
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of report (Date of earliest event reported): February 7, 2011

MEDICINOVA, INC.

(Exact name of Registrant as Specified in Its Charter)

DELAWARE
(State or Other Jurisdiction
of Incorporation)

001-33185
(Commission
File Number)

33-0927979
(IRS Employer
Identification No.)

4350 LA JOLLA VILLAGE DRIVE,
SUITE 950, SAN DIEGO, CA
(Address of Principal Executive Offices)

92122
(Zip Code)

Registrant's telephone number, including area code: (858) 373-1500

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 7.01. Regulation FD Disclosure.

On February 7, 2011, MediciNova, Inc. (the "Registrant") updated the slide presentation to be used by the Registrant at investor meetings. A copy of the revised slide presentation is attached hereto as Exhibit 99.1.

The information in this Current Report on Form 8-K being provided under this Item 7.01, including Exhibit 99.1 furnished herewith, is being furnished and shall not be deemed "filed" for any purpose of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of such Section. The information in this current report on Form 8-K shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Item 9.01. Financial Statements and Exhibits.

(d) *Exhibits.*

99.1 Slide Presentation of the Registrant.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, MediciNova has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MEDICINOVA, INC.

Date: February 7, 2011

By: _____ /s/ MICHAEL COFFEE
Name: Michael Coffee
Title: Chief Business Officer and Interim Chief Financial Officer



*Accelerating
the global development
and commercialization of
innovative pharmaceuticals*



Forward-Looking Statements

Statements in this presentation that are not historical in nature constitute forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include statements regarding MediciNova's clinical trials supporting the safety and efficacy of its product candidates and the potential novelty of such product candidates as treatments for disease, plans and objectives for clinical trials and product development, strategies, future performance, expectations, assumptions, financial condition, liquidity and capital resources. These forward-looking statements may be preceded by, followed by or otherwise include the words "believes," "expects," "anticipates," "intends," "estimates," "projects," "can," "could," "may," "will," "would," or similar expressions. Actual results or events may differ materially from those expressed or implied in any forward-looking statements due to various factors, including the risks and uncertainties inherent in clinical trials and product development and commercialization, such as the uncertainty in results of clinical trials for product candidates, the uncertainty of whether the results of clinical trials will be predictive of results in later stages of product development, the risk of delays or failure to obtain or maintain regulatory approval, the risk of failure of the third parties upon whom MediciNova relies to conduct its clinical trials and manufacture its product candidates to perform as expected, the risk of increased cost and delays due to delays in the commencement, enrollment, completion or analysis of clinical trials or significant issues regarding the adequacy of clinical trial designs or the execution of clinical trials and the timing, cost and design of future clinical trials and research activities; the timing of expected filings with the FDA; MediciNova's failure to execute strategic plans or strategies successfully; MediciNova's collaborations with third parties; MediciNova's ability to realize the anticipated strategic and financial benefits from its acquisition of Avigen, Inc., to integrate the two ibudilast development programs and to pursue discussions with potential partners to secure a strategic collaboration to advance the clinical development of the combined development program; the availability of funds to complete product development plans and MediciNova's ability to raise sufficient capital when needed, or at all; MediciNova's ability to comply with the covenants in its financing agreements; intellectual property or contract rights; and the other risks and uncertainties described in MediciNova's filings with the Securities and Exchange Commission, including MediciNova's annual report on Form 10-K for the year ended December 31, 2009 and its subsequent periodic reports on Forms 10-Q and 8-K. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of February 1, 2011. MediciNova disclaims any intent or obligation to revise or update these forward-looking statements.



Corporate Overview: MediciNova, Inc.

MediciNova Overview:

- Founded in September 2000
- Headquartered in San Diego, CA
 - Additional office in Tokyo, Japan
- Dual-listing on Nasdaq **SMNOVA** and Osaka Securities Exchange as **4875**
- \$62.2 million Market Cap (NasdaqGM) as of 2/01/2011

Development Company Focused on Differentiated Product Candidates

- Unique access to differentiated, potentially high-value assets primarily from Japanese alliances (Kyorin, Kissei, Mitsubishi Tanabe Pharma, Meiji)

New Approaches to Treat Serious Medical Conditions:

- MN-221: Intravenous (IV) acute asthma and COPD candidate
 - Potential \$1 billion+ combined market opportunity worldwide*
- Ibudilast: Neuropathic pain, progressive multiple sclerosis, drug addiction candidate

*Source: Internal MediciNova projections



Business Model: Return On Investment

In-License:

- Novel, small-molecule product candidates with significant clinical or preclinical data packages and attractive market opportunities



Conduct Proof-of-Concept Clinical Trials:

- Conduct Phase I and Phase II clinical trials to demonstrate safety and efficacy of compound



Mitsubishi Tanabe Pharma





Two Pathways After Phase II:

1. Continue internal development of compound towards commercialization
2. Seek partnership for further development of compound





Management Team with Global Experience

	Leadership	Years Experience	Background
	Yuichi Iwaki, MD, PhD CEO & President	35	Professor at USC, formerly Professor at University of Pittsburgh; Advisor to JAFCO, Tanabe
	Michael Coffee Chief Business Officer; Interim Chief Financial Officer	26	Avigen, Amaro Corp., Elan Pharmaceuticals, N.A., Athena Neurosciences
	Kirk Johnson, Ph.D. Chief Scientific Officer	21	Avigen, Genesight Pharmaceuticals, Chiron Corporation
	Masatsun Okajima, CMAA VP, Head of Japanese Office	19	Daiwa Securities SMBC, Sumitomo Capital Securities, Sumitomo Bank



Investment Highlights

Upcoming Near-Term Business Milestones:

1. Secure a global partnership for Ibuprofen (MN-166/AV411)
2. Secure a strategic partnership for MN-221

Upcoming Clinical Milestones:

