The Ottawa Hospital
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TOH Viral Hepatitis Multidisciplinary Team

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February 2011

The scope of hepatitis C

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- Worldwide, approximately 170 million people are living with Hepatitis C (HCV)
- In Canada, 250,000 people are living with HCV, including 110,000 people in Ontario
- ~ 3500 Ontarians are infected with HCV each year, mostly through injection drug use
- 80% of new HCV cases are among people who use injection drugs
- 1/3 of Ontarians do not know they have Hepatitis C

Barriers to HCV treatment

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- HCV treatment is challenging, complex and expensive
- High co-morbidity of drug use, mental health disorders, and social vulnerabilities
  - 70-93% have a mental health (MH) or substance use disorder (SUD)
- MH issues can either precede Hep C treatment or be caused by interferon therapy
- These individuals were historically excluded from HCV treatment because assumed:
  - Non-adherence to treatment
  - Worsening of mental health symptoms and substance use
  - Poorer therapeutic outcomes
- It is not practical, reasonable or ethical to withhold treatment from this population.

Barriers to HCV treatment

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- Research has shown that people with co-morbid MH and SUD can be safely and successfully treated for HCV
  - Similar uptake, adherence, and SVR rates to those without co-morbid MH and SUD
  - Feasibility and effectiveness demonstrated
- Best practice statements dictate that significant efforts must be made to provide HCV treatment to people with SUD and MH
- However, MH and SUD are the most common barriers to treatment
  - Our clinic: SUD and MH are the most common barriers to HCV treatment in our patients; social instability also a barrier
- Physicians don't have the time or the experience to deal with these problems. HCV treatment numbers are dropping.

Barriers to HCV treatment

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- Majority of Ontario HCW report MH services are required for effective HCV care, but services not readily available
- 85% of patients in our clinic identify MH and SUD support as an important part of HCV treatment
- Current approaches to HCV health care delivery are fractured
- Mounting evidence suggests that multi-d models of care successfully treat a larger proportion of HCV patients
- No multidisciplinary HCV health care treatment teams exist in hospitals anywhere else in Canada

Breaking down the barriers

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- We must integrate medical, SUD, and MH care, as well as assess and address social vulnerabilities.
- Ontario Hepatitis C Task Force Strategy Document:
  - "Adopt a holistic approach, including a multidisciplinary model…to deliver comprehensive care and treatment for people with HCV…"
- A multidisciplinary, integrated model of HCV care is of paramount importance in improving HCV treatment readiness, uptake, adherence, and outcome.

Our Multidisciplinary Viral Hepatitis Team

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- Our multidisciplinary team helps our patients overcome these barriers, and manage their mental health problems, substance use issues, and social vulnerabilities
- Multidisciplinary team
  - Physician specialists (infectious diseases, hepatologist)
  - Nurses (program coordinator, clinic and research RNs)
  - Psychiatrist
  - Psychologist
  - Social Worker
  - Outreach worker– NEW!
  - Ward Clerks
  - Admin/Clerical Support

Added value of our multidisciplinary team

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- Over the last year, >110 patients in our clinic require psychology, psychiatry, or social work services
- In the last year, nearly 50% of our patients on HCV treatment require and receive psychosocial services to help them remain on treatment
- In the last year, > 65 patients who are being considered for HCV treatment would NOT have previously been considered for treatment prior to our psychosocial supports
- Preliminary results show that our psychosocial interventions are successful in managing depression in patients on HCV treatment

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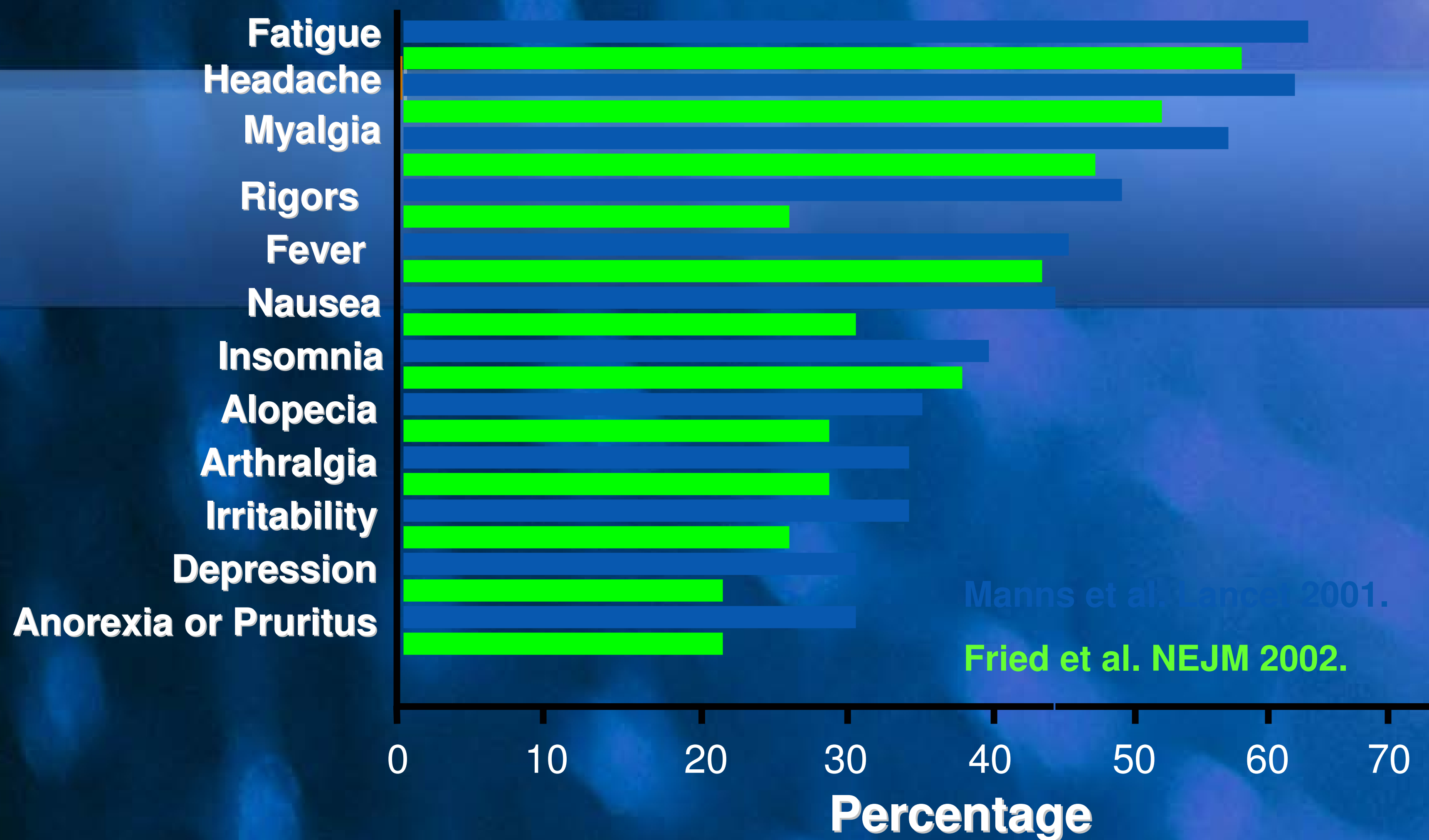
HEPATITIS C TREATMENT: TODAY AND TOMORROW

