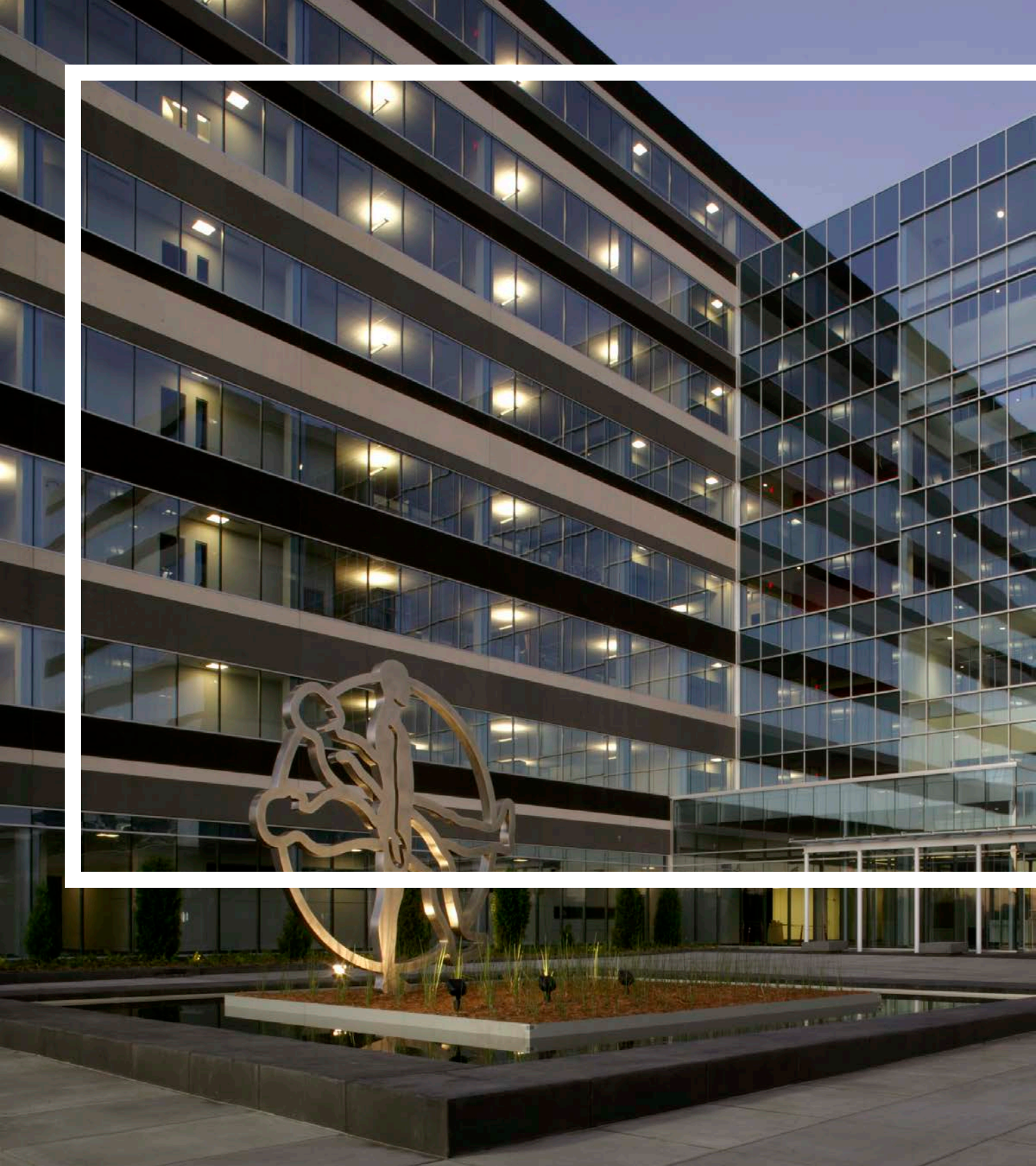
SENIOR DIRECTOR, CORPORATE BIOSTATISTICS



Medtronic

OUTLINE

- Our Company at a Glance
- Getting a biostatistics job in industry
- Statisticians at Medtronic
- Taking Healthcare Further, Together