1. MN-221-CL-007 Phase II Study for Acute Exacerbations of Asthma
 - Anticipated completion in 2H, 2011*

Completed Milestones in 2010:

1. Announced Positive MN-221-CL-010 Phase II Study Results in Moderate-to-Severe COPD Patients on March 17, 2010
3. Secured \$15M Debt Financing from Oxford Finance Corporation on May 10, 2010
4. Announced Positive Safety and Efficacy data for (MN-166/AV411) Phase Ib/2a Study Results for Opioid Withdrawal and Analgesia on December 13, 2010

**Anticipated completion dates based on current projections*

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Ibudilast:

- ***Neuropathic Pain***
- ***Multiple Sclerosis***
- ***Addiction***



Ibudilast for the Treatment of MS, Neuropathic Pain, & Drug Addiction

Ibudilast (MN-166/AV411)

- Oral administration
- Safe and well-tolerated (approved in Japan/Korea with over 3.2 million exposures)
- Mechanism(s) of Action primarily Inhibition of Matrix metalloproteinase Inhibitor Factor (MIF), PDE-4,10 inhibition; Attenuation of Cell Activation

Clinical Safety & Preliminary Efficacy

- Completed Phase 2 Multiple Sclerosis Proof-of-Concept study (30 and 60 mg/d, predominately RRMS pts.)
- Completed Phase 1b/2a trial in Diabetic Neuropathic Pain (40 mg/d)
- Completed Phase 1b/2a clinical trial in Opioid Withdrawal & Analgesia (40 and 80 mg/d) (Columbia Univ/NYSPI via NIDA funding)
- Ongoing Phase 1b Methamphetamine interaction trial (UCLA via NIDA funding)
- Additional Supporting Data
 - 3 completed Phase 1 clinical trials
 - Dosing up to 100 mg single dose & 100 mg daily (50 mg twice/day)
 - ~400 subjects treated with MN-166/AV411 to date (safe & well-tolerated)



Ibutilast (MN-166/AV411): Status for Each Indication

Status for Chronic Pain:

- MN-166/AV411 is enabled to go directly to Phase 2b clinical development
- MN-166/AV411 mechanism of action is novel and thus complementary to treatments, and has both stand-alone and adjunctive utilities
- Majority of potential partners are strategically committed to new pain therapies
- MN-166/AV411 has an attractive development timeline and long term exclusivity

Status for Drug Addiction/Withdrawal:

- Announced positive safety/efficacy results from Phase 1b/2a study for Opioid (12/10)
- UCLA initiated Phase 1 study for Methamphetamine Addiction (9/10)

Status for Multiple Sclerosis:

- MN-166/AV411 requires significant funding for future trials
- Phase 2 data were at doses that are below maximum utility
- Most attractive option may be Progressive MS which would require additional Phase 2b clinical trial



Ibutilast Neuropathic Pain Market Opportunity

Drug	Company	Total Rx'n 2009 (US)
Lyrica®	Pfizer	9.1 Million
Cymbalta®	Eli Lilly	14.7 Million
Neurontin® (Gabapentin)	Pfizer	23.4 Million
	Total	47.1 Million
Neuropathic Pain Annual Market Opportunity:		~\$8.0 Billion†

- Prevalence is approximately 4.2 million neuropathic pain patients in the U.S. and 40 million worldwide
- MN-166 has a different mechanism of action than currently marketed neuropathic pain therapies
- MN-166 has potential to capture substantial market share in the neuropathic pain market

*Source: SDI/Verispan, Lilly and Pfizer Quarterly Reports

† Market Value Calculated at Branded Prices

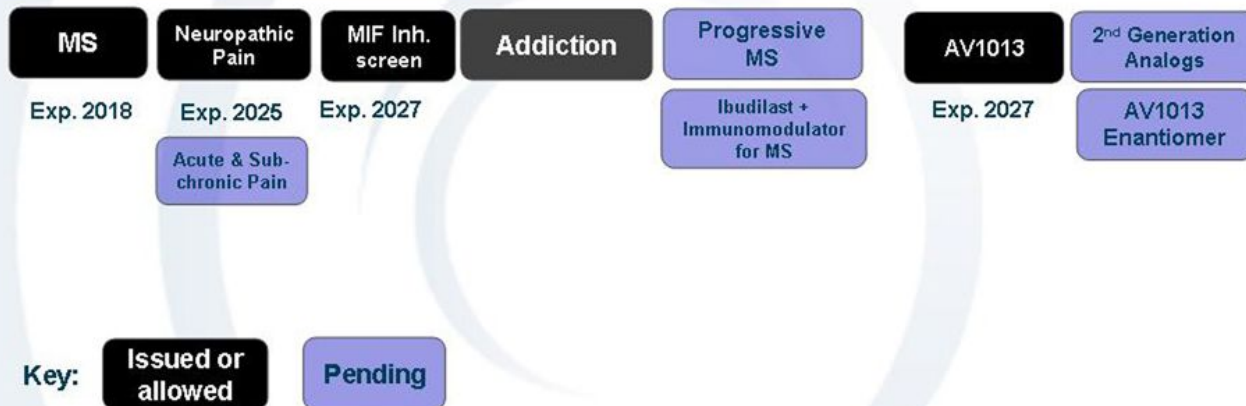
Approved Indications: Lyrica: Neuropathic pain associated with diabetic peripheral neuropathy, postherpetic neuralgia, partial onset seizures, fibromyalgia; Neurontin: postherpetic neuralgia, partial onset seizures; Cymbalta: Major Depressive Disorder, Generalized Anxiety Disorder, Diabetic Peripheral Neuropathic Pain, Fibromyalgia