- Key Factors Predicting SVR:
  - Adherence (80/80/80)
  - HCV Genotype (1/4=48 weeks=40-50% SVR:2/3=24 weeks=70-90% SVR)
  - IL28B allele status
  - Race
  - HCV RNA level
  - Age
  - Histology
  - Immune State

- Decision to Treat
  - HCV RNA +
  - Biopsy Results / Duration of Infection
  - Predicted adherence and tolerance of therapy
    - Substance abuse
    - Psychiatric health
    - Age
    - Co-morbid disease



Why all the work up prior to Treatment?

Current Regime "TODAY"

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- Pegylated Interferon 180 mcg qweekly (subcutaneous injection)
- Ribavirin 800-1200 mg daily (wt based) Q12H (WITH FOOD)

- Plus or minus:
- Acetaminophen/Ibuprofen
- Antidepressant (celexa)
- Sleep aid (trazadone)
- Gravol/immodium
- Benadryl/Atarax/Gold Bond/Aveeno
- Amitriptylline
- Erythropoeitin/Blood transfusion

Interferon/RBV side effects

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- Flu like symptoms 4-6 hours post injection
- Fever, chills, aches and pains (ABCDEF)
- Headaches (H20, HTN, dental problems, insomnia, anemia, eyesight)
- Non productive cough/Congestion (humidifier/avoid tobacco/caffiene)
- Depression (know yourself, tell others/relaxation techniques/exercise)
- Fatigue/weakness (rest/sleep/nutrition)

Interferon/RBV side effects

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- Brain Fog/Impaired Concentration (tell others/keep lists/schedules)
- Irritability/Anger/Isolation (avoid stressful situations/deep breathing etc)
- Anemia/Neutropenia/Thrombocytopenia (epo/blood transfusions)
- Hair Loss (mild shampoos/soft brush/avoid perms/dyes/hairdryers)
- Insomnia (warm baths/light exercise/fresh air/avoid stimulants)

Interferon/RBV side effects

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- Loss of Appetite/Taste changes (avoid irritants/mints/gum/sorbet)
- Nausea and Vomiting ((water/avoid acidic/spicy/greasy foods)
- Diarrhea (smaller, frequent meals/ lots of water/avoid caffiene)
- Weight Loss ((monitor closely-supplement with smoothies etc)
- Skin Problems: Itchy rashes (water/lukewarm showers/lotions)

Interferon/RBV Side Effects

- SITE INJECTION REACTION
- THYROID DISEASE
- RISKS TO PREGNANCIES-RBV is a teratogenic and can therefore cause birth defects. Negative pregnancy test pre treatment and 2 forms of birth control throughout therapy and six months post treatment.

ON THE HORIZON "TOMORROW"

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- TRIPLE THERAPY
- Standard of Care (pegInf/RBV) PLUS: Small molecules ie:
- Protease Inhibitors
- Polymerase Inhibitors
- Interferon sparing therapies

- WHAT DOES THIS MEAN??
- Duration of therapy/SVR rates
- May increase the number of side effects
- More medications to take/difficult adherence (Q8h vs Q12h)
- Cost (Standard of care $25,000 vs $75,000 triple therapy)
- Liver transplant=$100,000

Final thoughts…

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- People with co-morbid MH and SU disorders can be safely and successfully treated for HCV
- There are multiple barriers to HCV treatment
- Integrated, multidisciplinary HCV care is crucial for improving HCV treatment readiness, uptake, adherence, and success.
- Increased number of individuals successfully treated = reduced pool of HCV infection

Thank You!

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- Persons living with HCV
- MOH-Hep C Secretariat
- OHRDP
- Front Line Staff and Outreach Workers

Strength in team work….