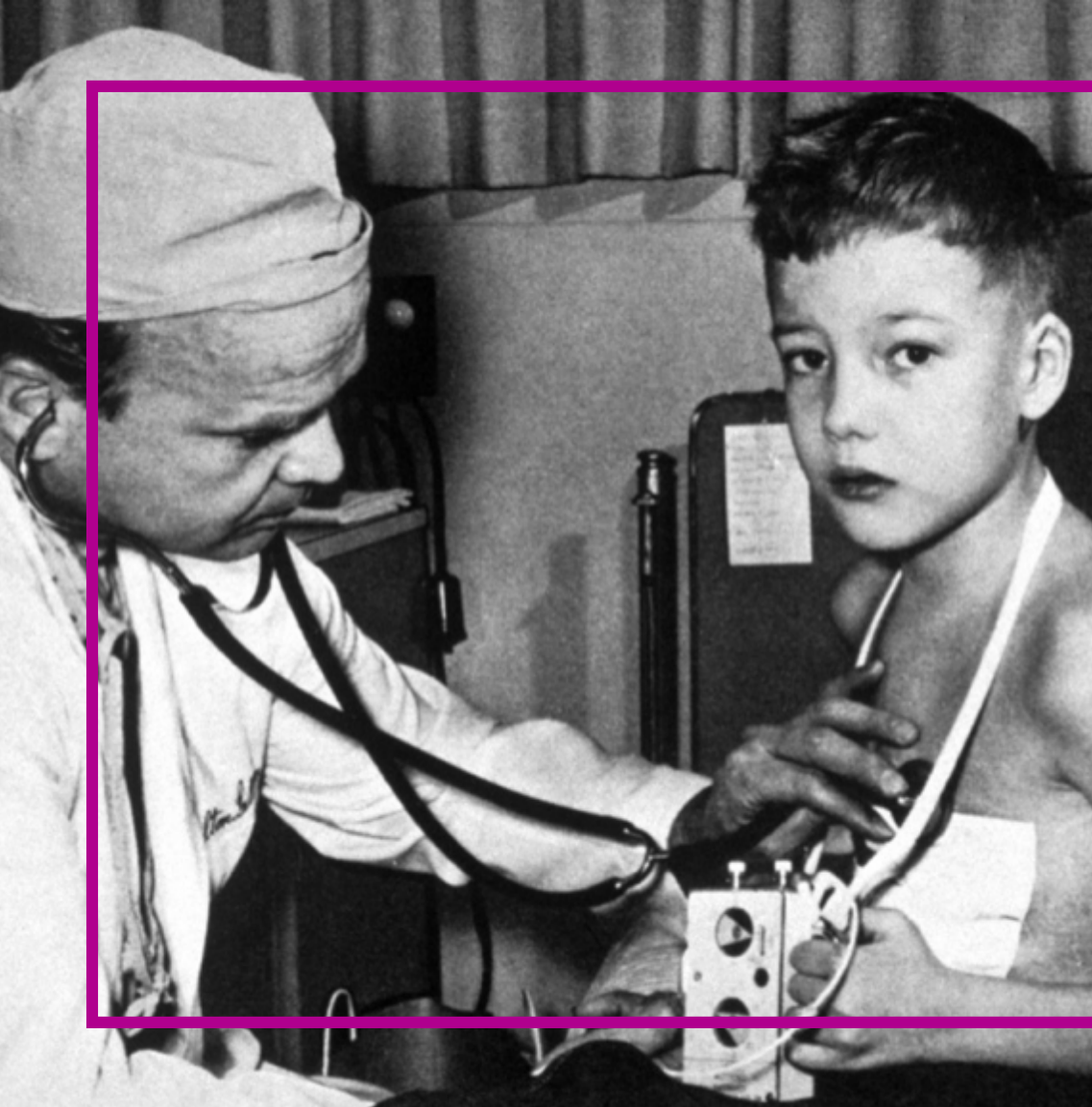
OUR COMPANY **AT A GLANCE**

Medtronic

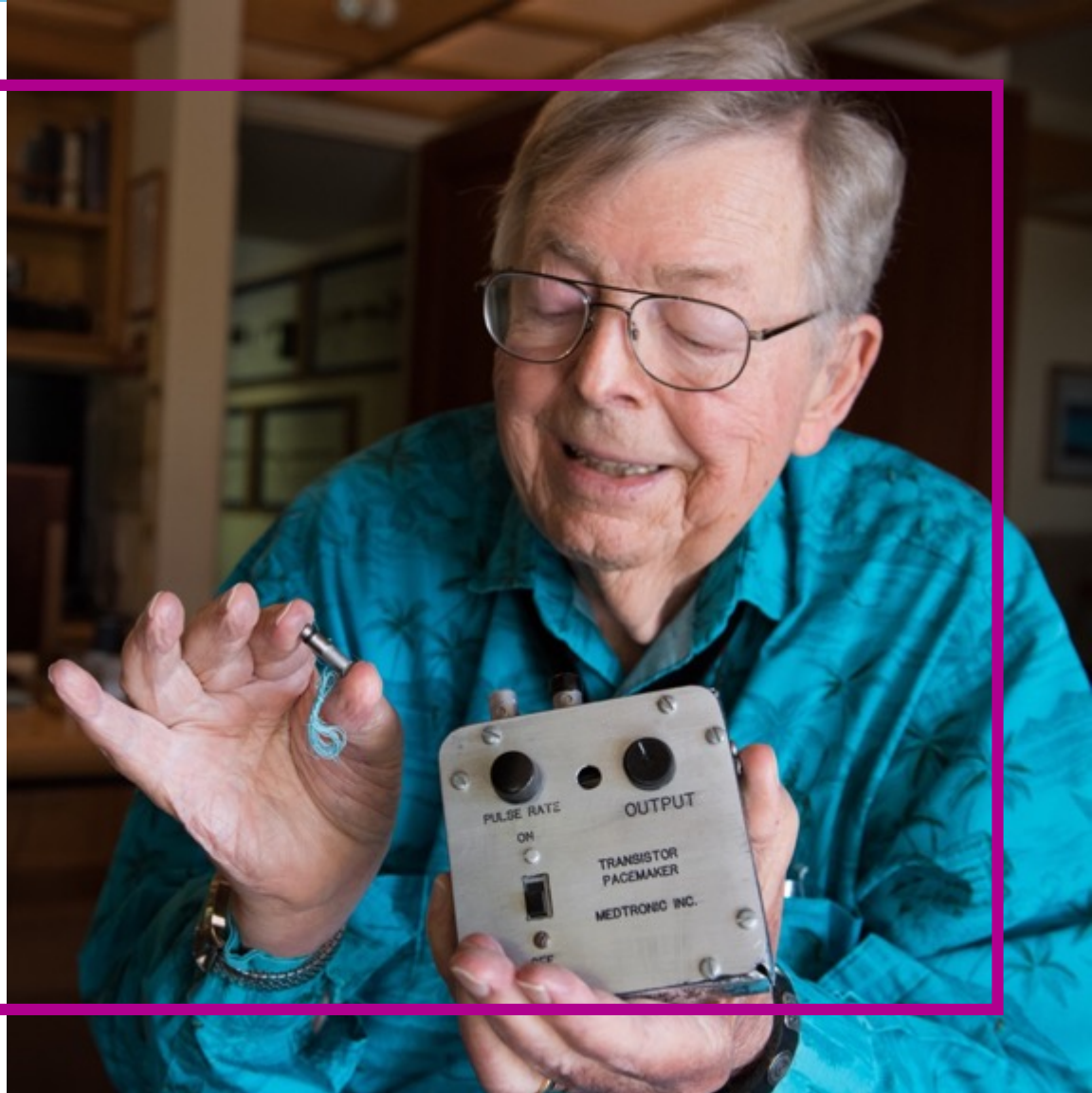
FOUNDED ON INNOVATION AND COLLABORATION

LEFT: Surgeon C. Walton Lillehei in 1961, with a young patient wearing a Medtronic battery-operated pacemaker.