Patent/Commercial Overview

Method of Use

Composition of Matter





Most Likely Scenario for Ibudilast's Development

- **Collaboration Structure with Partner:**
 1. Shared Risk
 2. All indications; Ibudilast analogues
 3. Option Agreement around Phase 2b Diabetic Peripheral Neuropathic Pain and/or Progressive MS Trial with Exclusive license, Development Milestones, Royalties, Sales Milestones.
- **Sustain NIDA-sponsored Drug Addiction development**
- **Consider Investigator-sponsored Neurological Trials**

MN-221:

- ***Acute Exacerbations of Asthma***
- ***Exacerbations of Chronic Obstructive Pulmonary Disease (COPD)***



Acute Exacerbations of Asthma

Definition:

- Long-lasting and severe asthma episode that is not responsive to initial bronchodilator or corticosteroid therapy

Market Opportunity*:

- Approximately 2 million annual emergency room visits in the US
 - ~500,000 annual hospitalizations in the US
 - Average length of stay for asthma hospitalization is 3.3 days
 - Average cost for asthma hospitalization is \$6,477
- Approximately 2.7 million annual emergency room visits in UK/Spain/Germany/France/Italy
 - ~560,000 annual hospitalizations in UK/Spain/Germany/France/Italy

Current Standard of Care (SOC):

- Inhaled Beta agonists, inhaled anticholinergics, and IV or oral corticosteroids

**Source: National Center for Health Statistics / CDC, WHO website, "Core Health indicators", 2007 National Hospital Discharge Survey, IMS Health's Disease and Condition Benchmarks – PharMetrics Integrated Database, 1/2007 – 12/2008*



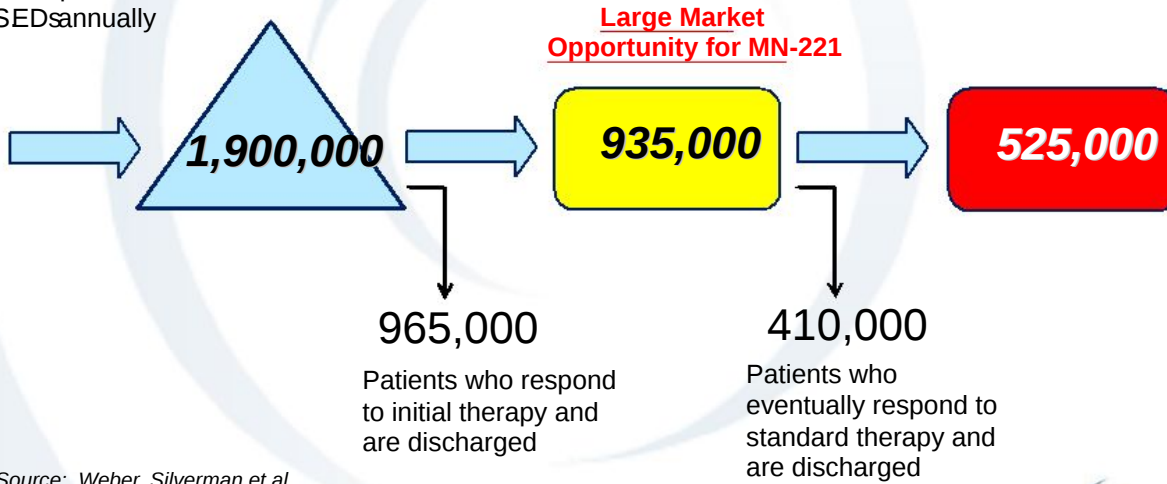
Acute Asthma Treatment Flow in Emergency Departments (EDs) in the U.S.

Input:
1,900,000 patients with acute exacerbations of asthma present at U.S. EDs annually

1st line therapy in ED:
Patients receive SOC, many while in the waiting room

2nd line therapy in ED:
Patients who do not initially respond continuing receiving SOC

Hospitalization:
Patients who do not respond to SOC are eventually hospitalized



Source: Weber, Silverman et al, American Journal of Medicine, 2002, Volume 113; pp 371

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Limitations of Current Therapies

What are the limitations of current therapies for acute exacerbations of asthma?

Limitations of Inhaled Therapies:

- **Bronchoconstriction** inflammation and bronchoconstriction result in insufficient air flow to get good drug deposition in the lungs
- **Mucus Plug Formation** mucus secretion and the formation of thick mucus plugs can cause persistent airflow limitation
- **Albuterol Non-Responders** not all patients benefit from albuterol

Limitations of Current Intravenous Therapies:

- **Safety** currently available options (e.g. epinephrine, terbutaline) have significant **cardiovascular risks** at doses used



MN-221: Target Product Profile

MN-221 Indication Treatment of bronchospasm in patients with acute exacerbations of asthma or COPD. It is administered adjunctive to standard of care by intravenous infusion.

- A well-tolerated, potent, selective β_2 -agonist which is only a partial agonist at β_1 .
- A bronchodilator duration of action that is longer than Short-Acting Beta Agonists (SABAs) and shorter than Long-Acting Beta Agonists (LABAs).
- Provides additional bronchodilation when used in addition to the standard treatments of inhaled albuterol, inhaled ipratropium, and steroids.
- Reduces the hospitalization rate among patients treated with MN-221.
- No clinically adverse effects when added to standard of care.



