

Natalie Flaks-Manov

Curriculum Vitae

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Address: 22 Lily pond ct. Rockville, MD 20852, USA

Languages: English, Hebrew, Russian

Software: SQL, R, SAS, SPSS, Word, Excel, PowerPoint



Education

2015-2020: Ph.D. University of Haifa

Supervisor: Prof. Efrat Shadmi

Dissertation: Big Data Readmission-Risk-Prediction Models:

The Contribution of Issues Related to the Timing of Prediction, Subjective Clinicians' Assessments, and Compatibility with Consideration for Inclusion in Prevention Interventions

2002-2006: MPH Epidemiology and Biostatistics specialization, The Hebrew University of Jerusalem, Hadassah Braun School of Public Health and Community Medicine
Supervisors: Prof. Paltiel O., Prof. Friedlander, Y.

Thesis: The relationship between the baby's birth weight and diseases in earlier generations - study examining three generations

1998-2002: BA. Statistics, Sociology and Anthropology, the Hebrew University of Jerusalem, Faculty of Social Science

Professional Experience

September 2020- Present: Postdoctoral Research Fellow, PI: Dr. Casey Overby Taylor, Ph.D.
Division of General Internal Medicine, Institute for Computational Medicine,
Johns Hopkins University, School of Medicine.

January-August 2020: Research Assistant, PI: Dr. Casey Overby Taylor, Ph.D.
Division of General Internal Medicine, Institute for Computational Medicine,
Johns Hopkins University, School of Medicine.

2010- 2019: Clalit Research Institute, Tel-Aviv, Israel
Epidemiology research project manager
Big-Data Electronic Health Records data scientist

2007-2010: GSTAT, Tel-Aviv, Israel

Data scientist and statistician

2002-2007: Central Bureau of Statistics, Health Division, Jerusalem, Israel

Senior coordinator, data analyst and statistician

1998-2002: Complementary medicine clinic "Maccabi Natural", Jerusalem, Israel

Medical secretary

Training

2014: Workshop on Data Analysis in R Environment, Tel-Aviv University, 16 hours

2015: GCP- Good Clinical Practice course, Clalit Health Services, 16 hours

2016: Introduction to Data science with R, Naya College, 40 hours

2018: Advanced Topics in Information Systems, Technion Israel Institute of Technology, 40 hours

Teaching

2012: Types of epidemiological studies, Biases in epidemiological research, Clalit Research Institute, workshops for Clinician-Researcher Program

2016: Cox regression, graduate course in advanced statistical methods, University of Haifa, School of Nursing

Honors and Awards

IT Awards, People & Computers (competition of excellence in computerization), BI Project (January 2013)

Canada ISPOR, best poster (July 2014)

Grants

Date	Research Topic	Funding Organization	Total (in shekels)
2016-2018	The Effectiveness of Readmission Outcomes Assessments and Assimilation of Prediction Modeling Tools in a Readmission Reduction Program	The Israel National Institute for Health Policy and Health Services Research, Tel Hashomer, Israel	200,000