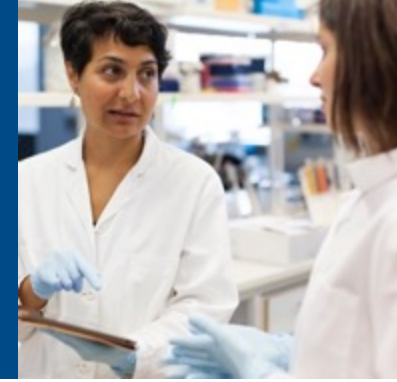
RIGHT: Our late co-founder and lifelong innovator, Earl Bakken, holding the world's smallest pacemaker today next to the world's first pacemaker (1957), both developed by Medtronic.



Since the late 1940s, we have been working with others to **alleviate pain, restore health, and extend life.**



WE OFFER THERAPIES AND SOLUTIONS ACROSS OUR FOUR BUSINESS GROUPS



CARDIAC & VASCULAR GROUP

- Aortic and Peripheral Vascular
- Atrial Fibrillation Solutions
- Cardiac Rhythm and Heart Failure
- Coronary and Structural Heart

DIABETES GROUP

- Advanced Insulin Management
 - Automated Delivery Systems
 - Multiple Daily Injection Solutions
 - Customer Retention & Experience
- Non-intensive Diabetes Therapies

MINIMALLY INVASIVE THERAPIES GROUP

- Renal Care Solutions
- Respiratory, Gastrointestinal & Informatics
- Surgical Innovations

RESTORATIVE THERAPIES GROUP

- Brain Therapies
- Pain Therapies
- Specialty Therapies
- Spine

OUR PEOPLE

Expertise to achieve our Mission

Medtronic employee Amanda Miranda returned to work as a biomedical engineer after spending six years away to attend to her family. Through Careers 2.0 — a Medtronic hiring initiative for women in engineering that helps them return to the industry after personal time away — Miranda found a position that fits her skills and helps her feel like she's making a difference.