MN-221: A New Approach to Treating Acute Exacerbations of Asthma

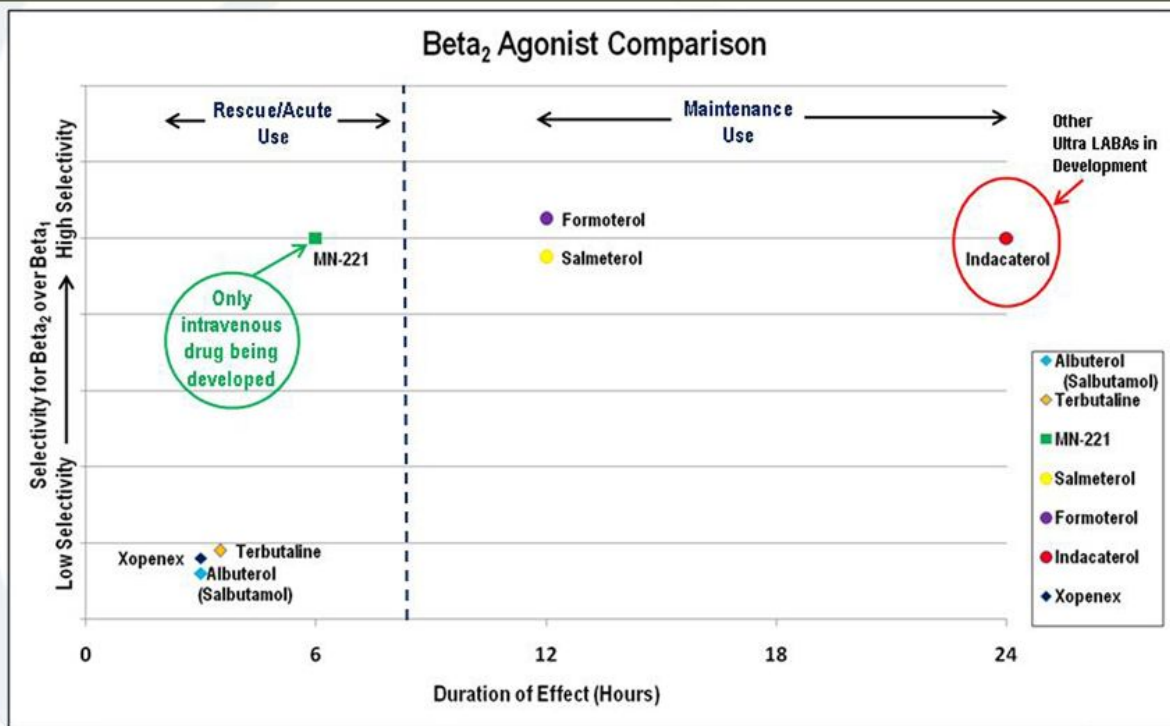
MN-221 A novel highly selective β_2 -adrenergic receptor agonist

Three potential advantages over current therapy:

- 1. Improved Efficacy**
 - Route of Administration (IV v. Inhalation)
- 2. Improved Safety**
 - High selectivity for β_2 receptor than β_1
 - Partial agonist for β_1 receptor
- 3. Reduced Health Care Expenses**



Beta₂ agonist U.S. Market Overview





MN-221 Phase II Study Designs in Asthma Indication

	MN-221-CL-004	MN-221-CL-005	MN-221-CL-006	MN-221-CL-007
Type of Asthma	Stable mild-to-moderate	Stable moderate-to-severe	Acute Exacerbations	Acute Exacerbations
FEV₁ (Entry Criteria)	FEV ₁ ≥ 60%	40% ≤ FEV ₁ ≤ 75%	FEV ₁ ≤ 55%	FEV ₁ ≤ 50%
Number Patients	23	17	29	200 projected
Number Sites	4	4	8	20 projected
Doses compared to Placebo	5, 25, 15, 52.5, 150, 240, 450, 900 µg over 15 min	1080 µg over 2-hr; 1,125 µg over 1-hr	240, 450 µg over 15 min; 1080 µg over 2-hr	1200 µg over 1-hr
Concurrent Therapy	None	None	Standard of care	Standard of care



MN-221-CL-006: Study Design

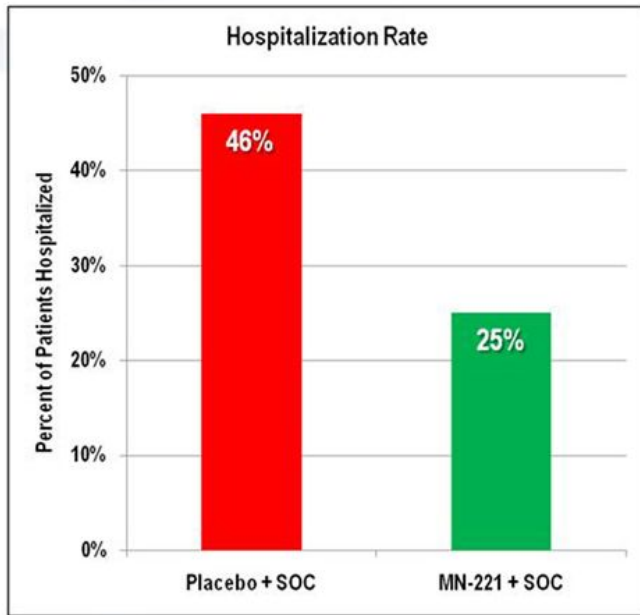
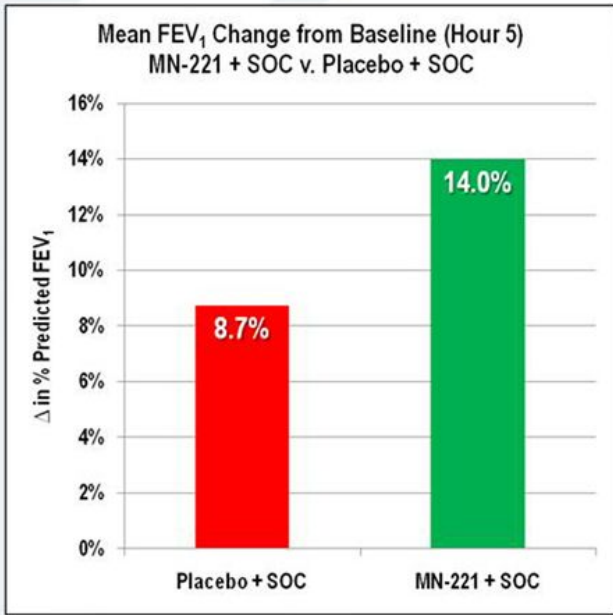
Completed Phase III in the Emergency Dept.