Publications**a. Published**

1. **Flaks-Manov, N.**, Srulovici, E., Yahalom, R., Perry-Mezre, H., Balicer, R., & Shadmi, E. (2020). Preventing Hospital Readmissions: Healthcare Providers' Perspectives on "Impactibility" Beyond EHR 30-Day Readmission Risk Prediction. *Journal of General Internal Medicine*, 1-6.
2. Guri, A., **Flaks-Manov, N.**, Ghilai, A., Hoshen, M., Flidel Rimon, O., Ciobotaro, P., & Zimhony, O. (2020). Third-generation cephalosporin resistant Enterobacteriaceae in neonates and young infants: impact and outcome. *The Journal of Maternal-Fetal & Neonatal Medicine*, 1-5.
3. Guri, A., **Flaks-Manov, N.**, Ghilai, A., Hoshen, M., Rimon, O. F., Ciobotaro, P., & Zimhony, O. (2020). Risk factors for third-generation cephalosporin resistant Enterobacteriaceae in gestational urine cultures: A retrospective cohort study based on centralized electronic health records. *PloS one*, 15(1).
4. **Flaks-Manov, N.**, Topaz, M., Hoshen, M., Balicer, R. D., & Shadmi, E. (2019). Identifying patients at highest-risk: the best timing to apply a readmission predictive model. *BMC medical informatics and decision making*, 19(1), 118.
5. Zeltzer, D., Balicer, R. D., Shir, T., **Flaks-Manov, N.**, Einav, L., & Shadmi, E. (2019). Prediction Accuracy With Electronic Medical Records Versus Administrative Claims. *Medical care*, 57(7), 551-559.
6. Rayan-Gharra, N., Shadmi, E., Tadmor, B., **Flaks-Manov, N.**, & Balicer, R. D. (2019). Patients' ratings of the in-hospital discharge briefing and post-discharge primary care follow-up: the association with 30-day readmissions. *Patient education and counseling*, 102(8), 1513-1519.
7. Jaffe, D. H., **Flaks-Manov, N.**, Benis, A., Gabay, H., DiBonaventura, M., Rosenbaum, H., ... & Leventer-Roberts, M. (2019). Population-based cohort of 500 patients with Gaucher disease in Israel. *BMJ open*, 9(1), e024251.
8. Agay, N., **Flaks-Manov, N.**, Nitzan, U., Hoshen, M. B., Levkovitz, Y., & Munitz, H. (2017). Cancer prevalence in Israeli men and women with schizophrenia. *Psychiatry research*, 258, 262-267.
9. **Flaks-Manov, N.**, Shadmi, E., Hoshen, M., & Balicer, R. D. (2016). Health information exchange systems and length of stay in readmissions to a different hospital. *Journal of hospital medicine.*, 11(6), 401-406.
10. Tonkikh, O., Shadmi, E., **Flaks-Manov, N.**, Hoshen, M., Balicer, R. D., & Zisberg, A. (2016). Functional status before and during acute hospitalization and readmission risk identification. *Journal of hospital medicine*, 11(9), 636-641.
11. Ciobotaro*, P., **Flaks-Manov***, N., Oved, M., Schattner, A., Hoshen, M., Ben-Yosef, E., ... & Zimhony, O. (2016). Predictors of Persistent Carbapenem-Resistant Enterobacteriaceae

Carriage upon Readmission and Score Development. *Infection Control & Hospital Epidemiology*, 37(02), 188-196.

12. Shadmi, E., **Flaks-Manov, N.**, Hoshen, M., Goldman, O., Bitterman, H., Balicer, R.D. (2015). Predicting 30-day Readmissions with Preadmission Electronic Health Record Data. *Medical Care*, 53(3), 283-289.
13. Cohen, C.J., **Flaks-Manov, N.**, Low, M., Balicer, R.D., Shadmi E. (2015). High-Risk Case Identification for Use in Comprehensive Complex Care Management. *Pop Health Manag*, 18(1):15-22.
14. Singer, S.R., Hoshen, M., Shadmi, E., Leibowitz, M., **Flaks-Manov, N.**, Bitterman, H., & Balicer, R.D. (2012). Enhanced Identification of Non-Adherent Patients: Validation of an EMR-based Metric of Medication Adherence. *American Journal of Managed Care*. 18(10):e372-7.

* equal contribution

b. In review

1. **Flaks-Manov, N.**, Shadmi, E., Yahalom, R., Perry-Mezre, H., Balicer, R., & Srulovici, E. Identification of patients at-risk for 30-day readmission: clinical insight beyond big data prediction. Submitted to: *International Journal of Nursing Studies*
2. Shadmi, E., Zeltzer, D., Shir, T., **Flaks-Manov, N.**, Einavk, L., Balicer, R. Can Targeting High-Risk Patients Reduce Readmission Rates? Evidence from Israel. Accepted: *Journal of Applied Economics*
3. Overby Taylor, C., **Flaks-Manov, N.**, Ramesh S., Kyoung Choe E. Willingness to Donate Wearable Device Data to Research: A Web-based Survey of Mechanical Turk Workers. Submitted to: *Journal of Medical Internet Research (JMIR)*

Participation in scientific conferences

Oral presentations

Paper presented	Conference	Date and place
Flaks N. , Vexler A., Paltiel A. <i>Method for smoothing mortality functions using a segmented regression model.</i>	Israel Statistical Association Annual Conference	May 2004 Haifa University, Israel
Flaks-Manov N. , Shadmi E., Aharonsky D., Feldhamer I., Biterman H., Balicer R. <i>Readmissions not only to the same hospital.</i> Shadmi E., Flaks-Manov N. , Aharonsky D., Feldhamer I., Biterman H., Balicer R. <i>Targeting policy to prevent readmissions: characterization of the phenomenon and international comparisons</i>	Health Policy Annual Conference	March 2012 Tel-Aviv, Israel
Flaks-Manov N. , Shadmi E., Goldman O., Hoshen M., Low M., Balicer RD. <i>Use of medical information systems to develop a prediction model for readmissions within 30 days</i>	Annual Conference of the Israel Society for Medical Information Systems	June 2013 Tel-Aviv, Israel