90,000+
EMPLOYEES

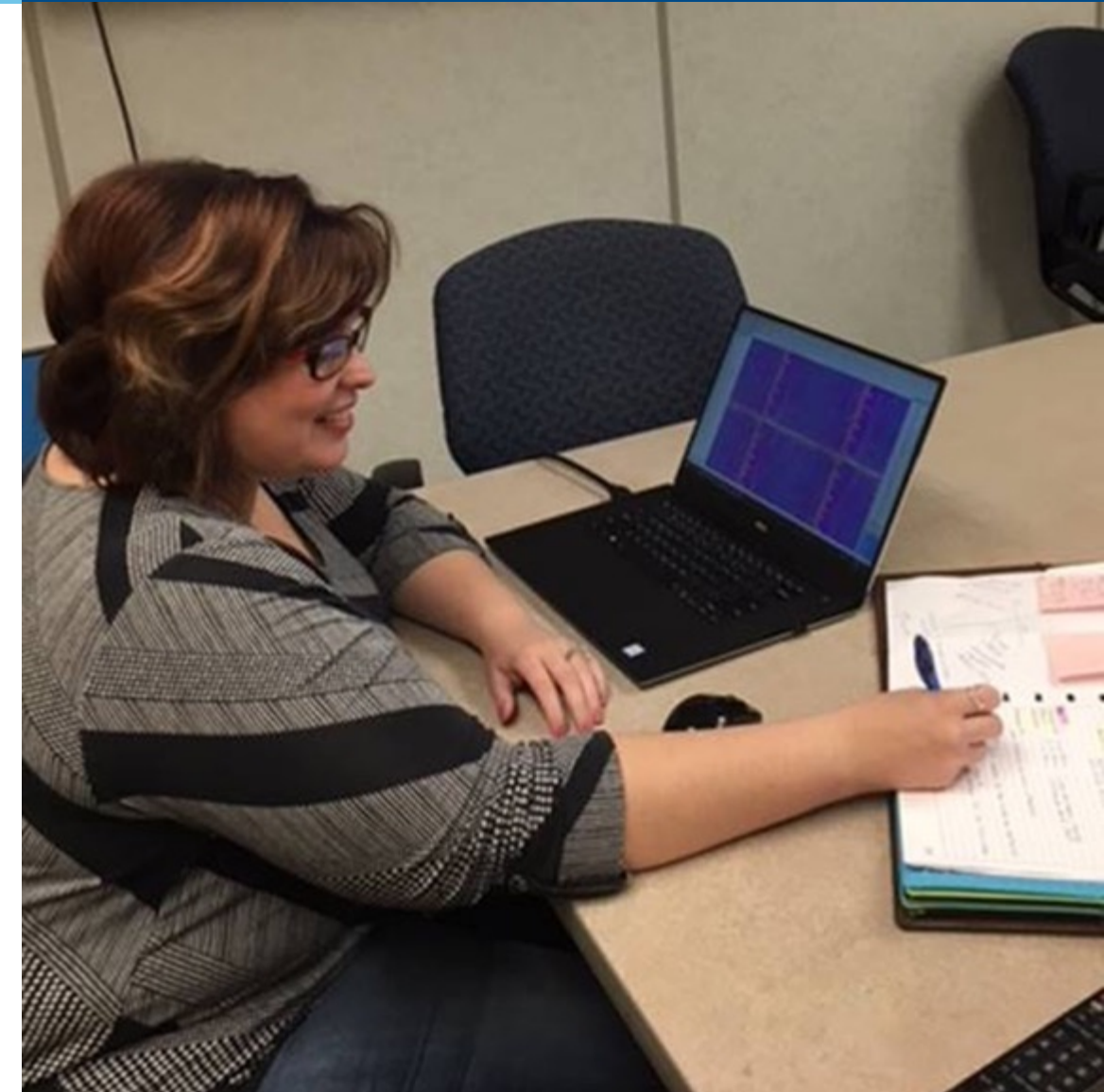
10,000+
SCIENTISTS
& ENGINEERS

1,600+
CLINICAL
PROFESSIONALS

And tremendous
clinical expertise
and investments*:

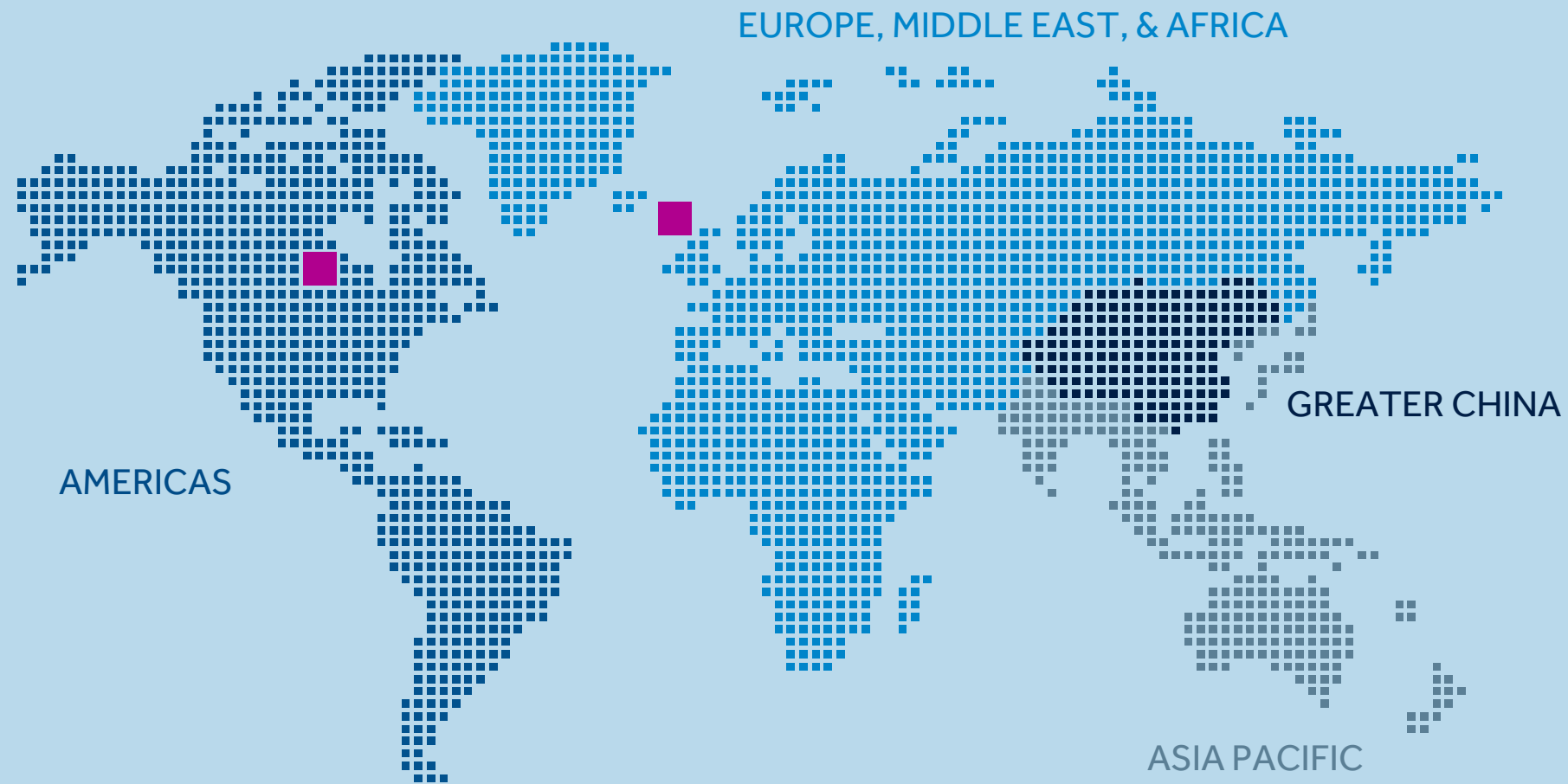
- \$2.3 billion in **R&D investments**
- \$480+ million in **clinical investments**
- 4,300+ **patents**
- 370+ **clinical trials**

* Numbers are representative of this past year.



OUR GLOBAL PRESENCE

Helping more people in more places



- Headquarter Locations
- Medtronic Operational Headquarters
Minneapolis, Minnesota
- Medtronic Principal Executive Office
Dublin, Ireland

OPERATE IN
150+
COUNTRIES

ORGANIZED IN
4
REGIONS

41
DISTRIBUTION
SITES

75
MANUFACTURING
SITES





GETTING A JOB IN INDUSTRY

Medtronic

GETTING A JOB IN INDUSTRY

- How can you prepare yourself now?
 - Consider an RA or internship with an applied focus
 - Low risk way to test alternatives to academia
 - Choose relevant classes
 - E.g., Design of medical studies, Pharmacoepidemiology, Survival analysis, Data analysis and reporting, Biostatistical consulting
 - Look for opportunities to co-author applied publications
 - Refine presentation skills
 - Course in public speaking; multiple oral presentations
 - Programming certification (e.g., SAS)

GETTING A JOB IN INDUSTRY

- Where do you want to live?
 - MN is a hotbed for medical device industry (Medtronic!)
 - Pharmaceutical companies heavily clustered between Philadelphia and NYC
 - Also Boston and Bay Area
 - Can be limited prospects (within or between companies) in other regions
 - International opportunities exist for the adventurous



GETTING A JOB IN INDUSTRY

- Big company or small company?
 - Larger companies tend to have multiple, well established career paths
 - Smaller companies can have more chances to try different roles
 - Benefits and financial security can vary sharply
- Keep in mind...
 - Hiring cycles at companies rarely align with academic calendars
 - Short hiring windows (< 1 month); can change frequently
 - People tend to join companies, but leave managers. Interpersonal chemistry is important.