- Randomized, placebo-controlled, single-blind, dose escalation study
- 29 patients with acute exacerbations of asthma (50% predicted) at 8 Emergency Department sites
- Doses:
 - 16 μ g/min for 15 minutes (240 μ g)
 - 30 μ g/min for 15 minutes (450 μ g)
 - 16 μ g/min for 15 minutes; 8 μ g/min for 105 minutes (1,080 μ g)
- Patients received Standard of Care (SOC) treatment in addition to adjunctive treatment with MN-221 or placebo
- Outcome measures: descriptive statistics on FEV₁, PK, safety



MN-221-CL-006

Mean Change in FEV₁ and Differences in Hospitalization Rate



Mean change in FEV₁ from baseline was 5.3% higher in the MN-221 dose groups versus the placebo group

MN-221 reduced the hospitalization rate by 45%



MN-221-CL-006: What have we learned?

What did we learn from MN-221-CL-006?

- There were no safety concerns with adding MN-221 to the standard of care.
- There was a reduction in the hospitalization rate among patients treated with MN-221.
- Overall, improvement in FEV₁ was greater for patients receiving MN-221 than placebo.
- A dose of 1,200 μ g of MN-221 administered over one hour was selected for the MN-221-CL-007 trial.



MN-221-CL-007: Study Design

- Randomized, placebo-controlled, double-blind, multi-center Phase II clinical trial
- Up to 200 patients with severe acute exacerbations of asthma (FEV₁ ≤ 50% predicted) at multiple Emergency Department sites in the United States
- Dose Groups (up to 100 patients/group):
 - 1,200 µg of MN-221 over 1 hour (600 µg in 15 minutes, 600 µg in next 45 minutes)
 - Placebo
- Patients will receive SOC treatment in addition to adjunctive treatment with MN-221 or placebo
- Primary efficacy endpoint will be improvement in FEV₁ (% predicted) at 3 hours
 - *The study is designed to have 80% power to detect a treatment difference of 5 percentage points in FEV₁ predicted) when comparing MN-221 + SOC to Placebo + SOC at a two-sided α -level of 0.05.*
- Anticipated completion in 2H, 2011*

**Anticipated completion date based on current projections*

Note: Development plans / timelines for MN-221 clinical trials are subject to change

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MN-221 Safety Summary

Safety Database:

- MN-221 has been tested in almost 300 subjects in the US and Europe to date
- No serious adverse events related to MN-221 were reported in any studies completed to date
- No clinically significant cardiovascular, ECG, or vital sign changes, or other safety concerns have been reported
- Doses up to 3,840 micrograms have been tested at different infusion rates
- Subjects tested have included healthy volunteers, healthy pregnant women, and asthmatics



MN-221 Patent Summary

- MediciNova has rights to a portfolio of patents and know-how related to MN-221, including composition of matter.
- The U.S. patent for MN-221 has composition of matter and method of use claims and is set to expire no earlier than February 2017.
- U.S. patent expiration does not include Waxman-Hatch patent term restoration (industry average = 4.5 years).
- Corresponding composition of matter patents in various other countries are set to expire no earlier than February 2017.
- Waxman-Hatch grants 5 years of exclusivity from approval in the U.S. Exclusivity in Europe is 10 years for first approval of new chemical entities.

***MN-221 Potential
Development Opportunity:***

- ***Exacerbations of COPD***



Chronic Obstructive Pulmonary Disease

- Chronic obstructive pulmonary disease (COPD) is a progressive disease that causes airflow blockage and breathing-related problems.
- COPD includes two main conditions, emphysema and chronic obstructive bronchitis.
- Cigarette smoking is the leading cause of COPD.
- An estimated 10 million adults had a diagnosis of COPD in the U.S. in the year 2000.
- The prevalence and age-adjusted death rate for COPD increased more than 30 percent since 1980.
- The direct/indirect costs related to COPD amounted to approximately \$42.6 billion in the U.S. in 2007.

Source: CDC, CDC COPD surveillance in U.S. 2000; US Census; American Lung Association website



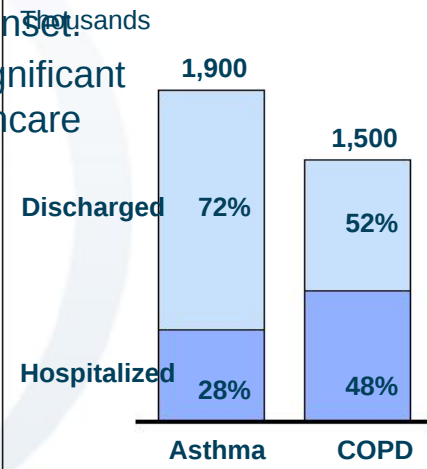
COPD Exacerbations

A COPD exacerbation is a sustained worsening of the patient's condition, from the stable state and beyond normal day-to-day variations, that is acute in onset.

COPD exacerbations are associated with a significant increase in mortality, hospitalization and healthcare utilization.

- 1.5 million hospital emergency department visits
- 765,000 hospitalizations
 - Average length of stay 7.4 days*
 - Average cost ~\$32,000*
- 119,000 deaths

Hospitalization rates amongst Asthma and COPD patients



COPD patients are generally more ill than asthmatics with overall higher hospitalizations and mortality.