Cohen CJ, Flaks-Manov N , Low M, Balicer RD, Shadmi E. <i>High-Risk Case Identification for Comprehensive Complex Care Management</i>	The 5th International Jerusalem Conference on Health Policy Annual Conference	June 2013 Jerusalem
Flaks-Manov N. , Shadmi E., Low M., Biterman H., Balicer RD. <i>Timing of Discharge Makes a Difference: The Effects of Discharge Day on 30-Day Readmissions.</i>	The Israeli Society for Quality in Medicine	November 2013 Tel-Aviv, Israel
Shadmi E., Flaks-Manov N. , Livshitz I., Kay C., Balicer RD. <i>Continuity of care after discharge: Implementing of quality index to improve contact with the community</i>	Health Policy Annual Conference	May 2014 Tel-Aviv, Israel
Ciobotaro P., Flaks-Manov N. , Oved M., Hoshen M., Zimhony O. <i>Risk factors for carbapenem-resistant Enterobacteriaceae carriage upon readmission leading to a validated prediction score.</i>	Infectious Disease Association Conference	May 2014 Ramat, Israel
Flaks-Manov N. , Shadmi E., Kay C., Perelman L., Balicer RD. <i>Reporting patients' readiness for discharge and association with readmissions</i>	The Israeli Society for Quality in Medicine	December 2015 Tel-Aviv, Israel
Ciobotaro P., Flaks-Manov N. , Oved M., Hoshen M., Zimhony O. <i>Risk factors for cross-transmission of carbapenem-resistant Enterobacteriaceae (CRE): variables related to exposed patients, CRE-carriers and wards.</i>		
Guri A., Flaks-Manov N. , Gilai A., Hoshen M., Benis A., Flidel O., Ciobotaro P., Zimhony O. <i>Extended-Spectrum-β-Lactamase producing Enterobacteriaceae prevalence in neonates and association with maternal urine cultures.</i>		
Flaks-Manov N. , Srulovici E., Yahalom R., Peri-Mazra H., Hoshen M., Balicer R., Shadmi E. <i>Identification of at-risk for 30-day readmission patients who should be included in prevention interventions: assessment of hospital and community healthcare providers.</i>	Health Policy Annual Conference	May 2017 Tel-Aviv, Israel
Flaks-Manov N. , Srulovici E., Yahalom R., Reem L., Balicer R., Shadmi E. <i>Identification of at-risk for 30-day readmission patients who should be included in prevention interventions: assessment of hospital and community healthcare providers</i>	Annual Conference of the Israel Society for Medical Information Systems (ILAMI)	October 2017 Tel-Aviv, Israel
Flaks-Manov N. , Srulovici E., Yahalom R., Peri-Mazra H., Hoshen M., Balicer R., Shadmi E. <i>Big data combined with clinical insight: identification of patients at-risk for 30-day readmission to be included in prevention interventions.</i>	ICIC18 – 18th International Conference on Integrated Care	May 2018 Utrecht, Netherlands
Flaks-Manov N. , Srulovici E., Yahalom R., Peri-Mazra H., Hoshen M., Balicer R., Shadmi E. <i>Readmission risk score from a computerized model and the assessment of the readmission risk by hospital team:</i>	Annual Conference of the Israel Society for Medical Information Systems (ILAMI)	November 2018, Tel-Aviv, Israel

<i>Is there a match between the two?</i>		
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Poster presentations