GETTING A JOB IN INDUSTRY

- Make a list of target employers
 - Top 20 biopharmaceutical companies by revenue, with acceptable locations
 - Visit company websites directly to look for jobs
 - Also look on LinkedIn, www.amstat.org, other job sites
- Network
 - Find out what friends (or friends of friends) think of working for the company
 - Ask them to tell you about current or future job openings
 - Consider asking a friend to arrange an informational interview (but don't abuse this)
- Recruiters
 - More active for working professionals
 - Bring unknown applicants to employers
 - Not useful if you've already applied to the target company



GETTING A JOB IN INDUSTRY

■ Applying

- Prepare your CV or resume carefully
 - Consider tailoring to each job application
 - Show that you meet the requirements
 - Can do some of this with a good cover letter
 - Try to find projects or accomplishments that would be interesting to talk about more in an interview
 - No spelling or grammar errors
- Usually apply through a company's web portal

■ Interviewing

- Be polite
- Review publically available information on the company
- Any information in your application is fair game
- Prepare S.T.A.R. segments
 - **S**ituation, **T**ask, **A**ction, **R**esult
- Have a few questions for the interviewer



GETTING A JOB IN INDUSTRY

- Compensation

- Base salary, benefits (including health care), bonus targets

- Relocation assistance might be available

- As a lump sum or as a service

- Usually specified in job posting

- For new professionals, minimal negotiation

- Benefits vary between companies, not within company

- Bonus targets usually fixed by job level

- Salary ranges tend to be narrow

- Valuable reference for salaries is list of salary surveys from ASA:

<http://www.amstat.org/careers/salaryinformation.cfm>

- Note that entries in table to right are across all levels of experience, not just new hires



APPENDIX F

Employer by Application Area or Type of Job by Highest Degree

Salary (Annualized in Thousands)

Employer	Application Area or Type of Job	Highest Degree ¹	n	Percentiles				
				10	25	50	75	90
Federal Government	Business & Industry	Master's	14	72.0	73.0	112.0	130.0	155.0
		Doctorate	20	98.0	100.0	112.5	154.4	171.5
	Pharmaceuticals	Doctorate	7	121.6	129.0	149.0	168.2	200.0
		Health & Medicine	Master's	12	110.0	118.0	126.5	132.5
	Doctorate		50	99.2	128.8	146.8	160.0	201.4
	Survey Research Methods	Master's	23	96.0	110.0	139.5	155.0	170.0
		Doctorate	31	98.0	120.0	150.0	165.0	175.0
	General Consulting	Master's	7	64.4	90.8	110.0	135.0	156.7
		Doctorate	7	88.2	135.0	139.5	158.7	700.0
	Other	Master's	13	84.0	90.8	99.0	107.0	145.0
		Doctorate	10	85.5	125.0	150.0	174.0	230.0
	For-Profit Business or Industry	Business & Industry	Master's	98	80.0	95.0	125.0	160.0
Doctorate			122	107.0	129.6	163.6	233.0	324.0
Pharmaceuticals		Master's	82	105.0	130.0	171.8	240.0	270.0
		Doctorate	153	128.8	165.0	220.0	300.0	429.0
Health & Medicine		Master's	39	84.5	99.0	120.0	158.0	204.0
		Doctorate	41	115.0	140.0	161.0	239.9	300.0



STATISTICIANS AT MEDTRONIC

Medtronic

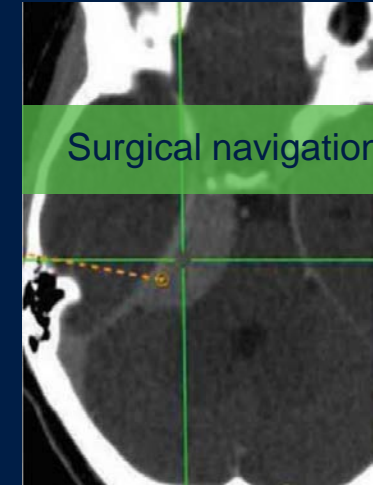
STATISTICIANS AT MEDTRONIC

- Over 180 statisticians and statistical programmers
- Biostatistics and Industrial statistics
- Major teams:
 - Cardiac rhythm and heart failure (CRHF)
 - Coronary and structural heart (CSH)
 - Aortic and peripheral vascular (APV)
 - Neuromodulation
 - Diabetes
 - Spine
 - Corporate Biostatistics
- Main locations:
 - MSP (Plymouth, Mounds View, Fridley)
 - LA (Northridge, Irvine)
 - Memphis
 - Santa Rosa (@1 hr north of SFO)