Source: CDC, CDC COPD surveillance in U.S. 2000; US Census; American Lung Association website

*For COPD pts. with anemia; for pts. w/o anemia the stay is ~5.8 days at a cost of ~\$25K

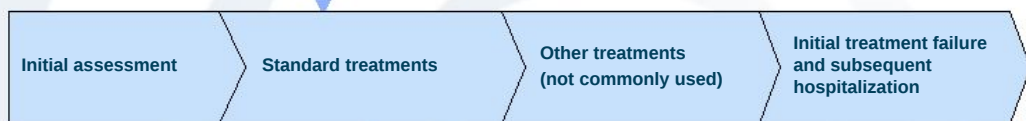
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COPD: Current treatment paradigm in emergency department and hospital settings

□ Represents leading drugs currently used

Hospitalized patients follow the same treatment paradigm as in ER



- History and physical
- Pulse oximetry
- Arterial blood gas (ABG), Chest X-ray (CXR)
- Other physical and clinical evaluation to assess severity

- Concurrently:
 - Low flow oxygen
 - Intermittent or continuous nebulized short-acting β_2 -agonist (SABA) (e.g., Albuterol)
 - Nebulized anticholinergic (e.g., Ipratropium)
 - IV or oral systemic steroids (e.g., Methylprednisolone)
- Antibiotics

- In patients who respond to theophylline: IV aminophylline (used rarely)
- Noninvasive intermittent ventilation (NIV) (e.g. bipap mask)

- Hospitalization and resumption of first line therapy
- ICU admission
 - Intubation/mechanical ventilation
 - Resumption of first line therapy

- COPD management in the hospital and ICU settings mirrors the ER approach
- There are few treatment options beyond the first line of therapy

Source: Global Initiative for Chronic Obstructive Lung Disease 2007; team analysis



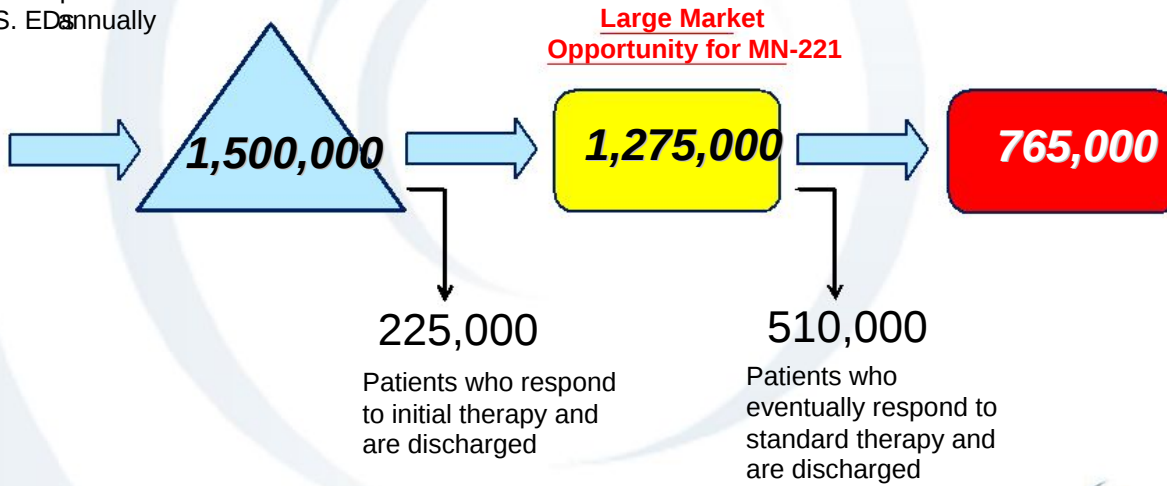
COPD Exacerbation Treatment Flow in Emergency Departments in the U.S.

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1st line therapy in ED:
Patients receive SOC, many while in the waiting room

2nd line therapy in ED:
Patients who do not initially respond continuing receiving SOC

Hospitalization:
Patients who do not respond to SOC are eventually hospitalized



Source: CDC COPD surveillance in U.S. 2000; Expert interviews, team analysis
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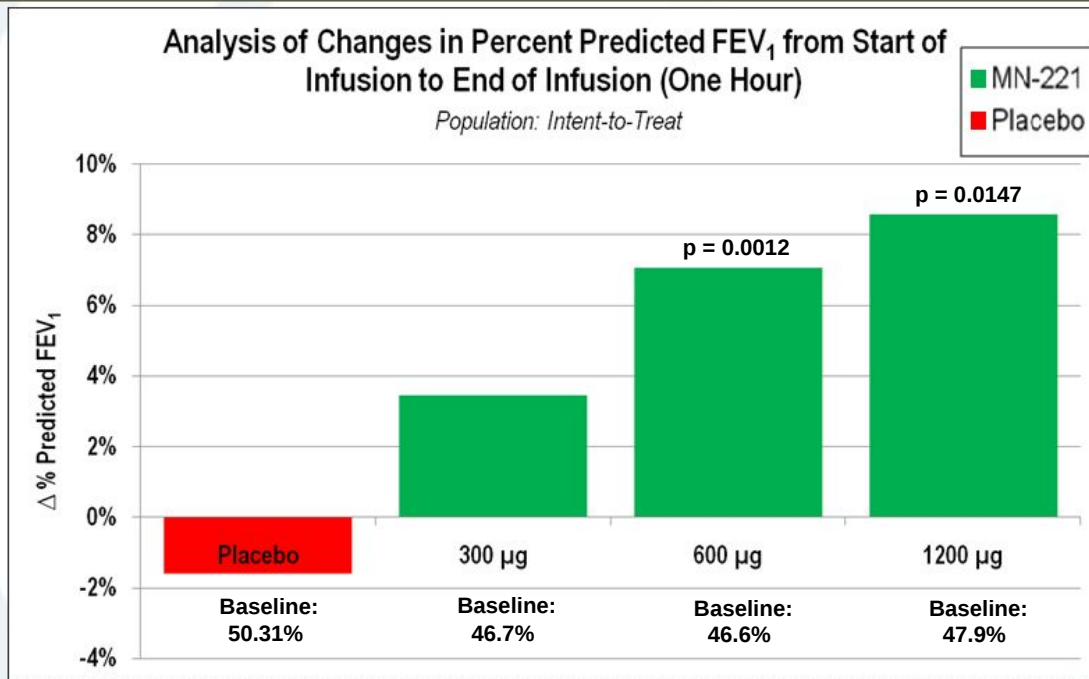
MN-221-CL-010 (COPD)