Paper presented	Conference	Date and place
Singer, S.R., Hoshen, M., Shadmi, E., Leibowitz, M., Flaks-Manov, N. , Bitterman, H., Balicer, R. <i>Poor Adherence to drug recommendations - the scope of the phenomenon, root causes and its therapeutic implications</i>	Health Policy Annual Conference	March 2012 Tel-Aviv, Israel
Flaks-Manov N. , Shadmi E., Hoshen M., Balicer R. <i>Different Hospital Readmissions: Impact on health outcomes.</i>	The Israeli Society for Quality in Medicine	November 2012 Ben Gurion Avenue, Israel
Flaks-Manov N. , Shadmi E., Biterman H, Balicer R. <i>Timing of Discharge Makes a Difference: The Effects of Length of Stay and Day of Discharge on 30-Day Readmissions.</i>	The 5th International Jerusalem Conference on Health Policy Annual Conference	June 2013 Jerusalem
Cohen, C.J., Flaks-Manov, N. , Low, M., Balicer, R.D., Shadmi E. <i>High-Risk Case Identification for Use in Comprehensive Complex Care Management</i>	The Israeli Society for Quality in Medicine	November 2013 Tel-Aviv, Israel
Flaks-Manov N. , Shadmi E., Biterman H., Balicer R. <i>Timing of Discharge Makes a Difference: The Effects of Length of Stay and Day of Discharge on 30-Day Readmissions.</i>	ISPOR 16th Annual European Congress	November 2013 Dublin, Ireland
Flaks-Manov N. , Shadmi E., Hoshen M., Balicer R. <i>Different Hospital Readmissions: Risk Factors and Impact on Length of Stay (Finalist for best poster)</i>	ISPOR 19th Annual International Meeting	2014 July Montreal, QC, Canada
Agay, N., Flaks-Manov, N. , Nitzan, U., Balicer R., Hoshen, M. B., Levkovitz, Y., Munitz, H. <i>Cancer prevalence in Israeli men and women with schizophrenia.</i>	Health Policy Annual Conference	May 2015, Tel-Aviv, Israel
Flaks-Manov N. , Shadmi E., Kay C., Bloomenthal S., Balicer R. <i>Patients experience at hospital discharge and readmissions.</i>	ISPOR 18th Annual European Congress	November 2015 Milano, Italy
Shadmi E., Flaks-Manov N. , Kay C, Perlman L., Mushkat Y., Lieberman N., Livshitz I., Dis I., Balicer R. <i>The 3-ARM strategy for readmission prevention: Automated predictive modeling, Readmission prevention intervention, and Monitoring.</i>		
Guri A., Flaks-Manov N. , Gilai A., Hoshen M., Benis A., Flidel O., Ciobotaro P., Zimhony O. Extended-Spectrum- β -Lactamase producing Enterobacteriaceae in neonates and association with maternal urine cultures.	26th ECCMID Congress, the European Congress of Clinical Microbiology and Infectious Diseases	April 2016 Amsterdam, Netherlands
Ciobotaro P., Flaks-Manov N. , Oved M., Akviv A., Hoshen M., Zimhony O. <i>Risk factors for cross-transmission of carbapenem-</i>		

<i>resistant Enterobacteriaceae (CRE): variables related to exposed patients, CRE-carriers and wards.</i>		
Flaks-Manov N. , Srulovici E., Yahalom R., Peri-Mazra H., Reem L., Key C., Hoshen M., Balicer R., Shadmi E. <i>Identification of at-risk for 30-day readmission patients who should be included in prevention interventions: assessment of hospital and community healthcare providers.</i>	ISPOR 22th Annual International Meeting	May 2017 Boston, USA
Jaffe, D. H., Flaks-Manov, N. , Benis, A., Gabay, H., DiBonaventura, M., Rosenbaum, H., ... & Leventer-Roberts, M. <i>A Population-Based Cohort of Gaucher Disease Patients Identified Using EHR Data.</i>	International Congress of Inborn Errors of Metabolism	September, 2017 Rio de Janeiro, Brazil
Flaks-Manov N. , Srulovici E., Yahalom R., Peri-Mazra H., Hoshen M., Balicer R., Shadmi E. <i>Readmission risk score from a computerized model and the assessment of the readmission risk by hospital team: Is there a match between the two?</i>	The Israeli Society for Quality in Medicine	November 2018 Tel-Aviv, Israel
Flaks-Manov, N. , Shadmi, E., Hoshen, M., Balicer, R.D., & Topaz, M. <i>Identifying patients at highest-risk: the best timing to apply a readmission predictive model.</i>	ICIC19 – 19th International Conference on Integrated Care	April 2019 San Sebastián, Spain

Other Publications

1. Vexler A., Flaks N. and Paltiel A. (2004). "Method for smoothing mortality functions using a segmented regression model".
<https://www.cbs.gov.il/he/publications/DocLib/pw/pw15/pwmodel15.pdf>
2. Health and Social Profile of the Localities in Israel 1998-2002
https://www.cbs.gov.il/he/publications/DocLib/2002/profil_ishuvim02/pdf/print.pdf
3. Complete Life Tables of Israel 2000-2004, 2001-2005
https://www.cbs.gov.il/he/publications/DocLib/2005/life_tables05/pdf/e_print.pdf