Electrical stimulation



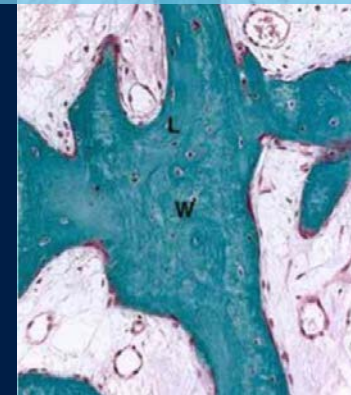
Surgical navigation and imaging



Implantable structural devices



Targeted drug and biologics delivery



Powered and advanced energy instruments



STATISTICIANS AT MEDTRONIC

- Individual contributor titles:

- Associate Statistician
- Statistician
- Senior Statistician
- Principal Statistician
- Senior Principal Statistician
- Distinguished Statistician
- Senior Distinguished Statistician
- Vice President Statistics & Fellow

- Major differentiators across levels are degrees of autonomy and of impact

- Management titles:

- Manager
- Senior Manager
- Director
- Senior Director
- Vice President
- Senior Vice President

- Titles on the same vertical level are equivalent

STATISTICIANS AT MEDTRONIC

- Common tasks
 - Develop and review study protocol
 - Objectives, hypotheses, sample size, statistical methods
 - Case Report Forms (CRF)
 - Develop specifications for study databases
 - Monitor progress of study
 - Develop and review statistical analysis plans
 - More detailed than protocol
 - Includes statistical methods and explicit analysis data set specifications
 - Analyze data from clinical studies
 - Usually SAS; also R, WinBUGS, Python
 - Analysis and validation components
 - Prepare, interpret, and present results
 - Study report, abstracts, posters, papers
 - Interact with regulatory agencies (e.g., FDA)

STATISTICIANS AT MEDTRONIC

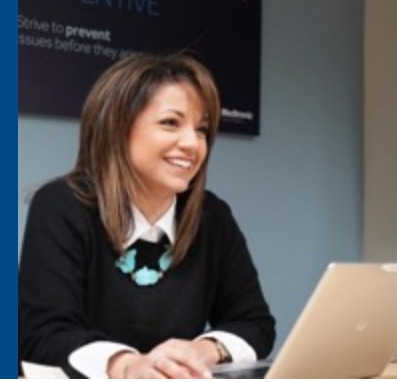
- Other tasks
 - Participate in Investigator meetings
 - Educate field support staff, study coordinators
 - Develop or modify Standard Operating Procedures (SOP's)
 - Support FDA Advisory Panel meetings
 - Usually generating data
 - Occasionally presenting
 - Negotiate proposed study designs with regulatory bodies
 - Usually written, occasionally over the phone, rarely in person
 - Present and discuss work internally
 - Emphasis on process or lessons learned
 - Manage multi-function projects
 - Remain current on state of the art statistical methods
 - Extend existing methods to challenging applications



OUR THERAPIES IMPROVE
THE LIVES OF MORE THAN
2 PEOPLE
EVERY SECOND

OUR WORKPLACE

Attracting and recognizing the best talent



DiversityInc
Recognizes
Medtronic
in Annual
“**Top 50**” list for
the third year in
a row



Thomson
Reuters
Diversity and
Inclusion Index
ranks Medtronic
#3 in their **Top
100** list



Corporate
Responsibility
Magazine
recognizes
Medtronic on
**100 Best
Corporate
Citizens** List



Wall Street
Journal
recognizes
Medtronic as
a “**Best Run
Company**”
in 2018



Medtronic was
recognized in
the 2018
LGBTQ
**Business
Equality
Excellence
Awards**



Forbes
Magazine
named
Medtronic
one of
**America's Best
Employers**



LET'S TAKE
HEALTHCARE
FURTHER,
TOGETHER

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Medtronic