Study Design

- Randomized, double-blind, placebo-controlled dose escalation study
- 48 subjects with stable moderate-to-severe Chronic Obstructive Pulmonary Disease (COPD) ($FEV_1 \geq 30\% < 80\%$ and FEV_1/FVC ratio < 0.7) at 6 sites
- Doses:
 - 10 $\mu\text{g}/\text{min}$ for 15 minutes followed by 3.3 $\mu\text{g}/\text{min}$ for 45 minutes (1-hour infusion with a total dose of 300 μg) or placebo
 - 20 $\mu\text{g}/\text{min}$ for 15 minutes followed by 6.67 $\mu\text{g}/\text{min}$ for 45 minutes (1-hour infusion with a total dose of 600 μg) or placebo
 - 40 $\mu\text{g}/\text{min}$ for 15 minutes followed by 13.3 $\mu\text{g}/\text{min}$ for 45 minutes (1-hour infusion with a total dose of 1,200 μg) or placebo
- Outcome measures: descriptive statistics on FEV_1 , PK, safety



MN-221-CL-010: Mean Change in FEV₁



Addendum

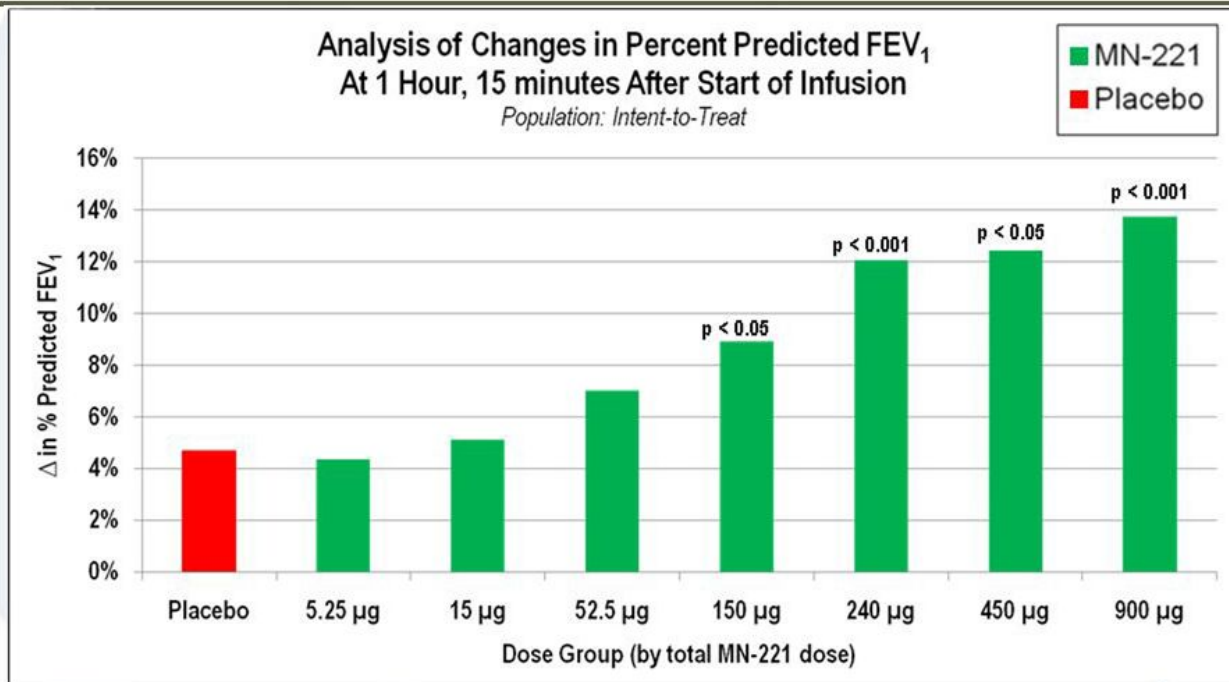


Study Design

- Randomized, placebo-controlled, double-blind, dose escalation study
- 23 subjects with mild-to-moderate stable asthma (FEV₁ predicted) at 4 sites
- Patients are randomized to one of four different treatment groups (25% of patients on placebo for every dose level)*
 - Each treatment sequence consists of placebo and escalating doses of MN-221 (5.25 µg, 15.0 µg, 52.5 µg, 150 µg, 240 µg, 450 µg, 900 µg) over 15 minutes
 - Primary endpoint: mean change in FEV₁ (Forced expiratory volume in 1 second) from baseline (start of infusion) to 15 minutes (end of infusion)
- Outcome measures: inferential statistics, FEV₁, pharmacokinetic (PK), safety and tolerability



MN-221-CL-004: Mean Change in FEV₁



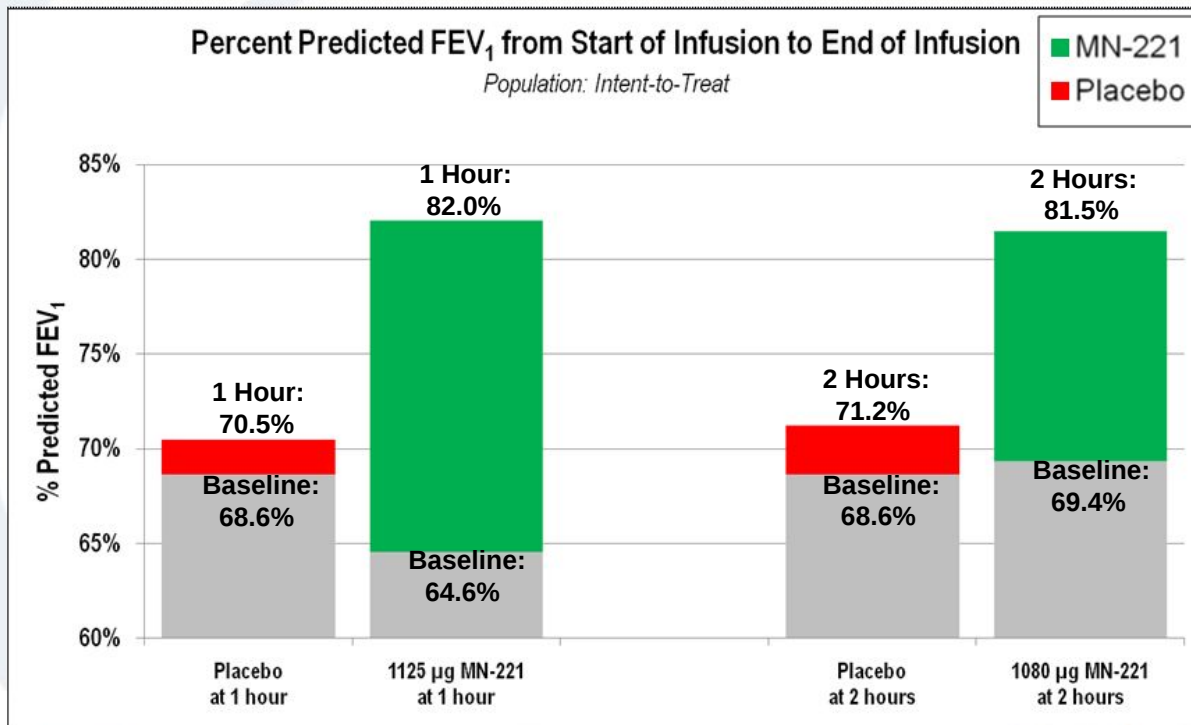


Study Design

- Randomized, placebo-controlled, single-blind, dose rate escalation study
- 17 subjects with moderate-to-severe stable asthma (FEV₁ \geq 40% but \leq 75% predicted) at 4 sites
- Doses:
 - 16 μ g/min for 15 minutes followed by 8 μ g/min for 105 minutes (2-hour infusion with a total dose of 1,080 μ g) or placebo
 - 30 μ g/min for 15 minutes followed by 15 μ g/min for 45 minutes (1-hour infusion with a total dose of 1,125 μ g) or placebo
- Outcome measures: descriptive statistics on FEV₁, PK, safety



MN-221-CL-005: Mean Change in FEV₁





MN-221 may improve efficacy over current standard of care due to its route of administration

Published evidence

- It has been demonstrated that airway abnormalities extend from the proximal to the most distal airways in asthmatics, and in severe stable asthmatics it has been postulated that one reason that they are difficult to control is that inhaled particle (drug) deposition in the distal airways is impaired (1).
- The bronchoconstriction, inflammation, and mucus plugging that occur during an acute exacerbation of asthma will magnify this problem. Modeling of airflow patterns in patients with acute asthma demonstrates that airway resistance is twice as high during the exacerbation than after recovery. Furthermore, the airflow is more profoundly affected in regions where the effects of asthma are significant (2).
- Chronic Mucus Plug Formation in severe asthma, mucus secretion and the formation of inspissated mucus plugs can cause persistent airflow limitation (3).
- Taken together, delivery of aerosolized medications to the distal airways is negatively impacted during an acute asthma exacerbation.

Anecdotal evidence

- The emergency room doctors in our studies and key opinion leaders we have spoken to all believe in the concept of "intravenous beta2 agonist to treat acute exacerbations of asthma. They have all cited the fact that if a patient is having difficulty breathing, the patient cannot fully inhale medicine.

(1) Vee et al. Recurrent exacerbations in severe asthma are associated with enhanced airway closure during stable episodes. *Am J Respir Crit Care Med* 2000; 161(6):1902-06

(2) Inthavong et al. Comparative study of the effects of acute asthma in relation to recovered airway tree on airflow patterns. In: 13th International Conference on Biomedical Engineering 2009. V. 23. ISBN 978-3-540-92841-6 (online)

(3) University of California San Diego, School of Medicine, Division of Medical Education. <https://meded.ucsd.edu/isp/1998/asthma/html/naep.html>



MN-221 may result in fewer cardiovascular side effects than the current standard of care

- MediciNova has preclinical data and clinical data which demonstrates the safety of MN-221.
- In summary, we have not seen clinically significant safety concerns with MN-221.
- According to interviews of emergency room physicians, less-selective injectable beta agonists such as epinephrine and terbutaline commonly used to treat acute asthma. The main reason they are not used more often is due to safety concerns, particularly cardiovascular side effects.



MN-221 may reduce health care expenses by reducing the hospitalization rate

- Since the average hospitalization cost is \$6,477 in the US, the payor would save this amount for each hospitalization prevented.
- Since US hospitals lose money on the typical asthma hospitalization due to low reimbursements from Medicaid and HMOs, hospitals would also make more money for each asthma hospitalization prevented.



Commercially-Attractive Diversified Portfolio

<u>Core Candidates</u>	Preclinical	Phase I	Phase II	Phase III
Ibutilast (MN-166/AV-411) (Pain, MS, Addiction)		Addiction	Pain/MS	
MN-221 (Exacerbations of Acute Asthma/COPD)		COPD	Asthma	
<u>Non-Core Candidates</u>	Preclinical	Phase I	Phase II	Phase III
MN-001 (Bronchial Asthma)				
MN-305 (Anxiety Disorders)				
MN-001 (Interstitial Cystitis)				
MN-029 (Solid Tumors)				
MN-221 (Preterm Labor)				
MN-246 (Urinary Incontinence)				
MN-447/462 (Thrombosis)				